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# **SOCIAL DIAGNOSIS 2015**

## **THE OBJECTIVE AND SUBJECTIVE QUALITY OF LIFE IN POLAND**

**REPORT**

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**Janusz Czapiński**

**Tomasz Panek**

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2015**



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*Janusz Czapiński  
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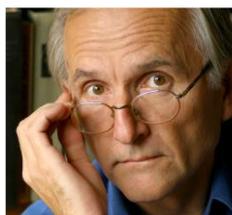
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## 1. INTRODUCTION

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### 1.1. Aims and general project assumptions

Our project is a comprehensive attempt at complementing diagnosis based on institutional indicators with comprehensive data on households and the attitudes, state of mind and behaviours of their dwellers; it is a diagnosis of Poles' living conditions and quality of life as they report it themselves. We therefore study households and all their available members aged 16 and above with the aid of two separate questionnaires.

The comprehensive character of the project means that a single study takes into account all the important aspects of life of individual households and their members - both economic (income, material affluence, savings, loans) and non-economic (e.g. education, medical treatment, ways of tackling problems, stress, mental well-being, lifestyle, pathological behaviour, cultural participation, use of modern communication technologies and many other). In this sense, the project is also multi-disciplinary in nature. This reflects the composition of the Council for Social Monitoring, i.e. of the main authors of the report and the team of experts invited by the Council. These bodies comprise economists, demographers, psychologists, sociologists, an insurance specialist and statisticians.

In line with the original idea, Social Diagnosis research takes the form of a panel study - we return to the same households and individuals every few years. The first wave took place in 2000 and the next three years later. The next five studies took place every second year. The study is always conducted in March in order to remove seasonal effects. From 2009 the wave was extended into April due to a marked increase in sample size.

Not only does this report show Polish society as it is today, but it also enables us to track how it has changed over the past thirteen years almost from the very beginning of the process of transition if we take into account earlier studies of the quality of life in Poland (Czapiński, 1998), similarly extended over a longer period of time.

Social Diagnosis focuses on discovering more fundamental facts, behaviours, attitudes and experiences; it is not just an ordinary descriptive opinion poll, it is a scientific project. This is not only because the authors include scientists, university employees and professors. The deciding factor is the professional technique based on the research experience of the members of the Council for Social Monitoring and the team of experts, and - above all - the theoretical context of the particular thematic modules. A majority of variables taken into account follow from scientifically grounded knowledge of the phenomena under consideration, rather than from intuition, common observations or sponsors' commission. Apart from describing Polish society, an important goal of the Diagnosis is to verify scientific hypotheses. In this report, addressed to the "universal" reader, any theoretical background is of necessity extremely limited. Instead, we seek to reveal what Polish society is like 26 years after system change, 15 years after the first study within the project and 11 years after Poland's accession to the European Union.

We hope that the project results will provide useful information to politicians and social and local government workers responsible for preparing, implementing and adjusting the reforms that affect the conditions of citizens' lives. We would also like to provide the public with reliable information about their everyday life and the changes they are subject to, as the notions individuals may have about their situation as compared to the situation of other people generally tend to be based on selective observations, stereotypes or theses broadcast by the media, not infrequently false or exaggerated (e.g. those about the deteriorating mental health of society, about a total paralysis of health care services, about retirees and the elderly in general as the social group most adversely affected by the process of transition in economic terms, to name but a few examples). We all deserve a relatively accurate, comprehensive and objective diagnosis of the main sources of our problems in life, of the sense of mental discomfort, uncertainty of the future or difficulties adapting to new circumstances, as well as a demonstration of the advantages brought about by subsequent system changes, the educational boom and lifestyle changes. Private diagnoses are all too often illusory, defensive, simplified, and, generally speaking, wrong.

The differences between the present study and the previous concern sample size and thematic scope, reflected in the content of questionnaires (see Annex 1). The sample of households was extended from the original 3005 in 2000 to 12,355 in 2013 and 11 700 in 2015 r. (with a resulting increase in the sample of individual respondents from 6625 to 26,307 in 2013 and 22200 in 2015). Several thematic modules were altered in the questionnaires in subsequent study waves (cf. questionnaires at [www.diagnoza.com](http://www.diagnoza.com)).

## 1.2. Research issues

The project covers a broad range of aspects related to the situation of households and their individual members. The social factors it considers may be divided into three general categories:

- household demographic and social structure  
household living conditions in terms of their material situation, access to health care services, culture and leisure, education and modern communication technologies,
- citizens' quality of life, lifestyle and individual characteristics.

Indicators that describe household demographic and social structure are not analysed separately in this report; they are only used for stratifying the groups of households and population to allow comparison of living conditions and quality of life across various social categories like gender, age, education, place of residence, social and professional status, main source of income, marital status, household type (established on the basis of the number of families and biological family type) and other criteria. The analysis and description refer to the living conditions of households and the quality of life of individual citizens in relation to social change that defines the global context and the general principles regulating the functioning of society. One of the major problems and questions that accompany any programme of social change is the distribution of the costs and benefits that arise from their implementation for particular social groups along a varied time horizon. Also, we were interested to see which categories of households and citizens are able to cope with the new circumstances and take advantage of system transformation and which social groups are unable to do so, objectively or subjectively experiencing failure.

Within the project, the division of social indicators into living conditions and the quality of life roughly corresponds to the distinction between the objective description of the living circumstances (conditions) and their psychological significance as expressed by the respondent's subjective assessment (the quality of life)<sup>1</sup>. This substantial distinction is roughly matched by entity type examined and the method of measurement. The examined entity is the household for living conditions, while for the quality of life, we considered its individual members. Living conditions were measured by direct interview with one best-informed household representative. Quality of life was measured using a self-completion questionnaire to be filled in by the respondent, i.e. by all available members of the examined households aged 16 and above.

The measurement of household living conditions included:

- household income and income management,
- nutrition,
- household material affluence, including modern communication technology equipment (mobile phone, computer, internet access),
- housing conditions,
- welfare received by the household,
- children's education,
- cultural participation and leisure,
- use of health care system services,
- the household's and its members' labour market situation,
- poverty, unemployment, disability and other aspects of social exclusion.

Individual respondents' quality of life and lifestyle indicators included:

- general psychological well-being (including the will to live, sense of happiness, satisfaction with life, symptoms of mental depression),
- satisfaction with particular areas and aspects of life,
- subjective assessment of material standard of living,
- various types of life stress (including the Kafkaesque administrative stress related to contacts with public administration, health-related stress, parental stress, financial stress, work-related stress, environmental stress, marital stress and random stressful occurrences such as assault, burglary, arrest),
- somatic symptoms (a measure of distress, treated as a general measure of health condition),
- strategies for dealing with stress,
- use of the health service,
- personal finance (including personal income and trust in financial institutions),
- system of values, lifestyle and individual behaviours and habits (including smoking, alcohol abuse, drug use, religious practices, crime),
- social attitudes and behaviours, including social capital,
- social support,

<sup>1</sup> This distinction is not entirely sharp or disjunctive. We also used the scales of subjective assessments when describing living conditions, and in the part devoted to the quality of life we asked not just about assessments, but also about behaviors (e.g. smoking, alcohol abuse) and objective events (e.g. arrest, death of a loved one, home renovation)

- use of modern communication technologies - computer, internet, mobile phone,
- situation on the labour market and professional career,
- unemployment, disability and other aspects of social exclusion,

***References***

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## 2. MAIN RESULTS AND CONCLUSIONS

- In this year's edition of *Social Diagnosis* increase in the majority of indicators of life conditions and quality have improved since 1991.
- The percentage of very and quite happy Poles increased by 3.1pp.<sup>2</sup>, up to 83.6 Poles. 8.15% (2.6 pp.) people more positively evaluate their whole lives so far. The real income of households increased by over 12% and personal income by 10% in comparison to 2013.
- The number of households stating that their income allows them to fulfil their needs has increased from 76 to 81%. The number of households equipped with various kinds of goods has also increased. The number of debtors decreased and the number of persons with savings increased.
- There was an increase in satisfaction with the majority aspects of life. Satisfaction with the situation in the country, perspectives for the future and the financial standing of one's family were subject to the biggest satisfaction increase.
- The economic stratification of Polish society was reduced. Income inequalities measured by Gini's coefficient fell in the last six years. It was 0.318 in 2009, 0.307 in 2011, 0.305 in 2013 and 0.285 in 2015 (below the average for 27 EU countries). In addition, stratification of personal income fell from 0.373 in 2009 to 0.330 in 2015. The income of the poorest households increased faster than that of the richest ones. During the last four years, we could observe a decrease in inequalities among the group of the highest and the lowest equivalent incomes, that means inequalities between extreme ends of the continuum of households. In the period between March 2011 and 2013, the difference between extreme groups fell by 2% and in the last two years it fell by 2%.
- 3.3% Polish households lived below the level of extreme poverty in 2015 (1.8 p.p. less than two years ago, it was the lowest value of all years of studies).
- The financial mobility of Poles is not weakening. In the last four years, over 40% of the households from the 1/5 poorest advanced to higher-income groups and the same 1/5 richest retreated to lower-income groups. This means that the structure of Polish society is still very liquid in the economic sense
- There were some small signs of the development of civil society. As compared to earlier studies, the percentage of people who trust other people increased (from 12% in 2011 to 15% in 2013), as did sensitivity to harm to the common good, though still nearly a half of the surveyed citizens were indifferent in this respect. However, social capital indicators of tolerance and the tendency to associate even fell slightly, despite already being consistently low and some of the lowest in Europe since the transformation.
- Voivodships with the highest general quality of life were Małopolskie, Pomorskie and Wielkopolskie, while the ones with the lowest quality of life were:

Świętokrzyskie, Łódzkie and Zachodniopomorskie. As far as the largest towns were concerned, the residents of Poznan, Zielona Góra and Krakow fared the best, and the worst off were those in Kielce, Opole and Ruda Śląska.

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- The average net per capita income in the studied households in March/June 2015 was PLN 1549. Its level in the panel sample households fell by 0.3% between March 2011 and March 2013, but it was subject to a significant increase in the last two years. It increased by 16% in real terms over the last two years.
- Most of the studied households declared that, with their current revenues, they made ends meet with certain difficulty (over 36%), over 16% with difficulty, and over 17% with great difficulty. Over the last four years the percentage of households in great trouble in this respect fell markedly (by over 4 pp.) and of those coping with difficulty - by almost 3 p.p.
- As far as the satisfaction of nutritional needs in the last year was concerned, households reported that most often they could not afford, for financial reasons, fish and fish products (almost 15% of households), next confectionaries and stimulants (over 11% each), followed by meats, poultry and meat products (over 8% of households). Over the last four years, there was an improvement in the level of household needs satisfaction in all groups of foodstuffs with the exception of sugar.
- In 2015, almost 57% did not have any savings, while of those that did declare savings, those with amounts equal to between one month and three months' earnings predominated (over 33% of households with savings). Between March 2011 and March/June 2015 there was a marked rise in households with savings (over 7 pp.).
- In February/March 2015, almost 34% of the studied households declared they borrowed. The value of the borrowings most often exceeded that of annual income at over 33% of households. The share of households with loans fell markedly by over 8 p.p. between March 2011 and March/June 2015.
- 3.3% of studied households did not live independently in March/June 2015. This percentage decreased between March 2011 and March/June 2015 by almost 1 p.p. Over the last four years we have been observing a growing percentage of households equipped with appliances and installations studied.
- A vast majority of households in 2015 wanted their children to complete their education at Master's level (over 73%). However, almost 13% of households were satisfied with vocational qualifications and nearly 11% with a vocational bachelor's degree or equivalent. Between 2011-2015, we could observe a significant decrease in in dropping out of from schools resulting from financial reasons or suspension of payments for a school as well as in giving up lunches at the child's school and other limitations. In other areas studied, those changes were not significant.
- The percentage of households which had to resign from holiday trips for financial reasons was between

<sup>2</sup> Percentage points.

almost 35% for family trips (adults and children) up to nearly 40% for trips of adults. However, we observed a significant improvement in this field in comparison to 2011.

- 29% of studied households declared in March 2015 that for financial reasons they had to forego, in the last year, a trip to the theatre, opera, operetta, philharmonic or concert, 27% the cinema, and over 22% from going to a museum or exhibition. However, there has been a significant improvement over the last four years.

- According to declarations of households in 2015, over 93% of them used services of health care institutions funded with public funds, but at the same, time over 54% of them used services of institutions which required them to pay and only 7% used services of institutions which were paid up by their employer. During the year prior to the study, households which had to buy medicines or health care services usually resigned from sanatorium stays, obtaining dentures or rehabilitation services due to lack of money. In the last four years, the percentage of households which had to make such sacrifices declined significantly in relation to all health care services, except rehabilitation treatments.

- 3.3% of Polish households lived below the level of extreme poverty in 2015, while 28.15% were below the prosperity level. Material deprivation affected 10.5% of households in 2015, which is significantly more than the total of monetary poor ones. In the final assessment, poor households were considered to be in poverty both in monetary and non-monetary terms, and these made up 1.7% of the researched population. In the period between March 2013 – March/June 2015, we observed a decrease in extreme poverty and hardship (respectively over 2 and 9 pp.).

- Extreme poverty (in objective terms) was not of a permanent nature in the majority of households in the last two rounds of study. Only 1.4% of households found themselves in extreme poverty in both years of study. However, of the 5.3% affected in March 2013 only 27% were still in extreme poverty in May 2013. 25% of households in a state of hardship in March 2013 were still there in March 2015, which shows that hardship was permanent in character for most of the affected households in the period of study

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- Between 2013 and 2015 the situation on the Polish labour market improved significantly. The unemployment rate fell below 8% and professional activity increased which balanced the negative trend of decreasing the working age population. Nonetheless, the percentage of people working on the basis of definite period of time contracts was still at the highest level in the EU. Persons employed on that basis constituted almost 30% of all employed persons.

- Unstable employment was related mainly to agreements based on the Labour Code, but concluded for a definite period of time (19% of employed persons). Persons whose main source of income was civil-law contracts (so-called “junk” contracts) constituted less than 2% of all working persons.

- Market segmentation concerns a constant division of the labour market into a better and a worse part, which refers to persons working constantly on unstable and poorly paid contacts. This division emerged in 2011, but young people working in such a way found better jobs with time.

- Over the last 4 years we could notice symptoms of increased segmentation. Consecutive generations of graduates are waiting to be employed on the basis of an indefinite period of time contract for a longer period of time. The improvement on the labour market decreased the risk of losing a job for people working on the basis of contracts based on the Labour Code. The chance of transferring from a contract for a definite period of time to a contract for an indefinite period of time decreased in 2013 and did not increase together with the improvement recorded on the labour market. Even though less than 1.5% persons aged above 30 work on the basis of civil-law agreements constantly, about 14% of those employed are persons who were unemployed for some periods of time or worked on the basis of short-term and civil-law contracts for some time.

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- Only 9% of persons aged 25 or more had participated in activities concerning improvement of their professional qualifications and other skills.

- Analysis of the structure of people who declared activities such as improving their professional qualifications indicates the high and sustained selectivity of the education process mainly in terms of age, educational attainment and place of residence. Persons with at least secondary education, residents of big and medium cities and relatively young (up to 44 y.o.) are the ones who improve their qualifications the most frequently. Women improve their skills more frequently than men.

- The results of model analysis of determinants for improving one’s professional qualifications, calculated separately for men and women, confirms the high selectivity of this process for the young, well-educated, high-earning, professionally active people residing in large cities and medium-sized towns are also the educationally active ones – both in case of men and women.

- Only 3% of people who were professionally inactive in the period between 2013-2015 indicated lack of qualifications required by the employer as a reason for unemployment. The majority of them are women, people with vocational and secondary education, persons up to 44 y.o. and residents of villages and small and medium towns.

- Among basic reasons for unemployment, the most significant were factors related to age: education among the youngest and pension among the oldest. The state of health and problems with finding a job were also significant. Reasons related to the need of taking care of home and children, elderly people and disabled were indicated almost exclusively by women.

- Among reasons for taking up work, the unemployed respondents usually indicated the possibility of working

part time (12%), flexible working time (9%) and a possibility to do some part of the work at home (7%). However, almost 60% of unemployed respondents did not want to work at all, regardless of the circumstances and created opportunities.

- Improvement of qualifications is of a special importance for occupationally inactive. Over the last two years, participation in improvement of qualifications increased the chance of employment for the unemployed. However, the chance of maintaining employment was very high and relatively similar for two groups compared - educationally active and those who did not try to improve their qualifications.

- In the period between 2013-2015, the income of employed persons, who are active or inactive when it comes to education, was compared and it was still to the benefit of those who educated themselves. The gap between active and inactive persons decreased in comparison to the previous period, mainly due to the change of women's income. The influence on education on the increase in income between 2013-2015 is more significant in the case of women, which is a fundamental change when compared to previous studies.

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- Data concerning departures from the country according to the Central Statistical Office shows some kind of stabilisation of the economic emigration. Data from the *Social Diagnosis* shows similar stabilisation, but it concerns other aspects of the migration process due to the methodology applied.

- The percentage of people with experience with economic emigration during the last two years before the study in 2015 was quite stable and low. Between 2013-2015 it fluctuated around 2%, while it was over two times higher in case of men. Migration experience characterised mainly persons with secondary and vocational education, while persons with primary education, the youngest respondents and residents of the smallest towns had the lowest level of experience with migration.

- Previous experience with migration was correlated with the status on the labour market. As in all versions of the *Social Diagnosis*, it was observed that persons with migration experience are more active on the labour market, even though in the case of women it was not reflected in better employment. Information obtained from persons who came back to Poland indicated a decrease in the negative influence of economic factors on the decision to return to the country of respondents studied in 2015.

- Over the last four waves of studies, the percentage of persons declaring the will to migrate for financial reasons in the next 2 years ranged between 6 and 8% and amounted to 7% in 2015. Working abroad invariably seems to be the most attractive alternative for the unemployed.

- Among the reasons for migration, those related to a negative assessment of the Polish labour market predominate as well as those connected with difficulties in obtaining sufficient funds for the needs of the family

left in Poland.. Reasons related to professional development or willingness to become independent or to test oneself were indicated, but not deemed as the most important ones.

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- There was a further improvement concerning the use of services of nurseries and kindergartens – from 34% in 2013 up to 37% in 2015. It was maintained in almost all classes of places of residence, with the exception of the smallest towns.

- Access to education among children and teenagers aged between 7-19 does not differ territorially. In 2015, about 98% of children aged 7-15 were educated in schools, while 96% of teenagers aged 16-19 were educated in a full-time, part-time or extramural form.

- In 2015, the indicator of using educational services in the age group of 20-24 was 53%. The downward trend observed in the previous studies was intensified and it was visible in all types of residential areas, with the exception of residents of big cities, where the stabilisation was greater. Even though territorial differences between urban and rural areas decreased, they were still significant.

- In the age group of 20-24, women pursue education more frequently than men. The increase in the educational activity of women was stopped, while the decrease in men's education is still maintained. The scope of using educational services decreases among persons aged between 25-29 and amounted to 14%, however, the downward trend reported since 2009 stopped.

- For women in the age group between 25-29, not only was the downward trend stopped but also an insignificant increase in the use of educational services was noted. For men in this group a stabilisation of the level of using educational services was observed.

- The level of educational activity of persons between 30-39 remained very low (3 %), and was subject to a further decrease. Also, the lack of interest in using educational services by persons above 39 was still maintained.

- An analysis of persons aged 18 or more using educational services indicated that 67% of them were professionally inactive in 2015, while 88% of them were 24 or younger.

- Working persons are usually the ones among persons above 24 y.o. to take part (about 67% in 2015) in the process of improving qualifications, even though they have better qualifications than unemployed or professionally inactive persons anyway.

- Since 2011, we have been observing a constant increase in the percentage of people who are professionally and educationally inactive (aged 15-24) - their percentage amounted to 10.7% in 2015.

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- Just like in the last edition of the *Social Diagnosis*, that is for the second time in the history of the survey the share of households declaring they have savings exceeded the share of households with debts. What is

more, an increasing tendency of people who save is maintained together with a systematic decrease in people with liabilities. The tendencies concerning savings result mainly from a systematic increase in the income of households, and the tendencies concerning debts mainly reflect the decrease in households from the age group of those who are the most active on the market (with the head of the family aged up to 45) and limited access to loans for those with lower incomes.

- In March 2015, households saved mainly in a form of bank deposits (32% of free funds were designed to be saved in such a form), and a very significant part of savings were kept in cash (13%) and its substitutes – current accounts (13%) or saving accounts (10%).
- A significant part of savings of households is of a “securing” nature – for old age, unforeseen situations and future of children. Almost half of savings is destined for those aims. The share of savings for purchase of fixed assets, flats and business activity decreased in comparison to the previous study and amount to barely 15%.
- As many as 95% of the total debt of households are loans from banks. When it comes to the purposes and the amount of the debt, housing loans dominate. The amount of loans/credits for this aim constituted 67% of all debts and instalments for this aim constituted almost 37% of the total amounts of loan repayments.

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- An analysis of the financial health index in households indicated that the majority of Poles live day by day, as they are able to satisfy their current financial needs. Only a small part of the households secures their financial state in a long-term perspective, and many households are not ready to face financial problems.
- The low level of the financial health in Poland is for sure inadequate to challenges and responsibility which should be taken by Poles in relation to not only their „today” but also „today, tomorrow and the day after tomorrow”.
- A small, but stable increase in the financial health index was a positive trend in years 2009-2015. It only did not occur in the period of stagnation between 2011-2013. The improvement concerns mainly those households whose members were active and looking for their own solutions of problems.
- What has the biggest influence on the financial health of Polish households is the increase in income and its stability, which is mainly related to external factors – better situation on the job market, promotion and/or a rise.
- What is a positive change is also an increase in the field of savings for pension. It is mainly observed among households with low income and it resulted from a better financial situation. It can be assumed that the increase in awareness of low security offered by ZUS and OFE, which was widely discussed in the media during the pension system reformation in 2014, contributed to a change of thinking concerning long-term planning.
- What is worrying, on the other hand, is the fact that households in which financial health was worsening were

the ones whose savings for retirement were at the lowest level.

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- The continued growth in rating of life up to now was confirmed. Currently this is higher than at any time in the whole study period, and over twice that of the worst in this respect year 1993. It is also worth emphasising that since 1994, the rise in assessment has been unusually steady.
- Also two indicators of will to live (lack of suicidal tendencies and desire for life), the most important aspect of psychological well-being, are at the highest levels in the whole period since 1991.
- Depression symptoms have decreased to the lowest level since 1992.
- The sense of happiness increased in comparison to the previous years, as it was declared by 83.6 respondents. It was the best result since the beginning of the studies. In comparison to 2003, the percentage of unhappy people fell down three times (from 4.4 to 1.3%).
- Among 16 partial satisfaction types, in 9 there was an increase in comparison to 2013 and a decrease in 4. Satisfaction with sexual life and work were the lowest.
- Age was most important factor explaining general mental wellbeing of the Poles was, as in the previous study, age. The older a person, the worse the mental condition, especially as far as symptoms of maladjustment (depression) are concerned. Second in terms of importance for general psychological well-being is marriage, which together with the number of friends (fifth), can be treated as a single indicator of social support. In the third place, also similar to two years ago, was alcohol abuse, and income was ranked fourth.
- This year's study once again confirms the accuracy of the main hypothesis resulting from the onion theory of happiness. Positive changes in mental well-being are determined almost exclusively by an internal adaptive mechanism (the “happiness attractor”), which acts most effectively at the deepest level, which is the will to live. A fall in well-being, especially at the most superficial level of satisfaction criteria, is on the other hand the result of negative life changes.
- Happier people fare better in life as it is more the case that happiness brings money more than money happiness. The happy have a greater chance of finding a steady partner and starting a family. Levels of mental well-being determine the chances of divorce in future years. Mental wellbeing increases as the date of a wedding approaches, then drops fast to the level of the period many years before the wedding. In other words, there is an almost perfect asymmetry of well-being change before and after getting married. Therefore, even though the married are happier than those living alone, it is not getting married that makes them happy in the long run. Naturally happy people simply have better chances of finding a partner.
- The average declared personal monthly net income was 2034 zł in the last quarter, and was somewhat smaller in the panel sample at 1965 zł. In relation to data from 2013, it rose nominally by 8.2. in the whole sample while

falling by 9 per cent in real terms, and in the panel sample it rose nominally by 9.3% and in real terms: 10.1%).

- Households expected their incomes would rise by on average 37% over the next two years, with expectations at 43% two years ago.
- A Bachelor's degree yields five times less on education investment than a Master's, and a PhD increases that rate of return by a further 80%. In the last two years, the rate of return has increased to a marked extent only for higher education and doctoral studies.
- Different disciplines offer differing yields on investment. In recent years there have been marked changes in this area, with currently the best performers being the law and medicine with agricultural studies the weakest.

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- The Poles are enjoying ever better health. The incidence of physical symptoms fell to their lowest ever levels (since 1996).
- One health risk factor is excessive weight measured by BMI (Body Mass Index).
- Another risk factor is smoking, which is also associated with many health issues though to a lesser extent than obesity.
- Alcohol abuse is a risk factor in terms of all 17 state of health gauges. It affects subjective assessments of one's own health, and also worsens objective indicators like the incidence of health issues and the likelihood of serious illness.
- Six out of ten Poles do not undertake any form of physical exercise. Most popular is cycling at 27.7%.
- Physical activity has a weaker effect on health than risk factors (excessive weight, smoking and alcohol abuse), however, it definitely does improve health.
- The general level of life-stress in 2015 was significantly lower than two years before and the lowest in the earlier studies from 2000.

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- Since the Transformation, the 90% (!) level of declared feeling of social support (*I feel loved and trusted*) has not changed. Only 20% of respondents feel lonely against their will.
- For the first time since 2005, the average number of friends fell from 7 to 6. The number of friends is the 5th indicator of psychological well-being after age, marriage, alcohol abuse and income. Friends have an equally large influence on mitigating the mental effects of life-stress as as the task-based coping strategy.

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- The Poles' value system is highly stable. However, it is worth noting a marked rise in the importance of work and fall in that of children and a successful marriage in recent years.
- As Poles quickly become more wealthy, so the frequency of indications of money as one of the three cardinal values falls (by 1/4 compared to the year 2000).

• Health, like in all previous years, is most often indicated as a cardinal value by 65% of respondents, followed by a successful marriage (50.3) children (48.7%) and work (30%). Freedom and liberty, a strong character education, kindness and peer respect were indicated the least frequently.

• It is possible to predict certain life events that depend on individuals' decisions by value system. These include: getting married, divorce and childbirth. Important life events also cause changes in value systems, e.g. weddings increase the significance of a successful marriage, while divorces reduce it. The birth of a child raises the position of children and loss of money reduces its value system rank.

• Materialistically minded people tend to assess their whole life up to now in more negative terms, are less happy and have suicidal tendencies more often. However, shopaholism has the opposite effect and acts positively on all well-being indicator readings.

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- 84% of Poles (the most since 2000) rate the past year as successful.
- Poles perceive an ever-weaker relation between their prosperity (whether the past year was a success) and the activity of the authorities, largely ascribing it to themselves if the past year was rated as successful.

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• In 2015 42.7% of adults declared systematic participation in religious acts. It is almost 1pp. More than in 2013, but 13 pp. less than in 1992.

• The most religious groups in terms of institutional practice were women, the elderly over 60, residents of rural areas (especially farmers), receivers of welfare benefits and people with a basic education. Those with lowest behavioural indicators of religiousness were men, the age-group up to 44, residents of the largest towns, the best educated and wealthiest, the unemployed, private-sector workers and entrepreneurs.

• In terms of region, most religious Voivodships were Podkarpackie, Małopolskie, Opolskie and Lubelskie, where with the exception of Opolskie the majority has been strongly settled for generations, while the least religious are Zachodniopomorskie, Łódzkie and Warmińsko-Mazurskie. Podkarpackie deviates the most from the country average, where only 11% declare not going to church and almost 75% takes part in church ceremonies at least 4 times a month. Zachodniopomorskie is at the other end of the scale, where a half of inhabitants do not go to church at all and only 1/3 take part in church services at least 4 times a month. The largest towns (over 500 thousand people) are the least religious, as 54% do not attend church at all as compared to 21% in rural areas.

• Institutionalised religious practice is linked to higher levels of mental well-being regardless of the gender or age. It also mitigates the effects of life-stress on mental wellbeing.

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- Every fourth Pole smokes cigarettes, on average a little less than 15 a day. Compared to 1995, the share of smokers has fallen by as much as 13.5 pp.
- The vast majority of smokers are men, and apart from them, middle-aged, persons with vocational education, poorer ones, unemployed persons, private-sector employees.
- The share of persons who react to problems by drinking is smaller (3.5% in this study and 3.9% two years ago) than that of those who admit they abuse alcohol (6.2%, while it was 6.7 % two years ago).
- Men reported that in the previous year they had drunk too much 4 times more than women (six years ago it was nearly six times more often); middle aged people abuse alcohol more frequently, rich and poor more frequently than middle class persons, private entrepreneurs a bit more often than their employees. Students abuse alcohol only more frequently than pensioners.
- Among professional groups, the ones that are the most affected by alcoholism are creators, artists, writers and journalists (21.5% of alcohol abusers), operators of mining machines and equipment, mining and construction workers, doctors (12.6% admitting to overusing alcohol in the past year). The lowest amount of persons overusing alcohol was among textile production workers, hairdressers and home care and cleaning personnel.
- The share of reported narcotics use increased until 2005, and in this study it remained at the level of 2011, and is much higher than at the beginning of the study period (an increase over three times as compared to 1992). Currently, most at-risk are men, school and university students (generally all younger people), large-city dwellers, private-sector workers, the well-off and those living in Slaskie and Zachodniopomorskie Voivodship.

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- Between 2005 and 2015. the percentage of victims of theft, robbery and battery decreased. This explains the high increase in the sense of safety (the percentage of people satisfied with the state of safety in their place of residence increased since 2000 by 50%, so it was similar to the decrease in the number of victims). However, the percentage of people admitting to breaking the law did not change.
- Alcohol abusers are four times more likely to be the perpetrators of aggression, and almost twice as likely to be its victims. Young alcohol abusers cause traffic accidents and collisions four times more frequently than those who do not overuse alcohol.
- Western Voivodships are under the highest threat of crime, while Podkarpackie and Warminsko-Mazurskie are under the lowest threat.
- Both the percentage of victims, and the perpetrators of criminal acts, is significantly higher among men than among women, is much greater in the younger age-groups than in that of the elderly. In large urban areas, the

frequency of experience associated with criminal activity is twice as great as in rural areas.

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- In 2015, members of organisations, associations, parties, committees, councils, religious groups, unions and circles amounted to 13.4% of the total studied (15% in 2011). 9% of society takes active part in organizations, with clearly the largest group (24%) active in religious groups. In the last two years, 15% reported activity on behalf of their own social environment as the slow, but systematic, rise in involvement in social initiatives came to a halt. Every fifth respondent (19.4% compared to 23% in 2011) had attended some kind of public meeting other than for work-purposes. These are basic indicators revealing the low level of development of Polish civil society, and the low level of civil experience and competences. Civil experiences have a tendency to cumulate as members of organisations and socially active participants in public meetings tend to be the same individuals.
- Civil experience and skills associated with social position were measured by educational level. The higher the education, the more people set up organisations and join existing structures where they perform voluntary functions and the more willing they are to become actively involved in social initiatives. The educated are better organised and express their interests more effectively. They are better able to take advantage of the opportunities created by democracy at the local level.
- Over the last two years (2013–2015) trust for financial institutions increased. Trust for financial institutions at a higher level than average was shown by middle aged people (25-44), persons with at least secondary education, persons with better financial standing, private entrepreneurs and their employees, persons working in the public sector.
- In 2015, over 40% of respondents declared that harm to the common good is either of no interest to them at all or is largely of no interest. Poles are the least bothered about fare dodgers on public transport and tax evasion. However, indifference to these forms of infringement of the public interest has fallen in comparison to previous years. In the remaining categories we also note a rise in sensitivity to the public good. On the other hand, after twenty years of democracy building, nearly half of the respondents are indifferent to six forms of public good violation.
- Poland fails to meet a single criterion of civil society. In terms of general trust, it occupies one of the last places among the countries covered in the *European Social Survey* (ESS) 2014. In 2003 and 2005 only 10.5% of Poles agreed with the opinion that “most people are trustworthy”. In 2007 this was 11.5%, and 13% in 2009 and 2011, 12% in 2013 and 15% in 2015 - which was four times less than in Denmark, Norway and Finland.
- Poles very rarely believe in good intentions of others. According to EES 2010, only 14% of Poles believe the people close to them have good intentions, which is also far more rarely than the representatives of other nations.

Only 13% in Social Diagnosis 2013 and 2015 believed that people are usually trying to be helpful.

- An example of the Poles' low-tolerance levels with respect to minorities is their attitude to homosexuality. Only 13% in EES 2012 and 7% in *Social Diagnosis 2015* definitively agree with the opinion that homosexuals ought to be able to arrange their lives in accordance with their own convictions. A lower acceptance for homosexuals was only reported in Russia (6%).
- *Social Diagnosis* data confirms the relation between social capital as defined according to the indicators we have accepted, and other quality of life parameters.
- Just like on the international scale, we note a significant relation between social capital, the prosperity of sub regions and larger towns. The average social capital level in 66 sub regions explains 37% of GNP differences.

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- The rise in households with a computer and access to the internet is slowing as we observe gradual market saturation. In the first half of 2015, as many as 72% had computers, while 71% households had Internet connection.
- Internet bandwidth is increasing quickly in households. The tempo is constant and since 2003, the average bandwidth doubles on average by 19.4 a month. This trend, used to foresee the validity of goals of the European Digital Agenda, allows us to say that the aim of providing bandwidth of at least 100Mb/s for half of households is doable, and should be achieved in 2020. While the aim of connecting all households with bandwidth of at least 30Mb/s will be impossible to achieve almost for sure.
- Mobile use of the Internet is becoming more popular, mainly thanks to smartphones, which were owned by 45% of Poles in the first half of 2015, that is a half of people who had mobile phones (90.4%). Tablets have also an influence on the statistics. Even though half of the Internet users claim to use Internet using a phone or a Tablet, the majority of them use only Wi-Fi connection. Almost 27% of Internet users (that is 17.5% of Poles) declare that they use actual mobile Internet – that means data transfer via mobile networks.
- Computers and the Internet are usually owned by multi-person households, especially married couples with children (95% of them have Internet access) than in case of single-person households. As a result, over 80% of Poles aged 16+ have a computer at home (or a Tablet) as well as Internet access. However, only 66% of them uses those technologies. As many as 15.4% of persons do not use Internet even though they have access to it. The number is increasing; it is almost a half (46%) of people who do not use the internet.
- Since 2011, the increase in users of those technologies is significantly slower than it used to be. However, if you take into consideration the fact that some users cease to use it, 5.3% of Poles of 18+ started to use the Internet between 2013 and 2015. The key barrier in widespread of using the Internet is lack of motivation as

well as capabilities of using it. Financial barriers are a reason for lack of access for about 5% of households, and no technical capabilities of having Internet connection was an issue for only 0.5%. Hard barriers (infrastructural or financial) are becoming less significant. However soft barriers are also weakening – between 2007 and 2015 the percentage of households which think that they do not need Internet decreased twice. Currently slightly less than 15% think so.

- An increase in persons using the Internet influences changes of the structure of user population. The average age of website users is increasing. In 2003, 40% of users were between 16 and 24 y.o., a now they only constitute 18% of the users. Ten years ago, 16% users were at least 45 years old, and now there are twice more users of that age. The share of students decreased and now they constitute only 11.6% internet users, while they constituted 30% in 2003. The percentage of people from the biggest cities is decreasing, while the number of people from rural areas is on the increase (from 21% in 2003 to 35%).
- Computer, internet and mobile phone use is unusually strongly determined by different socio-demographic factors, above all age and educational attainment. Most internet users are definitely younger and there are very few older people). The net is above all used by those in education (99% of students) and the better educated (92% with a higher education), while only 15% of those with basic education go on-line. Men tend to use these information technologies slightly more often than women, while of great importance is profession and job-market status as the majority of students and those in employment are users while the technologies are least used by pensioners, welfare benefit receivers and farmers. Computer use is also linked to prosperity and size of place of residence. 82% of dwellers in the largest cities and only 57% of the residents of rural areas use these technologies. However, the significance of place of residence is not as great as that of other factors and is still falling.
- The spread of the internet does not completely translate into a fall in interest in television. The share of households equipped with LCD and plasma television sets is increasing faster than that with computers –there are modern computers in 77% of households. More households have cable or satellite television than internet access. People who spend more time using the Internet than watching TV amounted only to 17%, 2pp. more than in 2013. Just like two years ago, as many as 70% of people aged over 16 spend more time watching TV than online, others use both media with similar intensity. Older people and pensioners spend more time watching TV. 2/4 persons aged 65+ watch TV for over 2 hours a day. People with a lower level of education watch significantly more TV. What is interesting is that income and size of the town do not have an influence on TV ratings. People from smaller cities watch it slightly more. Generally, Internet access does not translate into the interest in TV.

- Over half of Poles spend at least an hour a week reading the press. They are usually older people, with better education, living in bigger cities and in households of greater income. Press is usually read by persons working in the public sector and pensioners. Internet users read press a bit more frequently than people who do not surf the Internet. Over a half of persons who read newspapers and books pay from time to time to obtain them. It may mean that there is a potential to change the business model in which the majority of publishers function – they can benefit from users and charges instead of advertisements and data use.
- Methods of using the Internet are very varied. Many users use it to a limited extent. For those with lower education, living in smaller cities and in households with lower income, Internet is mainly a source of entertainment. However, users with better education and from bigger cities use it mainly in an instrumental way. This variation of methods of internet use is a factor increasing the phenomenon of digital exclusion.
- The rise in households with a computer and access to the internet is slowing as we observe gradual market saturation. In the first half of 2015, 72% of households had a computer, and 71% had Internet access.

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- The level of sense of discrimination in Poland is still not high, though compared to the mid-90s, it has risen three-fold. Currently, 1.8% of adult Poles feel discriminated against for whatever reason.
- A lack of a sense of discrimination does not mean a lack of discrimination per se. Women suffer discrimination in terms of income, as their average declared income is about 1/5 lower than that of men (the situation was at a similar level in the previous years). This difference does not result from a different social-professional status. With the exception of welfare benefit receivers, the income gap is the same or similar to the total with control for education level and age. Also in terms of specific professional groups of relatively equal competences, duties and job-titles, income differences between women and men remain though fall to 17-19%.
- However, women do not feel discriminated against more often than men and in 2005 and 2011, the share of men reporting subjective discrimination was even greater (in the remaining years the differences were not statistically significant). If we consider only the employed and compare men and women with the same career-length and educational attainment, we do not detect a greater sense of discrimination among women.
- Objective social disability of the disabled has a moderate effect on their feeling of being discriminated against, with of basic importance being the level of disability. In the severe disability group, the indicator of subjective discrimination is almost twice as high as in the group with a light degree of disability. Absolutely most often a sense of discrimination is reported by the victims and perpetrators of criminal acts, alcohol or narcotics abusers and those in psychiatric and psychological

therapy (between 2 and 5 times more often than in the population as a whole).

- An analysis of the potential risk factors of social exclusion (age, disability, loneliness, low education level, rural residence, drug or alcohol dependency, conflict with the law, sense of discrimination, poverty and unemployment) reveals four separate categories of exclusion: physical (age and disability related), structural (low cultural capital and rural residence), normative (social issues and pathologies) and material (unemployment and poverty).
- Since the beginning of study on social exclusion, poverty and unemployment were treated as the main barriers preventing full participation in social life. These groups also received the most attention in the assumption that fighting unemployment and poverty ought to make up the main aim of social reintegration policy. However, the fact is that material exclusion is one of four separate exclusion types in Poland today implies the necessity of differentiating integration policy to cover these other forms of exclusion whatever the labour-market situation and material living conditions, requiring separate instruments addressed to the less-well educated, rural residents, alcohol and narcotics abusers and those in conflict with the law.
- The largest share of Poles aged 16 or more at risk of exclusion are in the structural and physical categories at nearly 25% and 15%, respectively.

### 3. THE RESEARCH METHOD

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#### 3.1. Research structure, procedure and progress

The Social Diagnosis research project is a joint academic undertaking by the members of the Council for Social Monitoring. The concept and logistics of the project were developed by the Council. Data are analysed and reports are prepared by Council members in cooperation with a group of experts.

The project is a panel study. Each subsequent wave involves all available households from the previous wave and households from a new representative sample. So far, eight waves have been conducted in 2000, 2003, 2005, 2007, 2009, 2011, 2013 and in 2015.

Two questionnaires have been used in the study (Annex 1). The first is a source of information about household composition and living conditions completed by the interviewer during a meeting with the household representative who knows the most about the household situation and its members. This questionnaire provides data about household structure and living conditions, and about the demographic and social features of its individual members. The other questionnaire is completed by all available members of a given household aged 16 or more and contributes information about individual persons' quality of life. In 2015, two types of the individual questionnaire were used exceptionally. One, with small exceptions, was the same as in the previous editions. The majority of respondents completed it (22,208 persons). The second questionnaire was the Polish version of the *International Social Survey Programme 2015* (ISSP 2015). It was completed by 2,116 from 3,000 participants selected from the panel sample. Analysis of data from ISSP will be presented in a separate report.

In each wave, field research is conducted in March or in March and April by professional interviewers of the Central Statistical Office. Supervision over the organisation of the questionnaire survey is provided by the Office for Statistical Analyses and Research of the Polish Statistical Association.

#### 3.2. Sampling design and weighting method

The first wave of the study, conducted in March 2000, involved 3005<sup>3</sup> households with 10002 members. From among them, all 6614 available persons aged 16 and above participated in the individual survey.

The second wave of the study, carried out in March 2003, included 3961 households (2396 from the first wave at 79.7%) with a total of 13,693 members and 9587 persons aged 16 and above who filled in the self-completion questionnaire (including 8180 - 81.8% and 4719 - 71.3% from the first wave of the study respectively, and 458 and 202 new individuals in households interviewed in 2000 respectively).

The assumption of the third wave of the study, conducted in March 2005, was to examine all households which had participated in the second panel wave along with all those in which members from the initial panel sample had transferred; i.e. households established as a result of the division of the initial panel sample of households.<sup>4</sup> It was also decided that the self-completion questionnaire would include all household members born no later than March 1990. As a result, 3113 households that had participated in the second wave were entered in the database (78.6% of second wave households). The database was expanded with information about 9939 members of households examined in 2003 (72.6% of individuals from the second wave), 537 new members of those households, 6388 individual respondents who had completed the questionnaire in 2003 (66.6% of all individual respondents from the second wave) and 231 new individual respondents from households examined in 2003 (mainly individuals who turned 16 between the second and third wave). In addition, 900 new households and their members were included in the study. In order to obtain the assumed number of 900 new households for the third panel wave, a 900-element basic sample and a reserve sample of the same structure and size were drawn. 738 new households with 2351 members and 1572 individual respondents were entered in the database. The third wave database included a total of 3851 households with 12,872 members and 8820 individual respondents.

In 2007, the study covered 5532 households with 18,067 members and 12,645 individual members of those households aged 16 and above. Interviewers managed to reach 2760 households (71.7%) from the 2005 sample, with 8,406 of the same members (65.3%) and 5,593 of the same individual respondents (63.4%) as well as 109 households established by members of households examined in 2005 with 294 members and 207 individual respondents. The panel sample of 2005 was extended by 883 members and 452 individual respondents. From the new set of 3000 households sampled in 2007, the study was carried out in 2,663 with 8,822 members and 6,844 individual respondents aged 16 and above.

<sup>3</sup> All information about sample size pertains to cases entered in the database rather than all cases examined. Some of the latter were not entered in the database or were removed from it due to incorrectly completed questionnaires or problems with identifying households and individual respondents. Figures concerning the number of households and their members from previous waves differ slightly from those included in the *Social Diagnosis* reports of 2000, 2003, 2005, 2007, 2009, 2011 and 2013 since after they had been published the databases were once again verified in terms of the identifiability of cases and the logical coherence of data and approx. 2.5% of examined entities (households and persons) were either removed or restored.

<sup>4</sup> The panel sample of households is defined in section 3.2.

In 2009, the study covered 12381 households with 36778 members and 26,243 individual members of those households aged 16 and above. Researchers managed to revisit 3686 households from the 2007 sample (66.6 %) with 11,126 of the same members (61.6 %) and 7638 of the same individual respondents (60.4 %).

In 2011, 12,381 households with 36,753 members were examined as well as 26,453 individual members of those households aged 16 and above. Researchers returned to 8504 households from the 2,009 sample (68.7 %) with 24,074 of the same members (65.5 %) and 16,440 of the same individual respondents (62.6 %).

In 2013, we studied 12,352 households with 35,899 members and individually 26,308 household members over 16 years of age. Of the 2011 sample, we were once again able to reach 9,131 households (73.75%) with 25,914 of the same members (70.51%) and 18,020 of the same individual respondents (68.12%).

In 2015, we studied 11,740 households with 35,279 members and 35,279 members of those households of 16 years or older were studied individually<sup>5</sup>. We reached 8,817 households (71.38%) from the sample from 2013 with 26,078 same members (72.64%) and 17,498 same individual participants (66.51%); 6,832 households (55.18%) from the sample from 2011 with 19,690 same members (53.57%) and 11,461 same individual respondents (43.32%); 5,048 households (40.78%) from the sample from 2009 with 14,009 same members (39.09%) and 8,051 same individual participants (30.68%).

Out of the initial sample of the first wave, after sixteen years, the survey was conducted in 2015 in 525 households (17.47 %) with 1263 of the same members (12.68 %) and 711 of the same individual respondents (10.77%).

A total of 26,685 households with 84479 members and 62,541 respondents were examined.

Households were selected using the two-stage stratified sampling method. Prior to sampling, they were stratified by Voivodship and then within Voivodships by the class of the place of residence into large towns (with more than 100k inhabitants), small towns (with fewer than 100k inhabitants) and rural areas. For urban strata, statistical regions (covering at least 250 dwellings) were the primary sampling units (PSUs) in particular Voivodships, while statistical districts were the PSUs for rural strata. At the second stage, two dwellings from the randomly generated list of dwellings were drawn systematically in separation for each of the strata established at the first stage.

In the first wave of the study (2000), the same number of households was sampled for each Voivodship with a view to obtaining a relatively high number of households also in Voivodships where the number of households was relatively low. The assumption was that estimates of parameters for Poland in general would be obtained as weighted averages of Voivodship data. In the subsequent seven waves of the study (2003, 2005, 2007, 2009, 2011, 2013 and 2015), the number of new households sampled for particular Voivodships was directly proportional to the share of the number of households in a given Voivodship in the total number of households in the country; i.e. in the general population. In case of non-response, households were replaced by those from reserve samples that belonged to the same statistical region.

From 2009 due to the significantly greater size of the new household sample, both the number of strata and the number of dwellings sampled from each particular stratum at the second stage were increased. Census areas were the primary sampling units, sampled with probabilities proportional to the number of dwellings they covered. Urban strata were divided into large towns with more than 100k residents, medium-sized towns of 20k-100k and small towns with fewer than 20k. Furthermore, in five largest cities the strata covered individual districts. At the second stage, three dwellings were sampled per census area in large towns, four per area in medium-sized ones and five per area in the smallest towns. Six dwellings were sampled for rural areas.

### **3.2.1. Principles of defining the panel sample**

In the study's panel approach, the examined panel sample of households (i.e. households that participated in the second wave of study) represents a specific dynamically changing section of the population of Polish households. Thus, it was assumed that the panel sample of households would not be complemented in subsequent waves when the households from the panel sample died out naturally or refused to participate further in the study. The first of these situations is treated as a natural process in which part of the population of households die out. In the second case however, so that the decrease in the number of households does not affect the evaluation of the dynamics of the changing phenomena and processes, we apply an appropriate system of weighting to the results. At the same time, the initial panel sample of households was complemented in subsequent waves (starting from wave three) to include new households where members of households from the initial panel sample of households had transferred; i.e. those established through the division of the initial panel sample of households.

The dynamic approach to the panel sample requires not only that the panel sample of both households (the so-called panel sample of households) and their members (the so-called panel sample of persons) be defined at the

<sup>5</sup> Out of this, 22,209 filled in the standard Social Diagnosis questionnaire (as in the previous waves) and 216 persons (only members of the panel sample) completed the International Social Survey Questionnaire h ISSP 2015. The results of ISSP 2015 will be presented in a separate report.

beginning, but also that the principles for treating those research units in the subsequent waves are defined. These definitions are presented in Annex 2 (principles of defining the panel sample).

### **3.2.2. Sample weighting systems**

#### *3.2.2.1. Premises for the use of weights in panel studies*

In panel studies based on samples observed over a longer period of time, problems arise as to the representative character of samples and the precision of results not encountered in cross-sectional studies (Kalton and Brick, 1995; Verma, Betti and Ghellini, 2007). Due to the long-term character of the study, the sample loses units due to their refusal to participate in the study (on the part of households and/or their members) in subsequent waves. Households also change their place of residence and contact with them is lost or they disintegrate in the course of the study. At the same time, the sample is complemented by new households established by individuals from the panel sample of persons. Finally, the structure of studied households is subject to change.

All these factors make the sample less representative in the subsequent panel waves and make it impossible to compare the samples and their relevant results between the subsequent panel waves.

If the decreases are not random and their frequency depends on observable investigated entity characteristics, the systematic bias of results may be eliminated by appropriate weighting of raw data from subsequent panel waves. Similarly, households added to the panel sample of households must receive suitable weights in order not to disturb the structure of the sample.

It is necessary to construct a weighting system for each study stage both for cross-sectional and longitudinal analyses. The weights for the first panel wave (the initial sample) are meant to restore, in the process of calculation, the original structure of sample distorted by refusals to participate (refusals on the part of households and their members). Weighting at the first study stage may also adjust the distribution of sample features (both households and persons) on the basis of data available from independent and reliable sources on the distribution of those features in the population. This type of weighting eliminates random errors in the selected sample.

In subsequent panel waves, weighting is meant to adjust sample distortions that arise due to the decrease in the number of entities under investigation (households and persons) caused by refusals and loss of contact by extending the sample to include households newly established by individuals from the panel sample of persons and other changes in the households under investigation. Changes due to the entities dying out should not be adjusted for as this type of decrease is representative for the population.

#### *3.2.2.2. Cross-sectional weights*

The results were appropriately weighted in order to preserve their representative character on the national study scale as well as for individual Voivodships and the particular classes of place of residence,

The initial weight of a household sampled from a given stratum is the inverse of the sampling fraction for the dwelling in that stratum. Initial weights were then adjusted to account for the refusals of some households to participate in the study with the exhaustion of the reserve sample at the same time, or for the fact that some of them did participate (the household questionnaire was completed) but no individual interview was conducted. In order to estimate the household non-response rate, the sample of households was divided into groups according to the class of the place of residence, with six groups of such classes identified. It was assumed that the probability of household non-response was the same for each class. In other words, the household non-response ratio identified for a given class constitutes an estimate of the non-response ratio for each household within that class.

The adjusted initial weights for households were calculated for individual locations by dividing their initial weights by the relevant non-response ratios for those locations.

At the next stage, the adjusted initial weights were calibrated against external sources of information in order to enhance the precision of estimation. The method of integrated calibration applied in the study provides estimates of the weights for households and their members simultaneously. The values of variables concerning persons are first aggregated within individual households by calculating the total value of those variables within households (e.g. the number of women/men in a household). Then calibration is conducted at the level of the household, with the use of variables related to households and variables related to persons in the aggregated form. The advantage of this technique is it ensures concordance between the household estimation and that of individual members since all household members (persons) receive the same cross-sectional weights as their households. The following calibration variables were applied in the study:

- at the household level: size (4 size categories of 1 to 4 persons were identified), Voivodship, type of the place of residence (rural and urban area),

- at the member level: gender, age group (14 age groups were identified: under 16, 16-19, eleven five-year groups, 75 and above).

Information on calibration variables was taken from the 2011 National Census of Population and Housing and from current demographic estimates.

Running this integrated calibration procedure yielded the calibrated cross-sectional weights for households.

Subsequently, calibrated cross-sectional weights are adjusted to eliminate extreme weights. Excess variation of weights is unfavourable for the results of the estimation as it increases the variance of estimators. For each of the variables, the evaluation of whether a given variable should be deemed as extreme was based on estimating the ratio of the quotient of the calibrated value of that variable and the average value of weights for all variables after calibration to the quotient of its value before calibration and the average of the values of weights of all variables before calibration. If the value of that ratio fell outside the range of [0.3; 3], it was appropriately adjusted (decreased or increased) in order for the ratio to move closer to the (upper or lower) limit of the acceptable range of variation. The application of the procedure of calculating extreme weights yields the final basic weights (the so-called final weights).

The procedure for calculating basic weights as presented here is applied separately to each new sample included in subsequent panel waves. At the final stage of estimating cross-sectional weights, samples from subsequent years are combined and cross-sectional weights of their households and persons undergo simultaneous integrated calibration. Any extreme weights are then trimmed to yield final cross-sectional weights for a given year (panel wave).

This procedure ensures the assumed sample size and representative character on the national scale and in the identified classification cross-sections.

### 3.2.2.3. Longitudinal weights

The purpose of longitudinal weights is to preserve the sample's representative character throughout panel duration (Ernst, 1989; Verma, Betti and Ghellini, 2007). The final cross-sectional weights for 2013 served as the starting point for constructing longitudinal weights for 2015.

The guiding principle assumed for the study was to observe the initial panel sample of persons in subsequent panel waves<sup>6</sup>. Cross-sectional weights assigned to those persons were properly adjusted in order to minimize the possible impact of sample attrition on comparison results due to loss of examined persons. Longitudinal weights for persons not belonging to the initial panel sample of persons were estimated on the basis of panel sample longitudinal weights of persons.

## 3.3. Basic terms and classifications

For the purposes of the study households and their members aged 16 and above were identified as the two basic entity types. The study covered single-person and multi-person households. A single-person household is understood to mean a person who makes a living on their own; i.e. they do not combine their income with anyone else irrespective of whether they live on their own or not. A multi-person household on the other hand, is understood to mean a group of people who live together and make a living together. The following cross-sections of households were adopted in the study for the purposes of classification:

- the socio-economic group, identified on the basis of the main source of income,
- household type, established on the basis of the number of families and the type of the biological family,
- class of the place of residence,
- voivodship,
- economic activity.

Seven basic socio-economic groups were identified according to the source of household income:

- households where the sole or main (dominant) source of income is from gainful employment in the public or private sector and from performing home-based work or on the basis of agency agreements - households of employees,
- households where the sole or main (dominant) source of income is from a farm with agricultural land exceeding 1 ha (including users of plots up to 1 ha of agricultural land and owners of domestic animals but no agricultural land if the livestock is the sole or main source of income) - *farmers' households*,
- households where the sole or main (dominant) source of income is entrepreneurs activity other than agriculture or a liberal profession - *self-employed households*,
- households where the sole or main (dominant) source of income is a retirement pension - *retirees' households*,

<sup>6</sup> Cf. section 3.3.

- households where the sole or main (dominant) source of income is a form of disability welfare support – *pensioners' households*,

households where the sole or main (dominant) source of income are sources other than paid work (except for retirement pension, disability benefit or other type of pension) - *households living on unearned sources of income*.

Household type involves the following categories:

one-family households: married couples with no children, married couples with children (one child, two children, and three or more children), single-parent families, multi-family households, non-family one-person households, non-family multi-person households.

In another parameter

- single-family households: childless married and unmarried couples, couples with children (one, two, three and more)

- incomplete families
- many-family households
- one-person non-family households
- many-person non-family households

In yet another parameter:

- single-family households: childless married and unmarried couples, couples with children (one, two, three and more)

- incomplete families
- many-family households
- many-family households with and without children
- one-person non-family households
- many-person non-family households

Irrespective of economic activity type, the studied households were divided into those without the unemployed and households with the unemployed.

The class of place of residence is divided into urban and rural areas, with urban areas further subdivided by resident size units of 500k, 200k-500k, 100k-200k, 20k-100k and fewer than 20k. Classification by the class of place of residence and voivodship is the same for households and their members.

In addition, the following criteria for the classification of household members were identified:

- gender,
- age,
- educational attainment,
- household income per capita,
- social and professional status,
- disability.

As regards educational attainment, four categories were identified:

- primary and lower,
- basic vocational,
- secondary,
- higher and post-secondary.

As regards household income level, three classes of households were identified: those with income per capita below the first (lower) quartile of income distribution, higher than the first quartile and lower than the third quartile, and higher than the third quartile.

The following categories of social and professional status of household members were identified:

- public sector employees,
- private sector employees,
- private entrepreneurs excluding farmers,
- farmers,
- pensioners,
- retirees,
- the unemployed (registered in labour offices or - in some analyses - identified on the basis of Labour Force Survey criteria),
- school and university students,
- others professionally inactive.

### 3.4. Features of the sample by main categories

#### 3.4.1. Features of the household sample

Tables 3.4.1.-3.4.3. show features of the entire sample of households and their members according to the most important socio-demographic groups after they were weighted using a cross-sectional weight.

Table 3.4.1. Households by socio-economic group and class of the place of residence

Socio-economic group	Place of residence						Total	
	Towns of more than 500k.	Towns of 200k-500k	Towns of 100k-200k	Towns of 20k-100k	Towns of fewer than 20k	Rural areas	N	%.
Employees	1015	711	539	1225	744	1775	1015	51.1
Farmers	1	3	5	18	14	521	1	4.8
Self-employed	108	90	43	101	90	180	108	5.2
Retirees	442	368	330	837	437	1014	442	29.2
Pensioners	51	56	48	163	87	271	51	5.8
Living on unearned sources of income	53	56	38	112	55	148	53	3.9
Total N	1670	1284	1003	2456	1427	3909	1670	
Total %.	14.3	10.9	8.5	20.9	12.1	33.2		100.0

Table 3.4.2. Households by type and class of the place of residence

Household type	Place of residence						Total	
	Towns of more than 500k.	Towns of 200k-500k	Towns of 100k-200k	Towns of 20k-100k	Towns of fewer than 20k	Rural areas	N	%.
<i>Single-family</i>								
Married couples with no children		319	243	194	489	280	570	2095 17.8
Married couples with 1 child		272	237	179	392	280	624	1984 16.9
Married couples with 2 children		172	144	121	331	187	648	1603 13.7
Married couples with 3 and more children		48	45	45	98	94	382	712 6.1
Non-married couples without children		87	39	32	29	15	18	220 1.9
Non-married couples with children		34	32	15	31	22	41	175 1.5
Incomplete families		131	101	123	268	149	369	1141 9.7
<i>Multi-family</i>								
		31	34	33	135	68	517	818 7.0
<i>Non-family</i>								
Single-person		564	392	250	652	319	688	2865 24.4
Multi-person		22	14	12	27	16	31	122 1.0

Table 3.4.3. Households by voivodship and class of the place of residence

Voivodship	Place of residence						Total	
	Towns of more than 500k.	Towns of 200k-500k	Towns of 100k-200k	Towns of 20k-100k	Towns of fewer than 20k	Rural areas	N	%.
Dolnośląskie	252	0	92	244	121	238	947	8.0
Kujawsko-pomorskie	0	201	37	68	106	233	645	5.5
Lubelskie	0	107	0	135	97	301	640	5.4
Lubuskie	0	0	88	48	71	99	306	2.6
Łódzkie	289	0	0	225	52	244	810	6.9
Małopolskie	321	0	47	110	65	449	992	8.4
Mazowieckie	679	96	40	251	146	480	1692	14.3
Opolskie	0	0	42	68	71	122	303	2.6
Podkarpackie	0	0	38	153	81	307	579	4.9
Podlaskie	0	126	0	78	44	125	373	3.2
Pomorskie	0	272	1	164	77	197	711	6.0
Śląskie	0	278	446	389	94	275	1482	12.5
Świętokrzyskie	0	58	8	60	59	176	361	3.1
Warmińsko-mazurskie	0	0	103	101	79	166	449	3.8
Wielkopolskie	131	0	38	267	177	367	980	8.3
Zachodniopomorskie	0	164	31	108	94	148	545	4.6

The distribution of households according to source of income type is comparable to reported household budgets. Employee households were the most numerous group, followed by retiree households. These two groups account for a total of 79,3 % of the examined household sample.

Two-thirds of households lived in towns, with one-fourth in towns of over 200k residents. The share of households from small and the smallest towns with 20k-100k and with fewer than 20k was 20.4% and 12.2 %, respectively.

Single-family households made up 68.4% of the total in 2015. The significant difference between rural and urban areas concerns multi-family households, which are disproportionately numerous in rural areas, and non-family one-person households, which are disproportionately rare in rural areas.

The most numerous are households from the Mazowieckie and Śląskie Voivodships (14.3% and 12.7% of the total), followed by the Wielkopolskie, Dolnośląskie, Małopolskie, and Łódzkie Voivodships.

### **3.4.2. Features of household members' sample**

Women made up 51.7% of the 36,670 household members studied in the weighted sample. Over one-third of women and men (40.2%) lived in rural areas (Table 3.4.4). Every fifth woman and every fifth man were in the "immobile" working age (45-59 years) and the share of women and men aged 60 and above amounted to 24% and 17.6 % respectively. The share of children and youths under 24 did not exceed 30% on the national scale.

Educational attainment is a significant feature of household members. Observable changes that occurred over the past four years concern individuals within the lowest and the highest category of educational level. The share of respondents with at most primary education decreased significantly and the percentage of those with post-secondary and higher increased both among women and among men. Gender determined differences in the structure of educational level still persist. Educational level not higher than basic vocational education is characteristic of 48.5% of studied household members (43.6% of women and 53.8% men while in 2009 53% in total, 48.4% of women and 58.1% men), though no more than primary level education was much less commonplace. Individuals with higher and post-secondary education currently constitute 22.1% (25.9% of women and 17.9% men), while in 2009 this was 18.5% in total.

Only 41.3 % (37.7% in 2009) of total respondents were employees, private entrepreneurs or farmers. The share of pensioners and retirees amounted to 22.9 % (23.7 % in 2009), two years before the fraction of school and university students is smaller than four (16.3% compared to over 20% in previous years). The share of the unemployed increased back to the level of 6.1% as well as rose to almost that of 2009 (13.6% and 13.9% in 2009).

Apart from formal education, one of the significant factors that have a deciding influence on employability skills described as "civilizational"; e.g. having a driving license, command of foreign languages and computer skills. The 2013 study, similarly to the three previous rounds, included questions about those skills; here we will disregard the issue of computer skills as those are studied separately in analyses of the development of information society.

49.7% of household members have a driving licence (nearly 3p.p.<sup>7</sup> more than two years before), which is nearly two thirds as many men as women (Table 3.4.5). The greatest percentage of individuals have an active command of English (18,8%), with German ranking second (7.2%). In third position is Russian spoken by 6%. In comparison with 2011, only command of English has slightly increased while that of other languages has decreased. The numbers of internet users has slightly increased (by 2.5p.p.) as compared to 2011.

The proportion of respondents who have a certain skill, in terms of the demographic and social characteristics under discussion (excluding gender and educational attainment), is the least diversified in the case of driving licences. The command of languages differs significantly in particular groups of respondents. As educational level and income per capita increase, so does the proportion of individuals who speak foreign languages. The percentage of those who speak foreign languages decreases along with the class of the location and is definitely the lowest among the residents of rural areas. Farmers, retirees, pensioners and other professionally inactive individuals differ considerably in terms of the command of foreign languages from those who work outside agriculture.

The command of English is over twice as large in the largest cities as it is in rural areas. Mazowieckie, Pomorskie and Podlaskie Voivodships stand out best in this respect, with Lubuskie and Warmińsko-Mazurskie the worst. Knowledge of German is the most common in Western Voivodships (with the Opolskie as the leader) and Pomorskie. Russian is the most popular in the Podlaskie Voivodship.

The share of internet users is most strongly determined by education, age and household affluence. The fastest growing group has been that of 35 to 64-year-old hired workers and farmers.

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<sup>7</sup> Percentage points

Table 3.4.4. Household population by demographic and social characteristics<sup>8</sup>

Demographic and social characteristics	(%)								
	Women			Men			Total		
	2015	2013	2011	2015	2013	2011	2015	2013	2011
<b>Age</b>									
Under 24 y.o.	25.1	26.0	27.7	28.1	29.1	30.8	26.6	27.5	29.2
25-34 y.o.	16.0	16.0	15.6	17.6	17.3	17.4	16.8	16.6	16.5
35-44 y.o.	13.8	13.5	12.5	15.2	14.8	13.8	14.5	14.2	13.1
45-59 y.o.	19.3	20.6	21.9	19.8	21.2	22.2	19.5	20.9	22.0
60-64 y.o.	7.2	6.9	5.9	6.6	6.3	5.3	6.9	6.6	5.6
65 y.o. and above	18.6	17.1	16.4	12.8	11.3	10.5	15.8	14.3	13.5
<b>Place of residence</b>									
Towns of more than 500k	11.7	12.4	12.6	10.4	11.4	11.2	11.1	11.9	11.9
Towns of 200k-500k	9.5	9.6	9.9	9.0	9.1	9.3	9.3	9.4	9.6
Towns of 100k-200k	7.8	8.2	7.9	7.2	7.6	7.6	7.5	7.9	7.7
Towns of 20k-100k	19.0	19.6	19.8	19.2	19.0	19.4	19.1	19.3	19.6
Towns of fewer than 20k	11.8	11.6	12.5	11.8	11.9	12.9	11.8	11.7	12.7
Rural areas	40.1	38.7	37.4	42.4	41.0	39.5	41.2	39.8	38.4
<b>Voivodship</b>									
Dolnośląskie	7.1	7.6	7.6	7.0	7.5	7.5	7.1	7.5	7.5
Kujawsko-pomorskie	5.3	5.5	5.4	5.3	5.5	5.3	5.3	5.5	5.4
Lubelskie	5.6	5.5	5.6	5.7	5.5	5.7	5.7	5.5	5.6
Lubuskie	2.5	2.6	2.6	2.6	2.7	2.6	2.5	2.6	2.6
Łódzkie	6.3	6.6	6.8	6.2	6.5	6.5	6.2	6.5	6.6
Małopolskie	8.6	8.8	8.5	8.6	8.7	8.6	8.6	8.7	8.6
Mazowieckie	14.0	13.8	13.7	13.7	13.6	13.6	13.9	13.7	13.7
Opolskie	3.3	2.7	2.6	3.3	2.7	2.6	3.3	2.7	2.6
Podkarpackie	5.3	5.4	5.4	5.5	5.5	5.6	5.4	5.5	5.5
Podlaskie	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Pomorskie	6.7	6.1	5.9	6.6	6.1	5.9	6.6	6.1	5.9
Śląskie	11.5	12.1	12.3	11.6	12.0	12.3	11.5	12.1	12.3
Świętokrzyskie	3.2	3.3	3.3	3.3	3.3	3.4	3.2	3.3	3.3
Warmińsko-mazurskie	3.7	3.7	3.7	3.7	3.8	3.8	3.7	3.8	3.7
Wielkopolskie	9.6	8.9	9.0	9.7	9.0	9.0	9.7	9.0	9.0
Zachodniopomorskie	4.1	4.4	4.4	4.2	4.4	4.5	4.2	4.4	4.5
<b>Educational attainment</b>									
Primary and lower education	19.5	20.3	22.1	15.3	16.0	17.6	17.5	18.3	20.0
Basic vocational/lower secondary school	23.1	23.3	22.9	37.2	37.8	37.9	29.8	30.2	30.0
General secondary	29.8	30.4	31.1	27.8	28.3	27.3	28.9	29.4	29.3
Higher and post-secondary	27.6	25.9	24.0	19.7	17.9	17.2	23.8	22.1	20.7
<b>Social and professional status</b>									
Public sector employees.	12.1	12.4	12.1	8.8	9.1	10.0	10.5	10.8	11.1
Private sector employees	19.5	17.7	17.1	29.9	27.4	26.9	24.6	22.4	21.9
Private entrepreneurs	2.4	2.4	2.3	5.9	5.4	5.7	4.1	3.9	3.9
Farmers	3.7	3.6	3.6	4.8	4.8	4.5	4.2	4.2	4.0
Pensioners	6.5	6.4	7.2	4.7	5.0	5.4	5.6	5.7	6.3
Retirees	20.8	20.1	19.7	14.2	13.8	13.5	17.6	17.1	16.7
School and university students	15.7	16.0	16.7	16.4	16.6	17.5	16.0	16.3	17.1
Unemployed	4.8	6.3	5.8	4.1	6.0	5.0	4.5	6.1	5.4
Other occupationally inactive	14.5	15.1	15.5	11.0	11.9	11.4	12.8	13.6	13.5
Total N*	2011	19244		17534			36778		
	2013	19268		17475			36753		
	2015	18974		17596			36670		
Total %.	2011	51.9		48.2					
	2013	51.9		48.1					
	2015	51.7		48.3					

<sup>8</sup> The Table presents weighted values (with the exception of the non-weighted value "Total N" row; the distribution by educational level only concerns persons aged 12 and above. In over a dozen cases, the gender of the household member was not specified.

Table 3.4.5. Households members with driving licences\*, with command of foreign languages and using Internet\*\* in 2013 and in 2015 by demographic and social properties<sup>9</sup>

Demographic and social characteristic	(%)									
	Driving licence		(Active) command of a language						Internet usage	
	2015	2013	English		German		Russian		2015	2013
Total	61.8	49.7	19.9	18.8	7.3	7.2	5.3	6.0	64.8	61.8
Gender										
Men	77.3	62.2	19.9	18.2	7.6	7.1	4.8	5.5	66.5	63.3
Women	47.5	38.0	20.0	19.3	7.0	7.3	5.8	6.5	63.4	60.5
Age										
Under 24	49.9	47.6	28.4	28.4	10.1	10.7	0.9	1.5	97.4	96.5
25-34	76.8	75.7	41.2	39.2	11.3	10.5	3.2	3.7	93.0	88.5
35-44	78.7	75.8	24.5	19.4	6.9	5.7	6.3	7.7	86.0	82.4
45-59	64.8	62.8	7.5	6.6	5.1	4.9	9.5	10.6	60.1	55.0
60-64	53.6	51.1	4.8	2.6	3.4	2.2	8.4	8.9	41.5	35.4
65 and above	37.4	35.6	2.6	2.1	3.6	3.9	7.2	7.4	18.2	14.4
Place of residence										
Towns of more than 500k	68.3	56.1	35.7	33.4	7.8	8.6	7.8	9.5	81.7	79.1
Towns of 200k-500k	63.1	52.3	28.9	24.9	7.5	7.0	7.5	7.8	75.0	72.1
Towns of 100k-200k	59.4	49.2	24.5	24.2	7.4	9.1	6.2	6.7	71.5	69.4
Towns of 20k-100k	58.5	48.5	18.1	18.3	7.5	8.4	5.2	6.2	65.4	64.0
Towns of fewer than 20k	60.7	49.7	17.7	16.0	9.0	7.1	5.3	6.3	64.7	62.2
Rural areas	61.9	47.8	14.1	13.2	6.5	5.9	4.0	4.3	55.6	50.9
Voivodship										
Dolnośląskie	59.6	49.1	19.7	17.0	11.2	10.0	4.0	4.8	70.3	64.4
Kujawsko-pomorskie	57.7	46.2	18.9	16.7	6.5	5.6	5.0	6.4	64.1	61.4
Lubelskie	61.9	49.7	15.9	17.3	4.1	5.3	6.5	9.1	59.4	57.3
Lubuskie	60.9	46.3	12.4	13.5	8.9	6.9	5.6	5.6	65.6	63.9
Łódzkie	58.6	48.8	16.8	18.0	5.1	7.3	2.5	3.7	61.0	59.5
Małopolskie	64.4	49.2	22.2	19.7	7.1	6.6	5.0	6.1	68.3	63.1
Mazowieckie	64.6	52.1	25.2	22.9	5.5	5.5	7.1	6.9	67.0	64.0
Opolskie	59.2	52.5	19.8	15.3	17.0	15.6	6.2	7.2	61.8	61.1
Podkarpackie	62.6	48.2	18.8	17.0	7.4	5.9	3.0	3.3	60.3	58.9
Podlaskie	64.6	53.2	19.9	22.2	5.6	6.6	15.4	13.7	60.1	60.4
Pomorskie	59.6	47.8	21.5	22.2	8.1	8.9	5.6	6.0	71.6	67.6
Śląskie	61.6	50.1	21.5	19.8	7.0	7.2	5.8	6.0	65.6	63.7
Świętokrzyskie	59.3	48.3	19.3	15.5	5.7	5.3	3.3	3.4	56.2	52.6
Warmińsko-mazurskie	59.2	46.4	16.5	14.3	6.4	5.8	5.2	5.7	59.0	56.6
Wielkopolskie	67.4	54.6	17.4	18.1	8.0	8.9	3.9	5.0	64.4	60.9
Zachodniopomorskie	54.7	45.0	17.5	18.8	8.5	7.4	3.4	5.7	64.6	61.7
Educational attainment										
Primary and lower	23.7	21.7	9.8	9.3	4.4	4.7	1.7	1.9	16.7	14.2
Basic vocational/lower secondary school	54.4	52.4	9.9	10.7	5.8	6.1	3.8	4.4	54.0	52.0
General secondary	69.2	68.5	20.9	19.2	8.6	8.2	6.2	8.0	74.5	72.5
Higher and post-secondary	83.8	82.0	46.6	45.2	13.7	13.8	12.1	12.9	92.3	90.9
Income per capita										
Lower quartile	35.2	32.1	11.3	10.5	4.7	5.3	3.9	3.7	46.2	43.2
2nd quartile	44.3	42.0	14.4	15.2	5.4	6.5	4.6	5.7	52.3	50.9
3rd quartile	53.0	50.9	19.2	18.4	7.8	8.6	6.0	6.6	63.9	60.6
Upper quartile	65.5	64.0	30.0	29.9	10.5	11.7	9.8	10.9	82.3	80.3
Social and professional status										
Public sector employees.	79.4	76.3	30.7	26.4	8.4	8.7	9.2	11.2	89.1	87.1
Private sector employees	76.8	76.6	26.5	25.8	8.3	8.3	5.7	6.4	82.4	81.1
Private entrepreneurs	92.7	91.7	33.4	27.3	12.0	11.2	9.5	9.0	89.5	87.8
Farmers	74.8	74.9	5.2	4.6	3.5	2.3	6.4	6.1	49.6	42.1
Pensioners	34.8	33.4	6.8	6.5	4.6	3.6	4.4	6.2	32.1	26.9
Retirees	42.4	41.6	2.8	2.4	3.4	3.6	8.0	8.2	25.8	22.7
School and university students	43.7	16.7	36.8	37.8	13.0	14.5	1.1	2.1	98.8	98.5
Unemployed	51.1	51.2	15.7	15.7	7.8	5.8	4.3	4.6	67.4	63.8
Other occupationally inactive	45.2	20.5	8.8	7.7	3.5	2.5	2.1	2.7	62.3	55.2

\* People at an age allowing for driving license

\*\* only among people 16 and above who filled in the individual questionnaire

<sup>9</sup> The Table presents weighted values.



## 4. HOUSEHOLD LIVING CONDITIONS

### 4.1. Income and income management

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#### Abstract

*The chapter describes the diversity of income of households in different socio-economic groups, the change of income during the last four years and methods of dealing with the current financial standing. We concluded that during the last two years the income of households per an equivalent unit increased by 16% of the real value. In the last four years the percentage of households struggling to make ends meet decreased significantly (by over 4 pp.) as well as the percentage of households dealing with difficulty (by almost 3 pp.).*

#### 4.1.1. Level and variability of household income and income inequalities

Income is the main measure of the level of household affluence and the key determining factor of the extent of household need satisfaction. The surveyed household groups are almost always made up of different numbers of members and differing demographic compositions, and so have different consumer needs. Therefore, in order for the income (expenditure) of a household to be a correct measure of its ability to satisfy needs comparable with varying consumer needs, the level of such needs should be adjusted. The simplest approach is to assume that all household members have the same needs and so adjust household income by dividing it by the number household members. However, this has two major drawbacks. First of all, the underlying assumption that all members of various ages have the same needs at the same level, and thus the amount of money necessary to satisfy them is also equal is unrealistic. Moreover, this approach ignores the existence of certain savings resulting from living together (such as paying the rent together and using one TV set, washing machine or dishwasher). Hence, an important part of the household's regular expenditure is spread over more members. Therefore, the income ensuring that the needs are satisfied at the same level does not grow proportionally to the growing number of persons in the household. For instance, ensuring the satisfaction of a four-person household's needs at the same level as a one-person household does not require four times more expenditure (income). The effect of the decrease in household unit costs with the increase in the number of household members is called economy of scale (Szulc, 2007, p. 139).

Thus, rather than adjusting household income by dividing it by the number of members, adjustment with equivalence scales seems more correct. Equivalence scales are parameters with which it is possible to measure the impact of the household size and demographic characteristics on their needs level and thus on the differences in the amount of income (expenditure) necessary to achieve the same level of needs satisfaction. The equivalence scales for a household of a given type indicate how many times its income should be diminished or increased in order to reach the same level of need satisfaction with a standard household being the reference point for comparison, this usually being, with the equivalence scale of 1, a one-person household<sup>10</sup>. The analysis will include both the category of equivalent income and that of income per person.

The average net income of surveyed households in March/June 2015 amounted to PLN 1549 zł (table 4.1). In the panel sample from March 2011 to March 2013 it fell slightly in real terms,<sup>11</sup> (Figure 4.1.1). In the last two years, it significantly increased in real terms - by over 12% (Table 4.5).

In March/June 2015, the highest average net income per person was recorded in the households of self-employed (PLN 2181 per person). Other groups of households with the highest average net income per person include the households of employees and retirees (PLN 1634 and PLN 1562 per person, accordingly). The households living on unearned sources and the households of farmers clearly had the lowest average net income per person (PLN 858 and PLN 1008 per person, respectively).<sup>12</sup>

<sup>10</sup> The method of estimating equivalence scales is presented in Annex 4.

<sup>11</sup> This is the percentage difference in the income from two surveys for all households. In the panel sample, also average percentage change in amount of income over the two surveys may be also calculated for specific households. In the latter case the rate of change is considerably higher. This difference results from the "base effect"; in lower income households the growth (or drop) in income by a certain value in the first survey yields a considerably higher percentage rate of change than in the households with a higher starting income. If the majority of changes on this individual level displays a similar tendency and is similar in terms of nominal value, and is in each event not fully proportional to the amount of starting income, then the average change is affected more by changes in those households with lower starting income being greater in percentage terms. When calculating the percentage change in average income in the entire sample, the differences in the starting level of income in specific households are of no significance and changes in the households with a lower starting income have the same weight as the changes in the households with a higher starting income. It is unresolved which of these two approaches to calculating the rate of change provides better information on the dynamics of change in the level of social affluence

<sup>12</sup> The low income in this socio-economic group of households in March/June 2015 results partly from its seasonality.

The socio-economic groups of households with the highest and the lowest equivalent income (the indicator of their affluence level) are the same as in the case of income per person. The income of household groups with the highest affluence level amounted to PLN 2808, PLN 2138 and PLN 1674 respectively, and PLN 961 for the lowest level of affluence (Table 4.1.1). In March/June 2015, in comparison to March 2013, the net income increased by almost 16% in real terms (Figure 4.1.2). The highest average fall was observed in the group of households with unearned income, self-employed and farmers (by over 19%).

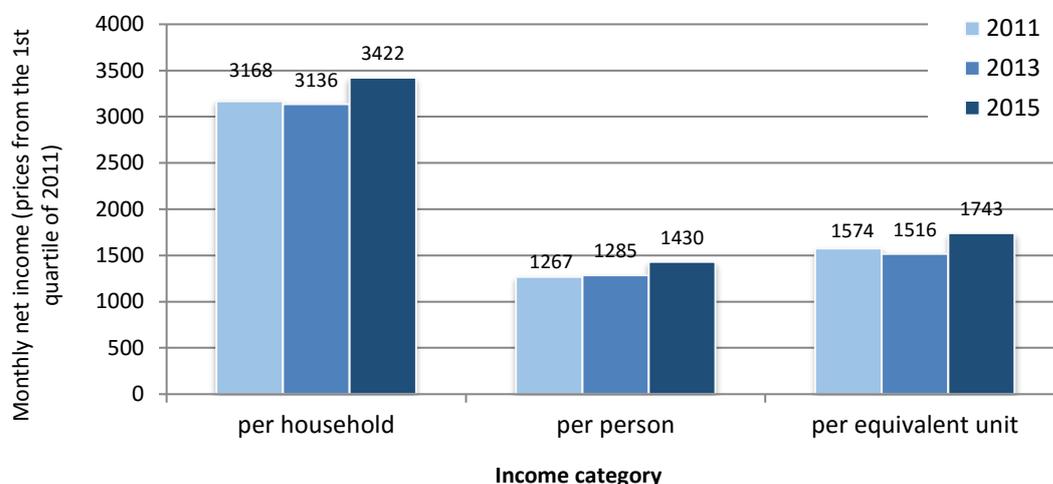


Figure 4.1.1. Real net household income in the 2011-2015 panel sample in the month preceding survey

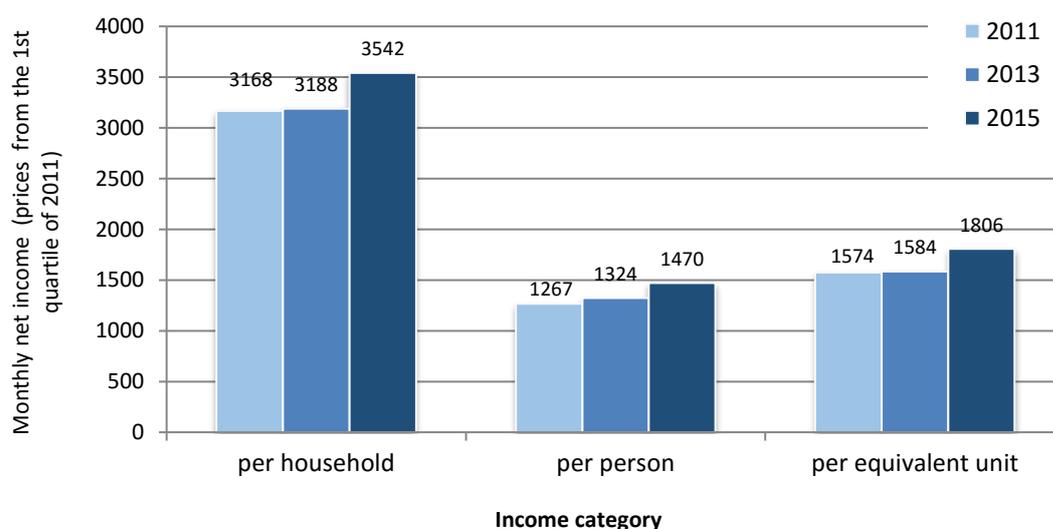


Figure 4.1.2. Real net household income in the 2011-2015 panel sample in the month preceding survey

With net income per equivalent unit being the realistic measure of households' wealth, March/June 2015 recorded visibly the lowest income levels for households of multi-person non-family households, married couples with many children and in single-parent households (on average PLN 1540, 1549 and 1590 respectively, table 4.1.2). In last two years, real income per equivalent unit increased most in the households of married couples with 3+ children and incomplete families (about 29% and almost 22% respectively).

In the households with the unemployed, the net income per equivalent unit was on average lower by over PLN 750 than in those without the unemployed (table 4.1.1). Between March 2013 and March/June 2015, such income increased in real terms in case of the group of households with the unemployed by nearly 17% and in the group of households without the unemployed by over 14% (table 4.5.).

Table 4.1.1. Net household income in February/May 2015 by socio-economic group and type of economic activity

Socio-economic group and type of economic activity	Net income in PLN		
	per household	per person	per equivalent unit
Employees	4474.39	1634.27	2138.08
Farmers	3930.29	1008.28	1483.76
Self-employed	2673.22	1562.29	1673.70
Retirees	2137.52	1118.21	1235.70
Pensioners	5876.89	2181.17	2808.18
Living on unearned sources of income	1619.77	857.52	960.50
Without unemployed members	3813.18	1634.22	1985.45
With unemployed members	3071.98	859.72	1230.48
Total	3731.02	1548.97	1902.26

Table 4.1.2. Net household income in March/May 2015 by household type

Household type	Net income in PLN		
	Per household	Per person	Per equivalent unit
Single-family:	3872.35	1886.02	2276.98
Married couples with no children	4697.54	1517.15	2136.00
Married couples with 1 child	4833.63	1182.46	1841.40
Married couples with 2 children	4944.31	934.50	1590.40
Married couples with 3+ children	2940.53	1210.51	1548.49
Single-parent families	5516.04	1025.11	1671.84
Multi-family	1948.26	1948.26	1778.85
Non-family:	2901.43	1209.02	1539.59

Table 4.1.3. Net household income in March/May 2015 by household type of residence

Place of residence class	Net income in PLN		
	per household	per person	per equivalent unit
Towns of more than 500k	4716.36	2305.75	2702.47
Towns of 200k-500k	3855.77	1807.52	2131.49
Towns of 100k-200k	3643.70	1634.93	1966.34
Towns of 20k-100k	3507.08	1534.37	1851.15
Towns of fewer than 20k	3646.12	1474.63	1832.52
Rural areas	3468.20	1156.74	1528.53

Table 4.1.4. Net household income in March/May 2015 by voivodship

Voivodship	Net income in PLN		
	per household	per person	per equivalent unit
Dolnośląskie	3642.73	1635.90	1962.15
Kujawsko-pomorskie	3273.90	1332.43	1636.54
Lubelskie	3211.89	1316.61	1627.80
Lubuskie	3906.77	1567.77	1959.80
Łódzkie	3353.55	1458.63	1763.84
Małopolskie	3987.33	1557.61	1947.21
Mazowieckie	4541.23	1939.78	2365.05
Opolskie	3401.53	1408.81	1727.79
Podkarpackie	3294.36	1200.76	1531.41
Podlaskie	3432.73	1398.20	1735.99
Pomorskie	4017.59	1632.00	2016.14
Śląskie	3653.58	1607.50	1937.18
Świętokrzyskie	3489.62	1339.68	1686.91
Warmińsko-mazurskie	3409.91	1371.10	1715.07
Wielkopolskie	3767.99	1468.83	1836.86
Zachodniopomorskie	3593.37	1560.05	1890.51

The income per equivalent unit is in March/June 2015 evidently correlated with place of residence class. The average monthly income per equivalent unit is the lower the smaller the place of residence (in March/June 2015 in the biggest towns such income was on average PLN 2703, while in the rural areas - PLN 1529 (Table 4.3)).

Evidently the lowest income per equivalent unit was recorded in Podkarpackie, Lubelskie and Kujawsko-Pomorskie Voivodships (PLN 1531, PLN 1628 and PLN 1637 respectively), and the highest in Mazowieckie and Pomorskie (PLN 2365 and 2016 (Table 4.4)).

In last two years, there was a considerable increase in average real monthly income per equivalent unit for all place of residence classes and in all voivodships (Table 4.1.7). The greatest decrease was observed in small city households (more than 20%). In terms of Voivodship, the greatest increase in this type of income was recorded in the households in the Lubuskie and Pomorskie Voivodship (by around 27 and 25%).

Table 4.1.5. Changes in real net income in the last month between March 2013 and May 2015 by socio-economic group and type of economic activity

Socio-economic group	Changes in the real income					
	per household		per person		per equivalent unit	
	March 2013- March 2011=100	May 2015- March 2013=100	March 2013- March 2011=100	May 2015- March 2013=100	March 2013- March 2011=100	May 2015- March 2013=100
Employees	100.27	111.43	102.22	112.11	96.98	116.51
Farmers	100.96	119.20	103.59	112.00	99.86	119.03
Self-employed	99.72	107.77	102.47	111.29	97.64	115.05
Retirees	101.87	115.82	102.91	108.48	95.86	118.87
Pensioners	90.39	117.49	86.53	117.23	86.70	119.19
Living on unearned sources of income	104.90	108.04	106.67	114.90	96.77	119.51
Without unemployed members	99.23	109.29	102.21	110.30	96.87	114.47
With unemployed members	100.57	111.78	101.83	114.14	97.13	117.40
Total	99.23	110.00	101.69	112.14	96.54	115.95

Table 4.1.6. Changes in real net income in last month in March 2013 and May 2015 by household type

Household type	Changes in net income					
	Per household		Per person		Per equivalent unit	
	March 2013- March 2011=100	May 2015- March 2013=100	March 2013- March 2011=100	May 2015- March 2013=100	March 2013- March 2011=100	May 2015- March 2013=100
One family:						
Marriages without children	100.59	108.66	102.63	107.21	96.74	113.20
Marriage with 1 child	100.53	113.01	97.51	111.44	94.94	115.77
Marriages with 2 children	102.68	114.69	101.07	113.47	99.96	116.23
Marriages with 3 children	102.18	123.28	99.88	126.54	98.72	128.86
Single-parent	98.66	112.53	100.95	113.80	93.58	122.14
Multi-family	102.76	116.77	102.44	113.78	98.51	117.70
Non-family:						
Single-person	98.73	108.33	99.15	108.33	98.57	108.40
Multi-person	118.43	84.68	89.66	102.46	105.96	98.66

Table 4.1.7. Changes in real net income in the last month by place of residence class between March 2011-May 2015

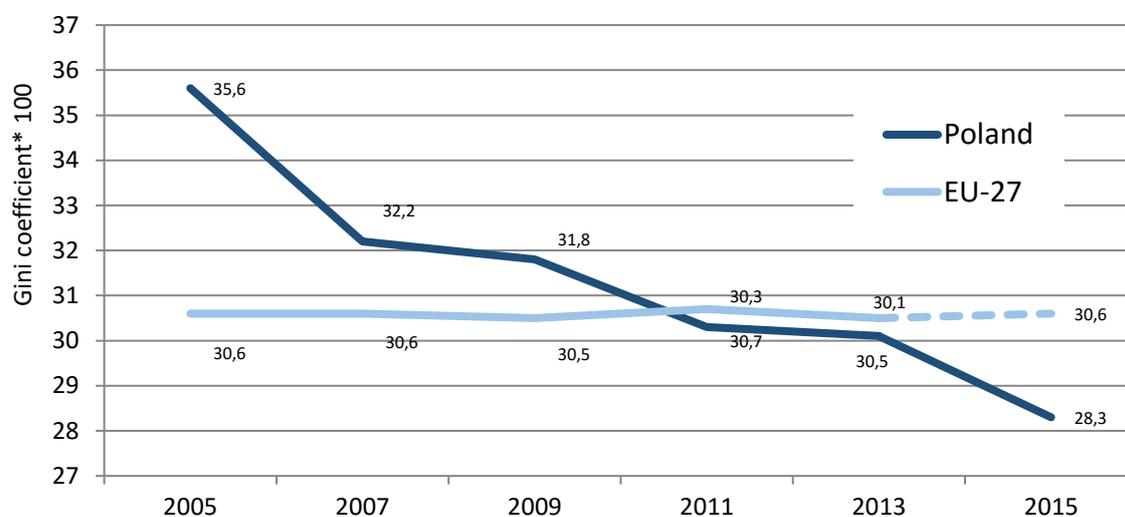
Class of place of residence	Change in real income					
	Per household		Per person		Per equivalent unit	
	March 2013- March 2011 = 100	May 2015- March 2013 = 100	March 2013- March 2011 = 100	May 2015- March 2013 = 100	March 2013- March 2011 = 100	May 2015- March 2013 = 100
Towns of more than 500k	95.92	105.99	98.27	105.90	94.47	109.36
Towns of 200k-500k	98.05	108.43	102.06	111.81	95.36	115.51
Towns of 100k-200k	102.02	110.40	103.40	113.91	98.43	117.27
Towns of 20k-100k	98.96	112.37	101.49	116.78	95.95	120.50
Towns of fewer than 20k	101.42	110.09	104.01	112.31	98.75	116.04
Rural areas	100.39	110.99	103.28	112.20	97.83	116.55

Table 4.1.8 Changes in real net income in last month in by Voivodship between March 2011-May 2015

Voivodships	Change of real income					
	Per household		Per person		Per equivalent unit	
	March 2013- March 2011 = 100	May 2015- March 2013 = 100	March 2013- March 2011 = 100	May 2015- March 2013 = 100	March 2013- March 2011 = 100	May 2015- March 2013 = 100
Dolnośląskie	94.76	111.26	97.43	117.41	92.63	120.85
Kujawsko-pomorskie	97.19	115.45	103.14	113.83	95.84	118.54
Lubelskie	103.92	106.06	109.28	109.20	101.18	113.78
Lubuskie	102.87	124.18	102.06	120.64	96.69	127.47
Łódzkie	95.78	111.31	101.53	116.01	94.33	119.56
Małopolskie	95.37	111.71	99.85	109.65	94.76	113.47
Mazowieckie	102.17	107.04	101.91	105.82	99.34	109.15
Opolskie	98.17	107.36	102.52	116.03	94.56	121.48
Podkarpackie	97.81	108.21	98.95	112.42	93.56	116.27
Podlaskie	92.29	107.78	105.03	111.48	95.67	115.44
Pomorskie	99.57	118.29	99.27	115.58	91.82	124.71
Śląskie	100.72	106.43	103.26	111.18	97.76	114.62
Świętokrzyskie	101.73	115.37	101.74	120.87	98.44	122.64
Warmińsko-mazurskie	99.99	111.35	100.70	113.49	97.63	117.75
Wielkopolskie	100.08	107.09	100.70	110.89	97.87	112.18
Zachodniopomorskie	104.53	106.56	102.70	114.61	99.01	114.94

Households' income inequality was measured with the Gini coefficient and the coefficient of decile variation defined as the relation of the ninth decile to the first decile in the income distribution.<sup>13</sup> The most adequate income category for examining the income inequality in this case is the income per equivalent unit, based on which the income of households with varied demographic composition may be compared.

The equivalent income inequality measured with the Gini coefficient kept on falling between 2005 and 2015 (Figure 4.1.3). The value of this coefficient in March 2011 was 0.3032, 0.3012 in March 2013 and 0.2831 in March/June 2015.



Source: Eurostat and *Social Diagnosis*

Figure 4.1.3. Gini coefficient for years 2005-2015 in Poland and 27 EU countries (for UE-27 in 2015 - estimated)

In the last four years, we have also observed a fall in income level inequality for the highest and lowest equivalent earnings groups, that is, the inequalities between the two income groups at opposite extremes. In the period March 2011 – March 2013, it amounted to nearly 2% and amounted to more than 5% over the past 2 years.

<sup>13</sup> The Gini coefficient takes into account the households' shares in the total income. Meanwhile the coefficient of decile variation, when assessing the extent of uneven income distribution, takes into account only the income of 10% of lowest income households and 10% highest income, that is, the extreme income groups (cf. Panek, 2011).

Table 4.1.9. Flows between household equivalent net income decile groups between March 2011 – May 2015.

Decile groups in March 2011	Shares of decile group households in March 2011 in household equivalent net income decile group in May 2015 (in %)									
	1	2	3	4	5	6	7	8	9	10
1	4.71	2.34	0.94	0.69	0.30	0.34	0.24	0.24	0.10	0.07
2	1.98	3.09	1.74	1.02	0.69	0.63	0.32	0.37	0.09	0.09
3	1.16	1.86	2.11	1.37	0.93	1.03	0.67	0.48	0.31	0.08
4	0.60	1.10	2.22	2.09	1.10	1.20	0.70	0.50	0.24	0.25
5	0.48	0.67	1.18	1.73	2.24	1.35	0.98	0.68	0.40	0.27
6	0.21	0.32	0.60	1.49	2.05	2.11	1.37	0.97	0.60	0.29
7	0.44	0.27	0.50	0.65	1.16	1.91	2.04	1.31	0.99	0.74
8	0.15	0.14	0.36	0.45	0.81	0.64	2.17	2.56	2.03	0.66
9	0.15	0.17	0.20	0.44	0.40	0.48	1.07	2.12	2.90	2.06
10	0.07	0.08	0.15	0.07	0.32	0.29	0.46	0.77	2.32	5.50

Between March 2011 and May 2015, there was a marked flow of households between decile of equivalent net income (table 4.1.9), which indicates changes in relative levels of wealth (compared to all other households) over this period. The percentage of households that in the study period belonged to the same decile group are on the diagonal of the table. The smallest household flows were in borderline decile groups (1st and 10th), which is above all because the flows here can only be in one direction.

Of the least well-off households in March 2013 (1st decile group), over 47% remained the least well off in May 2015. The greatest flow from this group was into the neighbouring decile at almost 23%, and then 9% into the third decile group. Flows from the 1st decile in March 2013 basically decreased together with an increase in the size of the group in May 2015. However, 0,7% and 1% of the least well off households (1st and 2nd decile) in March 2011 entered the most well off groups (9th and 10th decile) in May 2015.

55% of the most well off households in March 2013 (10th decile) remained in this group in 2015. The flows from this group to lower deciles fell together with the fall in the numbers of these groups. Only around 1,5% of the most well off households in March 2011 reported such a drastic fall in levels of prosperity as to find themselves in the groups of the 20% poorest households in May 2015.

The lowest monthly minimum net income in PLN, as stated by the surveyed households, was PLN 1799 per equivalent unit in March/May 2015. This rose by PLN 447 (figure 4.1.2) in 2011-2015. The aspirations of the households as regards minimum income increased by over 6% in real terms from March 2013 to March/June 2015.

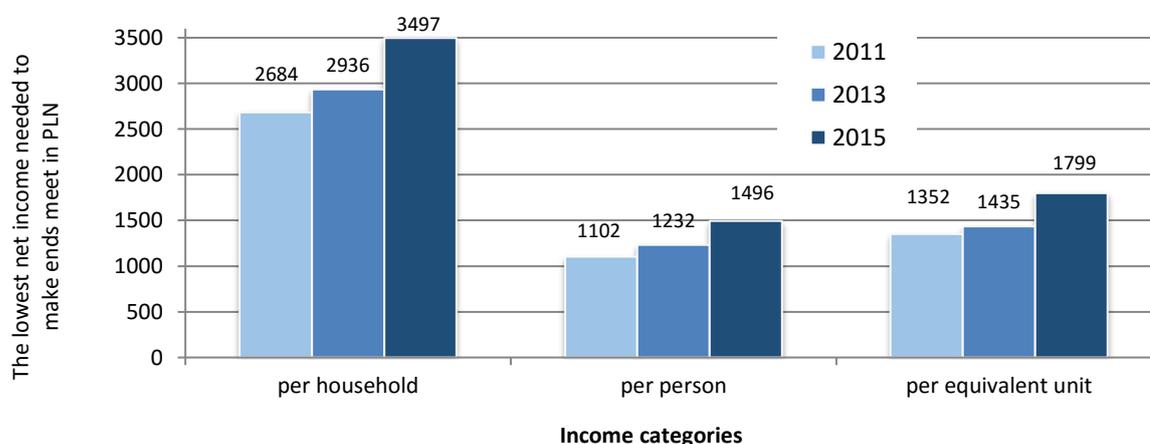


Figure 4.1.4. The lowest monthly minimum net income in PLN in the 2011-2015 in the panel sample.

In March/June 2015, the highest aspirations concerning minimum acceptable equivalent income were noted in the households of entrepreneurs members and the households of employees, as well as in the households of married couples with no children and married couples with 1 children (the equivalent minimum income indicated was 2442 PLN, 1982 PLN, 2203 PLN and 2010 PLN. respectively). In March/June 2015, the lowest income aspirations were declared by the households with the lowest income, that is the households living on unearned sources (PLN 1127 per equivalent unit) and the households of married couples with many children (PLN 1318 per equivalent individual).

The last two years saw a marked growth in income aspirations in nominal terms in all household groups selected by income source and household type., while the biggest was among self-employed (by over 11%) and marriages with 2 children (by almost 13%).

The level of monthly equivalent minimum net income as declared by the households without the unemployed is significantly higher than in the case of the households with the unemployed (PLN 1800 and PLN 1381, accordingly). In March/June 2015, the level of such income increased in real terms in the household group with unemployed members (5%) in comparison to March 2013, while in households without unemployed members it increased by 6%.

The level of aspirations as regards the lowest monthly minimum net income generally fell with the size of place of residence. The lowest level of monthly minimum net income per equivalent unit was declared by rural households (PLN 1643). As regards the regional distribution, the households declaring the lowest income were in the Podkarpackie and Lubelskie Voivodeships (PLN 1247 and PLN 1357 per equivalent unit respectively). In the period 2013-2015, we observed an increase in those aspiration among all households, regardless place of residence. The largest increase in such aspirations took place in the biggest cities (by 11%) and in the Małopolskie and Mazowieckie voivodeships (by 14 and 12%, respectively).

#### 4.1.2. Strategies for coping in difficult financial situations

In March/June 2015, the studied households most frequently declared (37% of households) a certain difficulty making ends meet, nearly 17% coped with difficulty and over 13% with great difficulty. In the last four years, the percentage of households that make ends meet with great difficulty or with difficulty declined significantly (by over 4 p.p. and almost 3 p.p., Figure 4.1.5).

The largest share of households making ends meet with great difficulty in 2015 was in those living on unearned income (over 50%) and pensioners (over 31%). Among the groups selected by household type, incomplete families were the most numerous in this category of household (over 24%), as well as one-person non-family households (almost 20% of households). As many as over 28% of households with unemployed members had great difficulty in making ends meet. In the group of households without any unemployed persons only 11% declared such difficulties. Households in great difficulty given their current income were most often found in rural areas (over 15% of rural households) and in the Łódzkie, Świętokrzyskie and Lubelskie (16 and over 15% each of households from these voivodeships, respectively).

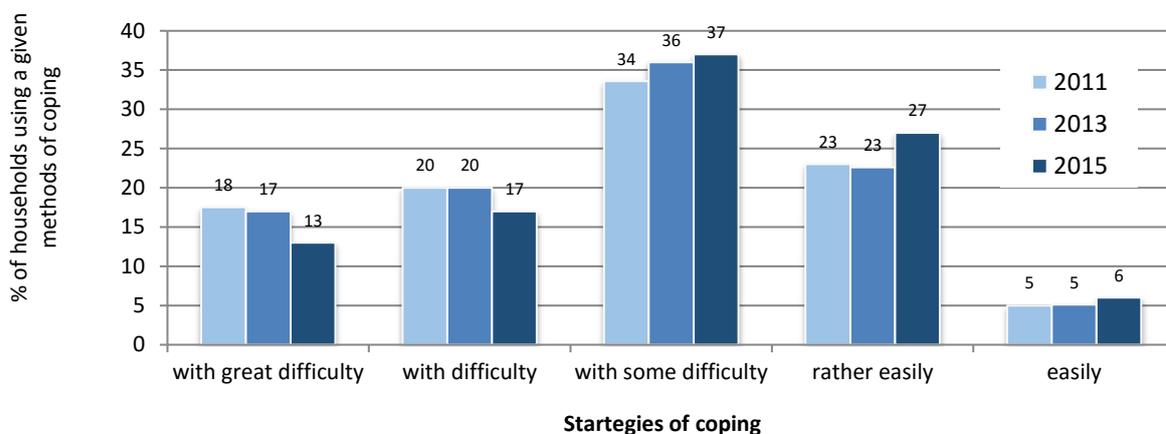


Figure 4.1.5. How households coped on income earned between 2011-2015 in the panel sample

Over the past two years, the share of households making ends meet with great difficulty fell markedly in the groups of households selected by source of income. However, we observe a marked decreased in the share of households making ends meet with great difficulty over this time among those with unemployed members (by almost 6p.p.), as well is in the group without any unemployed persons (by almost 3 pp.). Also, in all groups of households, regardless of the type, class of residence and voivodship, there was a decrease in the percentage of households making ends meet with great difficulty.

When assessing ways of managing money in 2015, households most frequently stated that they had enough money thanks to living frugally (approx. 37%), and 22% declared they lived very frugally to save up for the future. Over the past 4 years, the share of households stating they can afford everything and save up rose markedly (by nearly 3 p.p. Figure 4.1.6). At the same time, the share of households declaring they have money for the cheapest food, clothes, rent and credit payment rose (by over 2 p.p.).

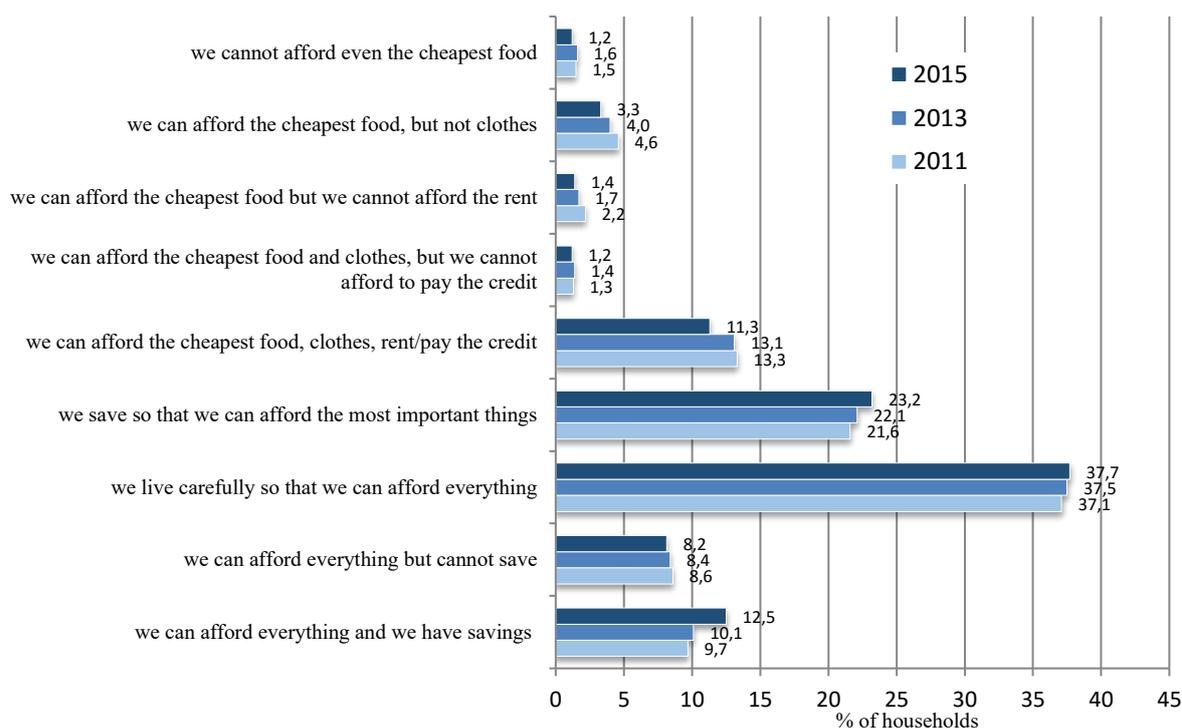


Figure 4.1.6. The manner in which households manage income in the 2011-20153 panel sample

Households declaring that they could not afford even the cheapest food (the worst income situation assessment), of which there were less than 2% in March/June 2015, were significantly most frequent in the unearned income household group at over 12% as well as non-family single-person and multi-person households at almost 3 and over 2% respectively). Both the group of households with unemployed members and in that without unemployed members declared they had money by living frugally (over 30% and nearly 38%, respectively). However, as much as 3% of households with unemployed members claimed they could not afford even the cheapest food, and over 6% that they could afford the cheapest food but not clothing. Meanwhile, in the group without unemployed members, this form of money management was indicated by only 1% and over 2% of households, respectively.

The shares of households that worst assessed their income situation were not significantly differentiated in terms of place of residence class and voivodship. Relatively the largest share of households indicating that they could not afford even the cheapest food was to be found in towns of 200-500 thousand inhabitants and small towns of 20-100 thousand inhabitants (about 1.5% in each category). The Voivodships with relatively the largest frequency of households that worst assessed their income situation were Warmińsko-Mazurskie and Podkarpackie at over 2% in each. The rise in the percentage of households reporting a lack of money for even the cheapest food occurred among non-family multi-person household over the last 2 years (by almost 2 p.p.).

Around 19% of households declared their income was insufficient to satisfy their daily needs. In the last four years, the share with income that did not allow daily needs satisfaction fell by over 6 p.p. (Figure 4.1.7), with this Figure falling by 5 p.p. in the last two years.

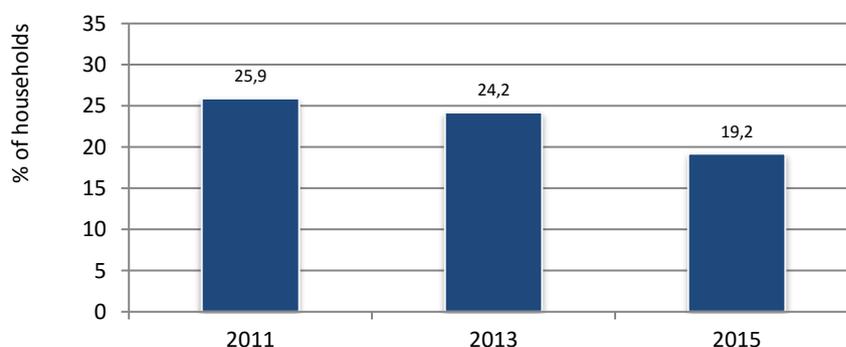


Figure 4.1.7. Percentage of households whose regular income did not cover current needs between in the 2011-2015 panel sample

Households declaring incomes that did not satisfy daily needs were most frequently in the household groups with unearned sources of income (58%), pensioners (over 37%) and single-parent families (over 32%). 38% of the unemployed members group reported the same, while in that without unemployed members the Figure was just below 17%.

Households with incomes insufficient to satisfy daily needs were most frequent in rural areas and small towns with 20-100 thousand inhabitants at almost 21% and in Podkarpackie and Pomorskie at over 27% and almost 26%, respectively.

In the years 2013-2015, the proportion of households reporting their stable income was insufficient to satisfy their ongoing needs fell in all groups.

In March/June 2015, households most often declared that in situations of income insufficiency they limit their daily needs in almost 86% of cases, while nearly 36% gain the help of relatives or 26% take out loans. In only fewer than 14% of households in this situation do members take on additional work. Over the last four years relatively the largest growth in share of households with incomes insufficient to meet daily needs was reported in those receiving church of social welfare support by 7 p.p., Figure 4.1.8) At the same time, the share of households that took out loans in this situation fell most markedly by almost 6p.p.

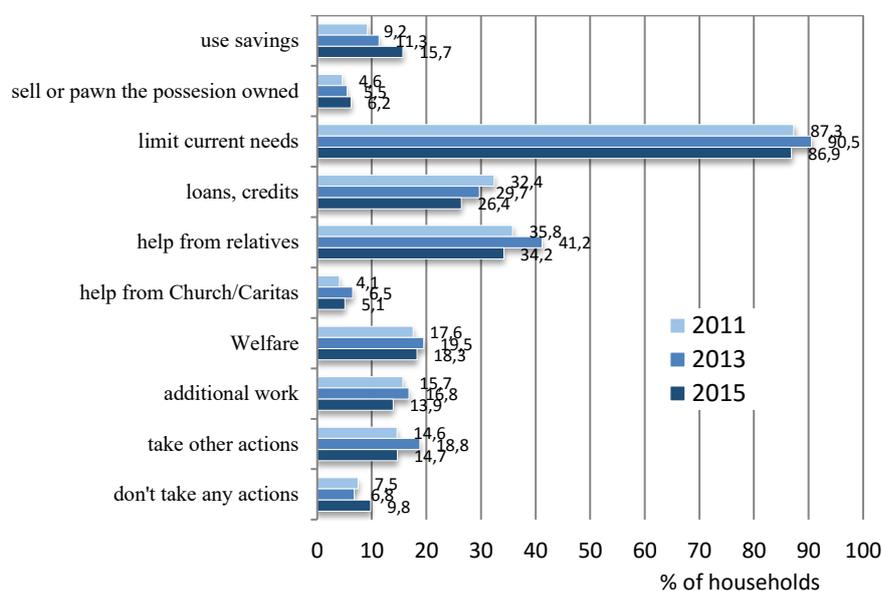


Figure 4.1.8. Measures taken by households when stable income does not meet current needs in the 2011-2015 panel sample

Household groups selected in terms of all applied study criteria that declared limitation of daily needs in the case of insufficient income did not display much variation. Self-employed, households living on unearned sources of income as well as married couples with many children most frequently in March/June 2015 limited their needs at 93% and over 91% each, respectively. Households taking this course of action were located relatively most frequently in the rural areas (over 89% of households) and in Zachodniopomorskie and Warminsko-Mazurskie Voivodeships (over 95% and almost 94% of households from these voivodeships).

The households that most frequently took loans when their stable income did not meet daily needs were that of physical workers at over 31% and multi-family households (nearly 45%). This occurred most frequently among households residing in middle-sized towns of 500 thousand residents (31% of households) and in Lubelskie and Kujawsko-Pomorskie (37 and over 34% of households).

In March/June 2015, households that received the aid of relatives when their stable income did not meet daily needs were those subsisting on unearned sources of income (almost 59% households from this group) and non-family single-person households (over 43%). These households most frequently dwelt in small towns with 20-100 thousand inhabitants and the biggest cities (over 39%), as well as Opolskie (47%) and Zachodniopomorskie voivodships (42%).

When stable incomes were insufficient to satisfy daily needs, both households with and without unemployed members most frequently reacted in the same way as groups of households selected by other typological criteria. However, what is noticeable is how many more often households with unemployed members receive welfare payments (almost 37%) than those without (only less than 14%).

As far as active measures are concerned, such as taking on additional work by a household member in situations when stable income is insufficient to satisfy daily needs, self-employed households and farmers were

relatively the most frequent at over 30% and almost 27% respectively, as well as multi-family households (over 27%) while least frequent were households of pensioners at 6%, those receiving welfare payments at almost 9% and non-family households at over 4%. Households that preferred this kind of activity most frequently dwelt in the largest towns of over 500 thousand residents at over 17% as well as Podkarpackie Voivodship (over 19%).

In March/June 2015, approx. 24% of households assessed their income situation as worse than 2 years ago, 14% that it has improved and almost 62% reported that it had not changed. The percentage of pessimistic assessments of change was therefore around 8 p.p. higher than in 2013. A pessimistic assessment of change was most frequent among households living on unearned sources of income at over 47%, incomplete family households and single-parent families (approx. 34% respectively). In the group with unemployed household members, over 42% reported that their income situation had deteriorated, while in that without unemployed members only just less than 22% claimed this was the case. Households reporting a worsening in their income situation compared to 2 years ago were most frequently resident in the smallest towns and rural areas (over 25% in each of these classes), while over 27% were to be found in Podkarpackie Voivodship.

### 4.1.3. Changes in long-term coping strategies

Over the last 15 years the percentage of households that made ends meet with great difficulty and difficulty fell markedly by 18 p.p. and 9 p.p. respectively, and those coping rather well and well rose (15 p.p. and 5 p.p. respectively, Figure 4.1.9).

Over last 15 years, the greatest increase was observed in the households reporting they live frugally and thus can afford everything (by 10 p.p.). The percentage of households which can afford everything and make savings for the future also increased by 11 p.p., while the percentage of households in the most difficult situation, which have no money for loan repayments, rent or clothes decreased (Figure 4.1.10). There was also an increase of the percentage of living very frugally in order to save money for important purchases to the level recorded in 2000.

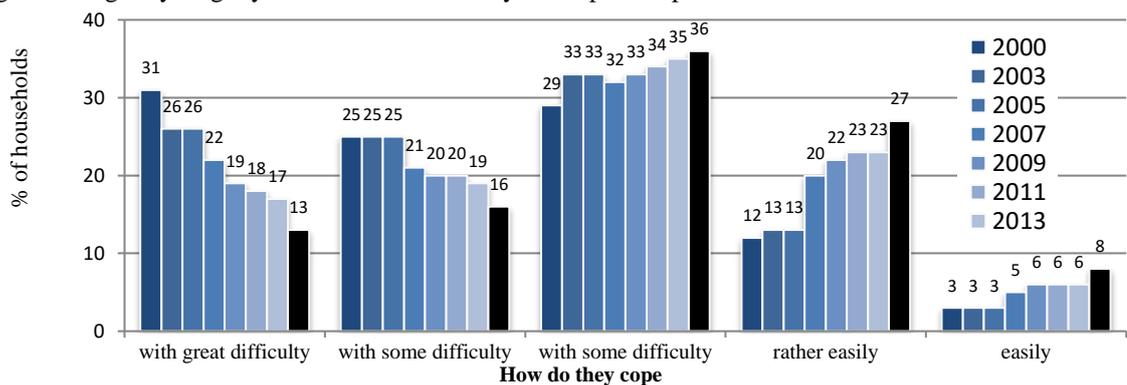


Figure 4.1.9. The degree to which households make ends meet between 2000-2015 in whole samples

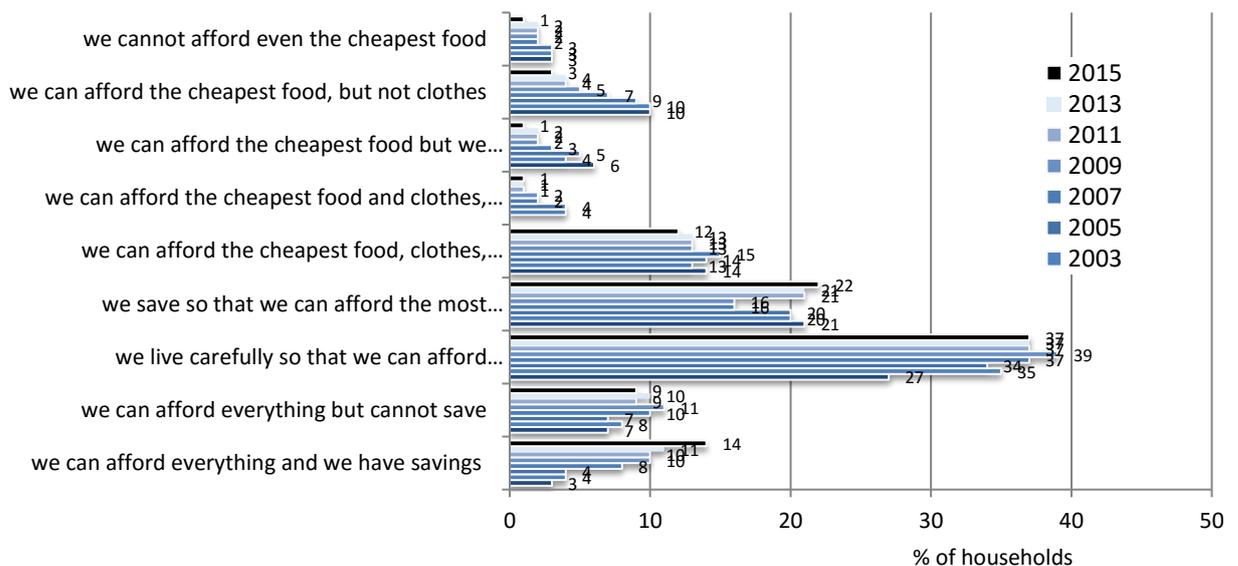
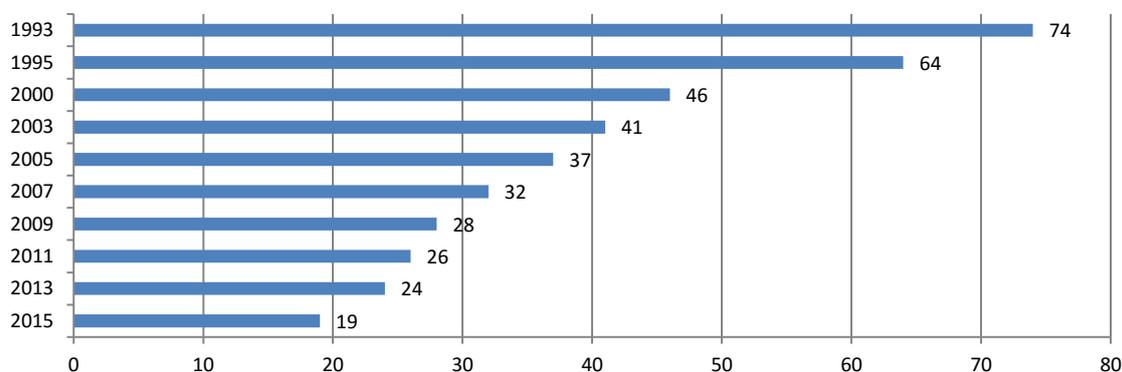


Figure 4.1.10. How households manage income between 2000-2015 in whole samples

19% of households declared that their regular income was not enough to meet their current needs. Over the last two years, the percentage whose income did not meet current needs dropped by 5 p.p. and in 1993-2011 there was an over threefold drop (Figure 4.1.11).



Source of data: years 1993-1997 — Czapiński, 1998; years 2000-2015 — *Social Diagnosis*.

Figure 4.1.11. Percentage of households declaring that regular income did not cover current needs between 1993-2015 in whole samples

Since 2000, the percentage of households which took loans, limited their needs, took additional jobs, got loans or used help of their relatives fell, while the percentage of households using their savings increased (Figure 4.1.10).

Table 4.1.10. Percentage of households declaring various measures of coping with financial difficulties and meeting current needs among households with insufficient regular income to cover current needs in whole weighted samples from 1993 to 2015\*

Coping measures in times of financial difficulty	2000 N=1350	2003 N=1579	2005 N=1598	2007 N=1745	2009 N=3433	2011 N=3100	2013 N=3121	2015 N=2339
Limiting requirements	88.8	88.7	92.5	89.5	89.2	86.4	88.8	86.2
Taking on additional work	32.9	22.9	22.1	21.5	18.1	16.3	17.5	14.5
Spending savings	15.1	16.6	9.5	8.5	7.6	13.0	12.7	17.5
Taking out loans	44.6	50.7	42.9	42.0	40.9	35.5	29.4	25.9
Seeking the aid of family members	42.9	40.3	35.5	39.1	39.5	38.9	40.7	35.9
Seeking the church aid	0.8	1.3	0.7	1.9**	3.4**	3.3**	6.3	5.8
Seeking the aid of social services	7.1	11.7	13.4	16.2	16.7	15.5	19.9	18.4
Sale of assets	n.d.	5.7	6.9	5.9	4.4	4.5	5.9	5.7
Taking other measures	n.d.	19.0	20.3	23.4	16.6	16.2	19.7	16.5
Taking no action	n.d.	13.1	12.6	11.3	9.8	10.7	7.5	9.3

\* in relation to the households whose income is insufficient to meet the current needs

\*\* since 2007 "assistance from the Church/Caritas"

Source: Social Diagnosis

#### 4.1.4. Social assistance

The share of households receiving external aid in whatever form amounted to 9.7%, which was the lowest since 2000 (Figure 4.1.12).

The scope of aid is strongly diversified among social groups, households types and voivodships.

Couples with and without children, those with three or more children, single and multi-person non-family households and incomplete families received welfare payments significantly more often than the remaining household groups (Figure 4.1.13). Aid to couples with three or more children fell to a marked degree, while it increased as regards unmarried couples and incomplete families. Among all types of household, poor households (from the 1 income quartile) received external aid significantly more often, though the share of most well-off households receiving was significantly high among unmarried couples, non-family households and couples with three or more children (Figure 4.1.14).

Over a half of the households subsisting on unearned incomes and every fifth pensioner household received external aid with the smallest share of aid receivers being in the household group of the self-employed at 3.9%. Almost the same share of physical worker (7.3%), farmers (8.8%) and pensioners (7.3 %) households received external aid (Figures 4.1.15).

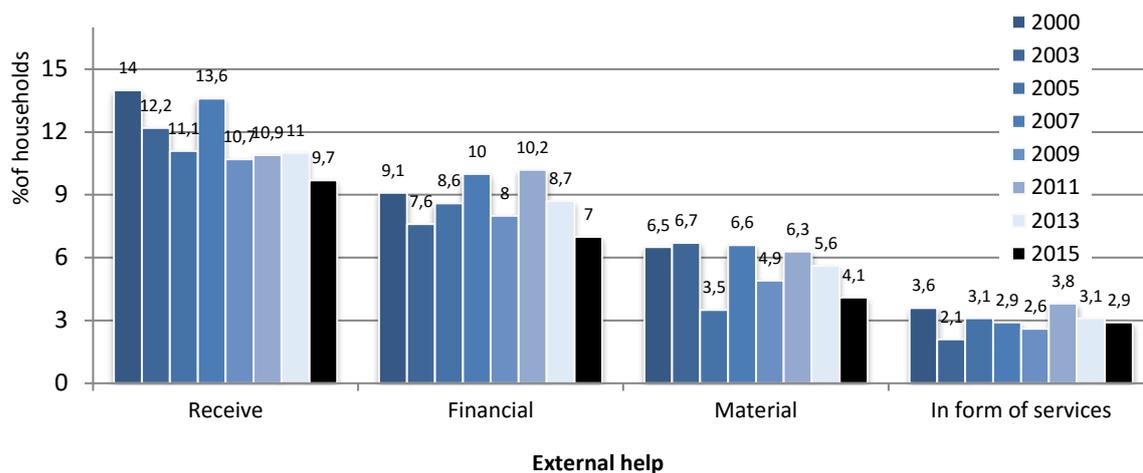


Figure 4.1.12. Percentage of households receiving external aid and households receiving specified aid in 2000-2015 in whole samples

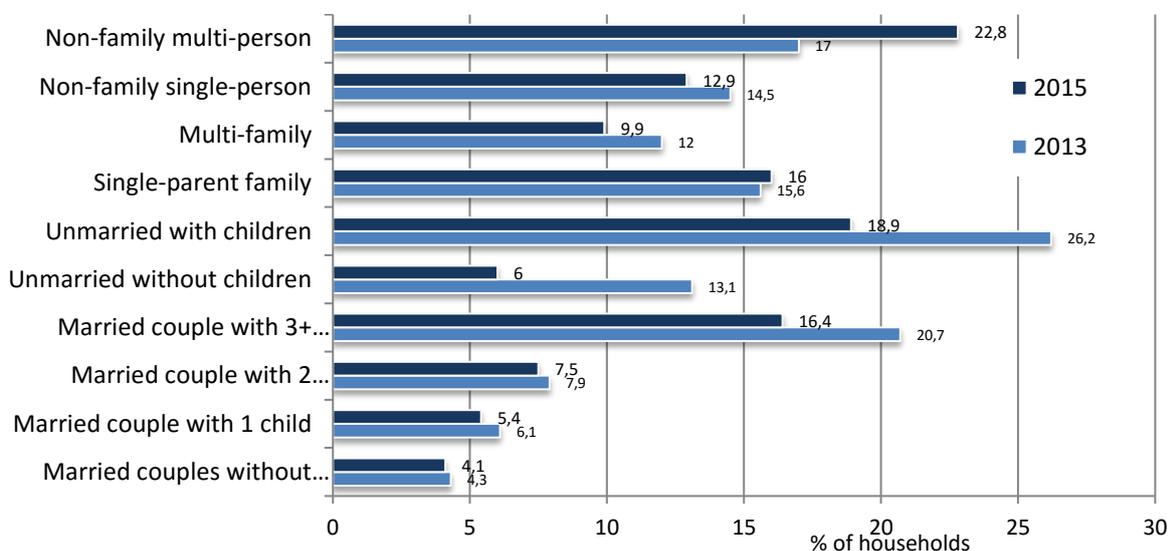


Figure 4.1.13. Percentage of households receiving external aid in 2013 and 2015 in terms of panel sample household type

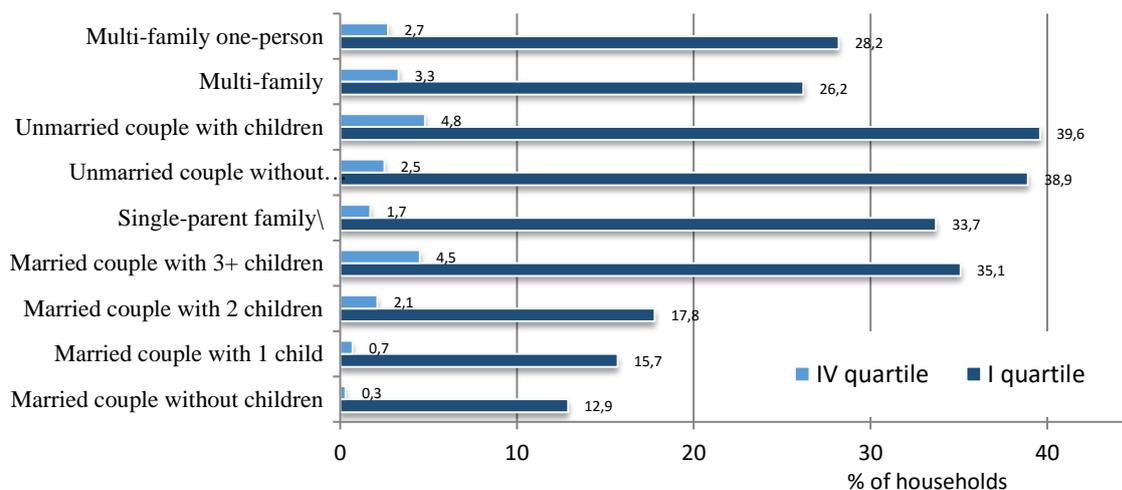


Figure 4.1.14. Percentage of households using external households according to the biological type and income height per equivalent unit (I and IV quartile of income per equivalent unit)

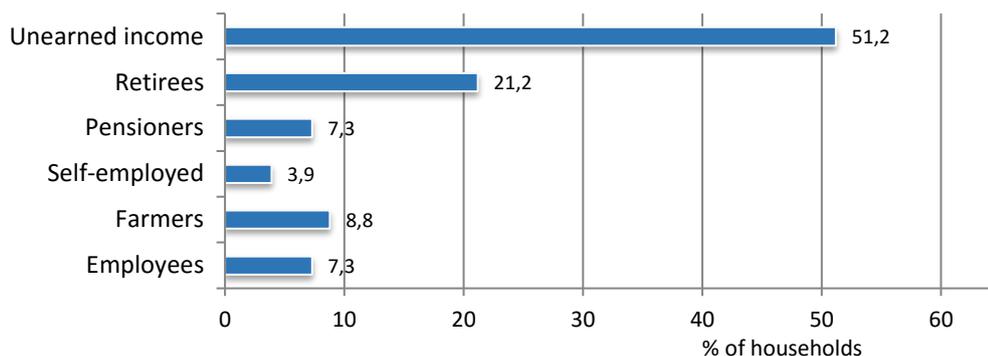


Figure 4.1.15. Percentage of households using external help in 2011, 2013 and 2015 according to socio-economic groups of the household in the panel sample.

Households from medium towns used help more frequently than those from big cities, but among poor households (1st quartile) using external help there are the most in the biggest cities and the lowest number in villages and smaller cities (Figure 4.1.16).



Figure 4.1.16. Percentage of households receiving external aid in terms of class of place of residence and equivalent unit income (below and above average income)

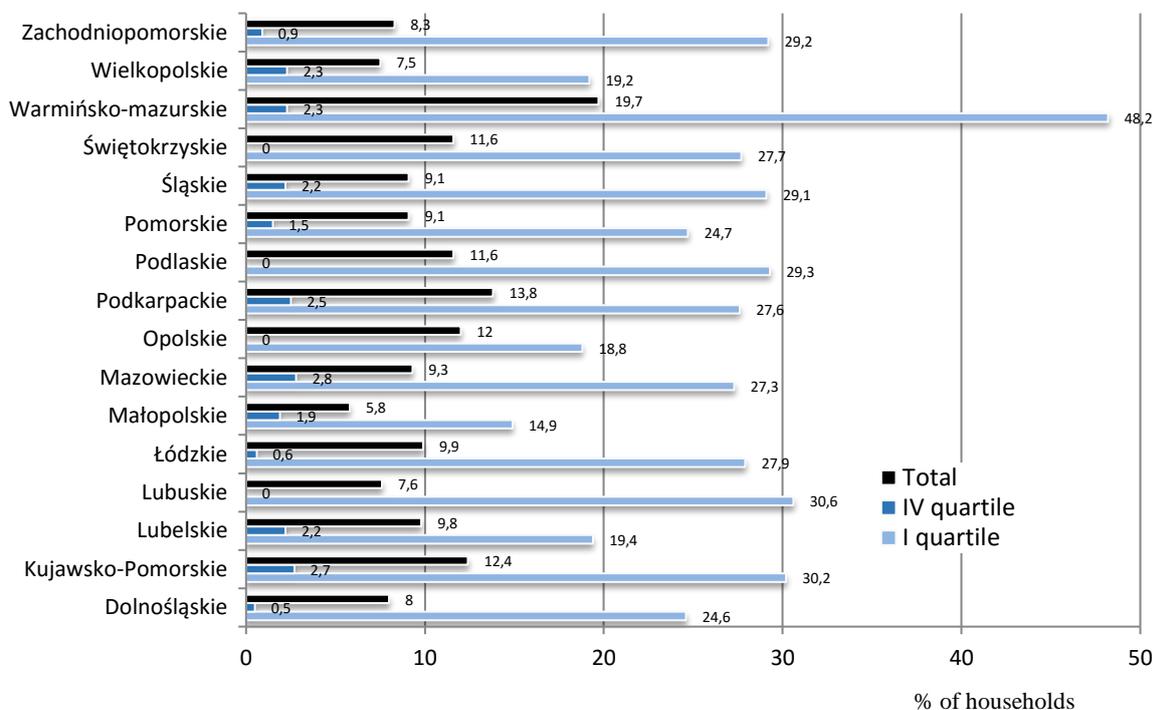


Figure 4.1.17. Percentage of households with above average equivalent unit income receiving external aid by Voivodship in 2009 and 2015 (lower and upper lower quartile)

The greatest share of households receiving external aid occurred in Warmińsko-Mazurskie (19.7%), and the smallest in Małopolskie, Wielkopolskie, Dolnośląskie, Łódzkie, Lubelskie and Wielkopolskie (less than 9%) (Figure 4.1.17). It is clear that the scope of external aid utilization is not the greatest in the poorest Voivodships (Figure 4.1.17).

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## 4.2. Nutrition

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### Abstract

*During the last four years, there has been a change in the level of satisfaction of needs of households in all groups of food products with the exception of sugar.*

#### 4.2.1. Situation in 2015 and its changes over the last four years

In March/June 2013, households stated that most often they could not afford, for financial reasons, to satisfy their nutritional needs for fish or fish products (almost 15%), stimulants and confectionaries (almost 11%) and meat and poultry and meat and poultry products (over 8% in case of both).

Over the last four years<sup>14</sup> the level of household need satisfaction in all grocery item groups with the exception of sugar (Figure 4.2.1). Moreover, in 2011-2015 we observed an improving situation of households mainly in case of fruits and fruit products (the fall in the share of households unable, for financial reasons, to satisfy their needs in this respect was over 5 p.p.).

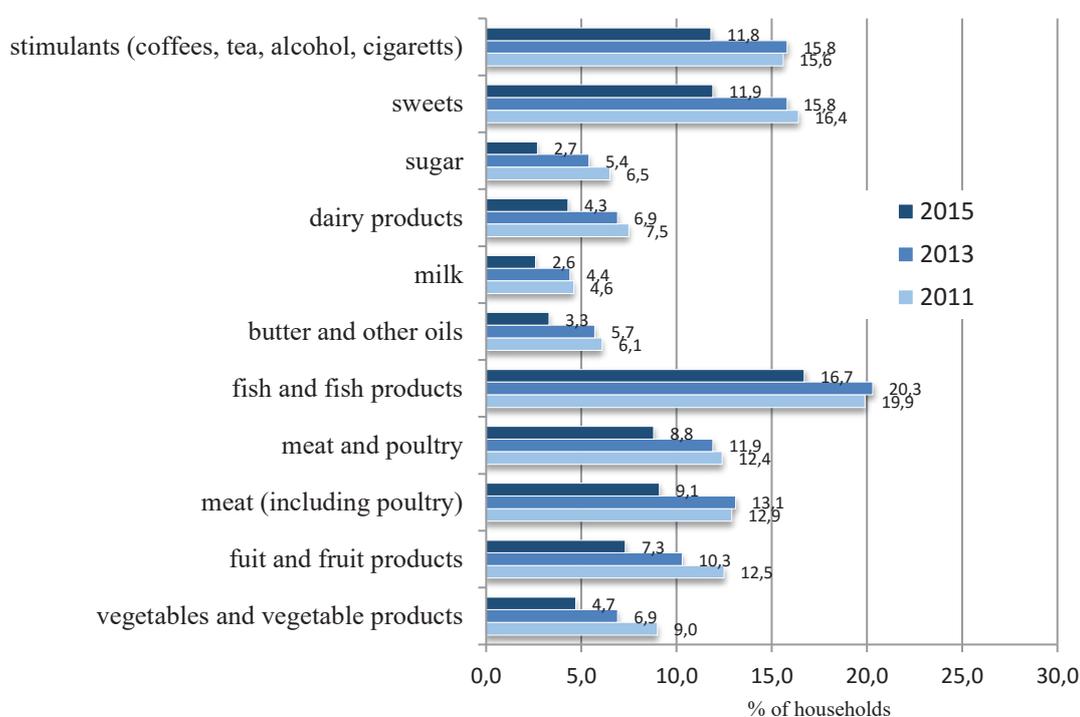


Figure 4.2.1. Scope of unsatisfied household needs for food items for financial reasons in the 2011–2015 panel sample

The household groups that were most frequently unable to afford purchasing food items in March/June 2015 were those living on unearned sources (for the following abovementioned grocery items respectively: over 38%, approx. 32%, approx. 34%, over 30% and approx. 27% of these households) and pensioners (over 33%, approx. 21%, over 23%, approx. 20% and over 20% respectively). Incomplete family households most frequently indicated a lack of financial means to purchase the selected article groups. This group indicated the following items as the ones it had to forgo for financial reasons most often as around over 25%, nearly 19%, nearly 18%, nearly 16% and nearly 16% of households, respectively). The next type of household that most often could not afford the indicated grocery items were single-person non-family households with over 21%, nearly 15%, 17%, over 13% and 12% of households respectively. All household types generally noted an improvement in financial capacity to satisfy grocery item needs over the last four years.. An improvement in the situation can be observed in all groups of foodstuffs which were distinguished in the study.

The percentage of households with unemployed members unable to purchase, for financial reasons, groceries of all analysed item groups was in February/March 2013 significantly higher than in the group

<sup>14</sup> All changes in terms of meeting households' nutritional needs in 2011-2015 referred to the panel sample from those years, i.e. households analysed in 2011, 2013 and 2015..

without unemployed members. The household groups below reported the need to forgo purchase most frequently of the respective grocery item groups as follows: nearly 30% and around 13%, nearly 22% and over 9%, nearly 22% and approx. 9%, over 19% and over 7% and over 17% and over 7% of households. Over the last four years, the situation has improved markedly in both household groups and at the same time in almost all grocery article groups.

In March/June 2015, households most frequently were forced to forgo purchase, for financial reasons, of selected grocery items, resided above all in rural areas (nearly 18%, nearly 12%, nearly 12%, over 10, and over 9% of households declared this situation for each of the previously mentioned grocery item groups) and in smaller towns with 20-100 thousand residents over 17%, over 13%, over 10%, nearly 10% and 10% of households, respectively). The highest percentage of households declaring financial problems in satisfying needs for the selected grocery item groups occurred in the month of study in 2015 in Warmińsko-Mazurskie (approx. 19%, 16%, 12%, 13% and 12% of households respectively) and Podkarpackie (around 19%, 11%, 13%, 14%, and 10% of households, respectively). From March 2013 to March 2015, there was a marked decrease in households unable, for financial reasons, to satisfy their grocery needs in all classes of places of residence and all groups of food products. Regionally, only in the Silesian Voivodship and only for fish and fish products was there a marked deterioration of the situation in the study period (by nearly 2 p.p.).

In 2015, around 74% of households believed that the level of satisfaction of their grocery needs had not changed in comparison to two years before. Around 17% reported a deterioration and around 9% an improvement. In relation to ratings from 2013, there was a significant decrease in negative ratings (by nearly 14 p.p.) of these changes together with an increase in positive ones (by 2 p.p.)

Households that most frequently declared changes for the worse were those living on unearned sources at over 37% of households and households of pensioners (over 29%). Among the households that felt a deterioration in terms of nutrition were above incomplete families (over 24%,) as well as non-family multi-person households (over 20% of households from this group).

Negative ratings of change in the satisfaction of nutritional needs were markedly more often formulated in the group of households with unemployed member than in the group without unemployed (almost 30% and over 15% households from this group respectively).

The variability of households declaring a deterioration in nutritional need level of satisfaction was insignificant in terms of place of residence class. These households occurred most frequently in small towns of 20 to 100 thousand inhabitants and big cities of 200-500 thousand inhabitants (almost 19% of households from these categories). Households in Łódzkie, Podkarpackie and Lubelskie most frequently reported a fall in their nutritional need satisfaction level (almost 22% and over 21% and almost 21% of households, respectively).

#### ***4.2.2. The change in nutritional needs satisfaction from 2000 to 2015***

Over the last 15 years, the share of households unable to afford, for financial reasons, grocery items regard all groups (Figure 4.2.2). The greatest decrease concerns stimulants (4 times), confectionary (4.5 times), fruit and fruit products (3.4 times), meat and poultry as well as meat and poultry products (2.5 times) and fish and fish products (2 times). These were the same food items households most often could not afford in the previous years.

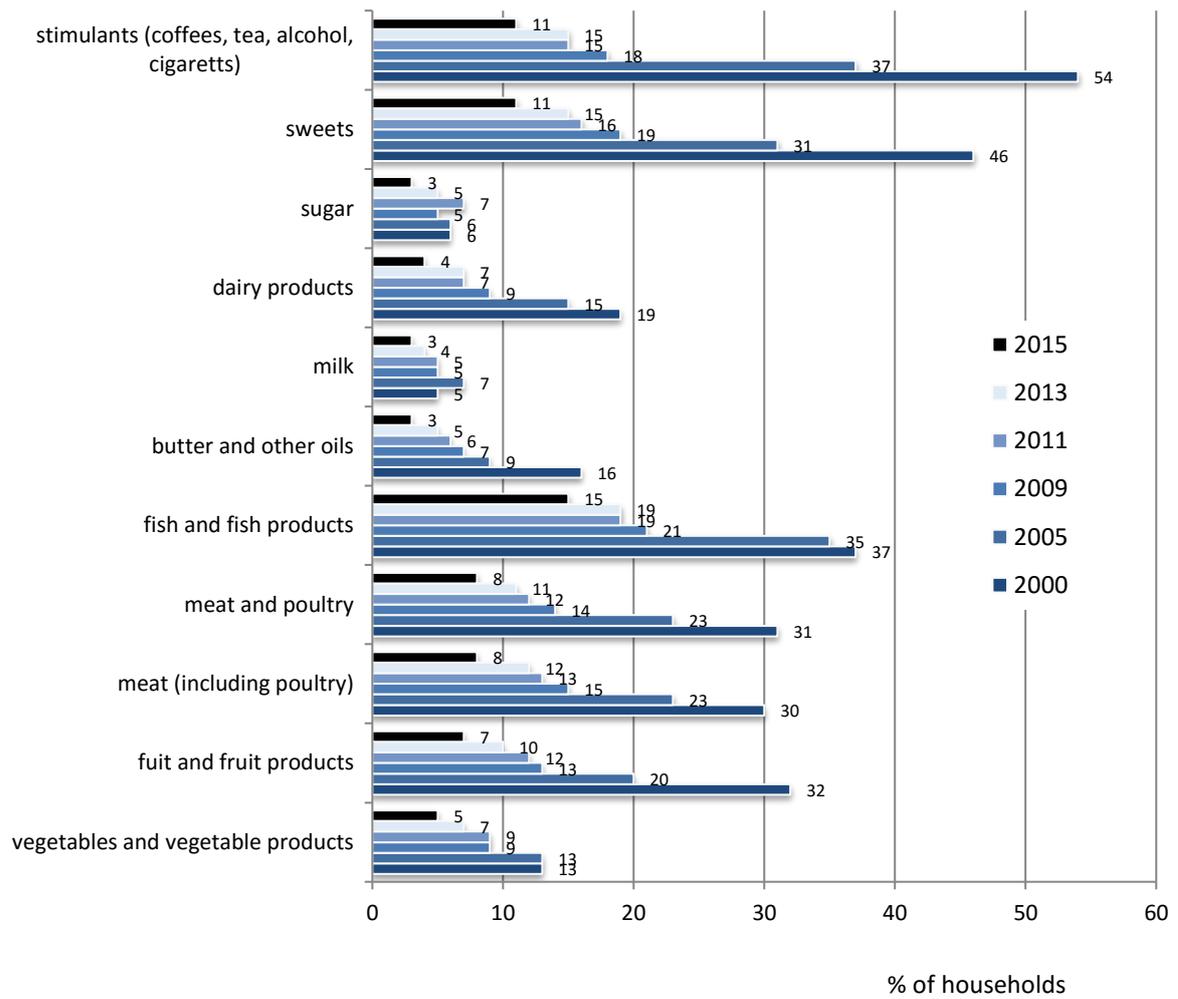


Figure 4.2.2. Percentage of households which could not afford the purchase of sufficient quantities of various food products in the 2011–2015 whole samples

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### 4.3. Material affluence

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#### Abstract

*In recent years, the percentage of households equipped with various fixed assets increased. Between March 2011 and March/June 2015, there was a significant increase in the percentage of households with savings (by over 7 pp.). Almost 34% of the households studied declared in March/June 2015 that they had loans and credits. Debt of households usually exceeded their annual income (33% of households declared such amount of debt). The percentage of households with loans between March 2011 – March/June 2015 significantly decreased (by over 8pp.). In comparison to 2013, the trust for financial institutions increased.*

#### 4.3.1. Situation in 2015 and change in last four years

##### 4.3.1.1. Durables

One of the main elements determining households' affluence is possession of durables. From among the durables indicated in the survey, in March/June 2015 the most common were an automatic washing machine, LCD or plasma TV and internet access. Approximately almost 7% of the surveyed households did not have an automatic washing machine, while 24% did not have LCD or plasma TV, 29% of households did not have access to the internet. Among the least common consumer durables were motor/sail boat (nearly 1%), an electronic book reader (about 4%) and a summer house (below 5%). Between March 2011 and March/June 2015, households acquisition of the majority of the durable goods covered in the study increased markedly (Figure 4.3.1)<sup>15</sup>. With the exception of landline telephones, what is related to increasing resignation from these kinds of telephones for the usage of mobiles and desktop computers. The greatest growth in the last four years, in households' durable goods was in LCD or plasma TV sets at over 27% and the portable computer - over 17%.

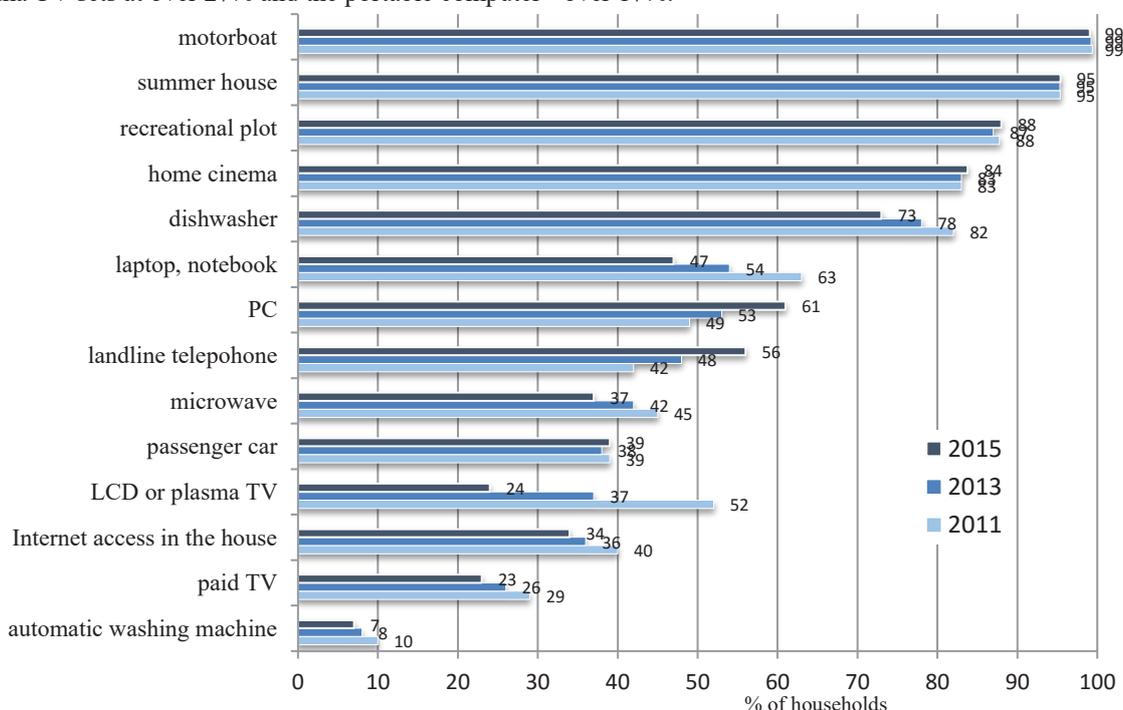


Figure 4.3.1. Percentage of households with durables not owned by the households in the 2011, 2013 and 2015 in panel sample

In the last two years there has been a marked growth in households' durable goods with the exception of the landline telephone and desktop computer, which are being replaced by the mobile phone and laptops (Figure 4.3.1).

<sup>15</sup> All of the changes in the range of affluence in years 2011-2015 are related to the panel sample of these years, this means households which were surveyed as well in 2011 as in 2013 and 2015

In March/June 2015, households living on unearned sources and those of retirees reported the lowest average number of durables. In terms of household type, these were in mainly non-family (both one-person and multi-person ones) and single-parent families. The number of durables in the households without the unemployed is slightly higher for the decisive majority of durables than in the households with the unemployed. However, the number of durables in households broken down by the place of residence class and Voivodship varies depending on durables indicated in the survey, although for the majority, the lowest number was observed in rural households.

The lack of some durables often results not from the lack of funds for their purchase but from the lack of willingness to own them. In March/June 2015, the durables which households most often did not have due to the lack of money included mainly a washing machine, LCD or plasma TV sets and an own flat/house, (respectively over 70%, about 57% and almost 56% of households did not have such goods for financial reasons.) In the last four years, we observed a strong drop in the percentage of households that could not afford to buy any of the durables indicated, apart from LCD or plasma TV sets or recreational plot. The largest fall in households unable to purchase goods was observed in the case of home cinema, access to home internet and a portable computer (by over 12 p.p. - Figure 4.3.2). The fall is significantly high in the last two years.

The differences between the groups of households formed with the criteria adopted under the research as regards the lack of certain durables due to financial reasons in March/June 2015 were multidirectional. The greatest differences here can be observed between the group of households without the unemployed and the group with the unemployed. The percentages of households with the unemployed that could not afford to possess certain durables are considerably higher than in the case without the unemployed, particularly in terms of access to home internet (at over 40% and nearly 15% respectively), a portable computer (nearly 61% and over 26% respectively) and a microwave (over 47% and nearly 24% respectively). Moreover, financial difficulties were relatively most often indicated as reasons for not having certain durables by retirees and households living on unearned sources, by married couples with many children, single-parent families and multi-family households.

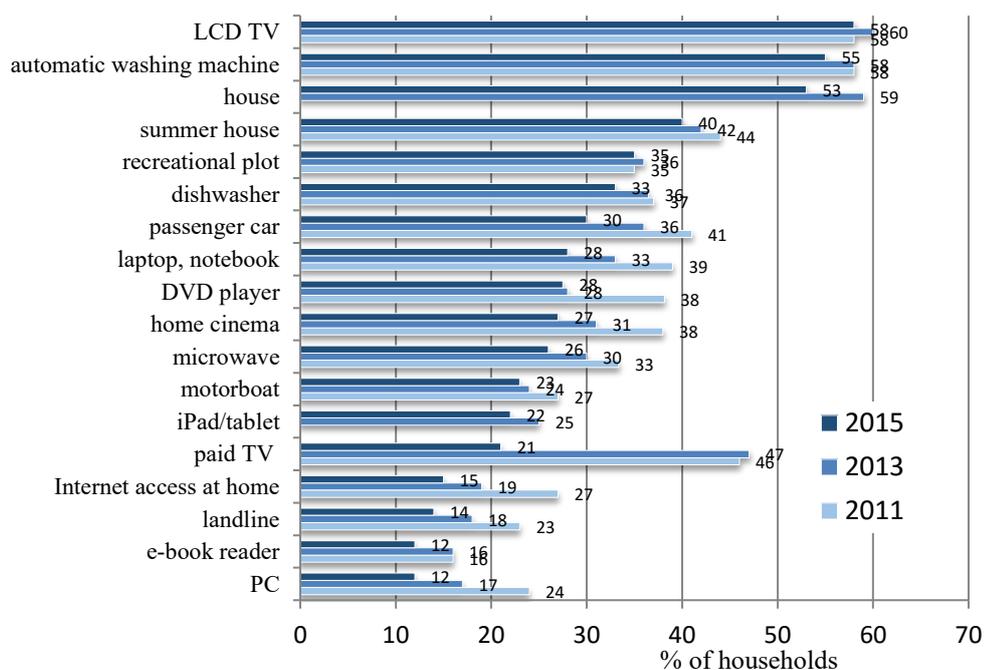


Figure 4.3.2. Percentage of households without durables due to a lack of financial resources in the 2011-2015 panel sample

#### 4.3.1.2. Savings

In March/June of 2015, nearly 55% of households did not have any savings. Among households declaring they did have savings, there were clearly more with savings at the equivalent of a monthly up to 3-month income (over 37% of households). Between March 2011 and March/June 2015, there was a marked rise in the share of households with savings (of almost 7 p.p. - Figure 4.3.3), and a rise of over 5 p.p. in the last two years. (Figure 4.3.3).

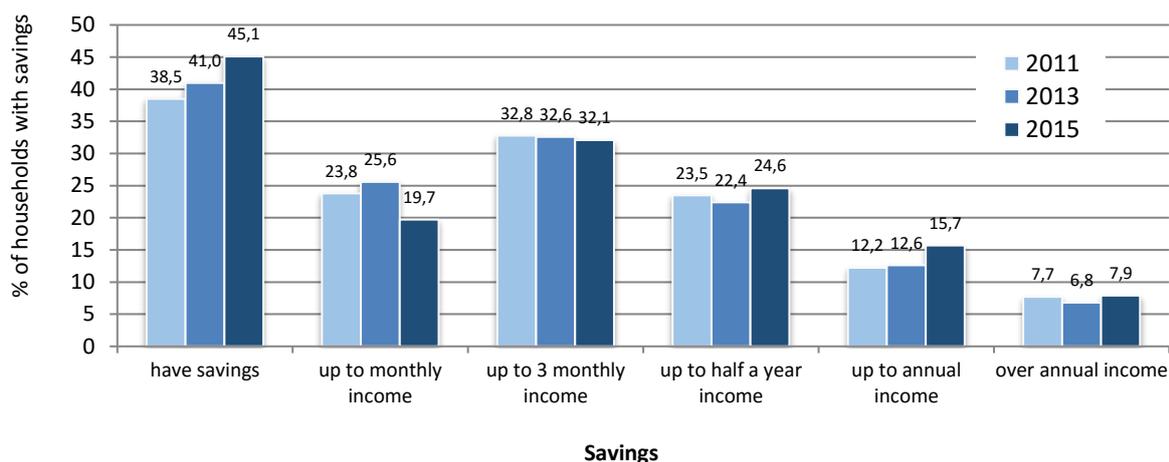


Figure 4.3.3. Percentage of households with savings and scale of savings in the 2011-2015 panel samples

Households living on unearned sources (almost 79% without savings) and households of pensioners (over 75% without savings) most rarely by far declared any savings. Households that do not have savings are more widespread among multi-person, non-family households and single parent families, (almost 70% without savings for both). The percentage without savings with employed members is significantly lower than in the group with unemployed members (over 55% and over 72% respectively).

The smaller the place of residence, the higher is the percentage of households without savings. The households declaring no savings were mostly located in rural areas (over 62% households in rural areas). Broken down by Voivodship, the percentage differences between households without any savings are not that high. The Voivodships where households in most cases do not have any savings are Warmińsko-Mazurskie (almost 70%) and Kujawsko-Pomorskie (almost 65%).

Almost 52% of households with savings, in March/June 2015 had zloty savings accounts, and almost 58% saved in cash (Figure 4.3.4). Bank deposits in PLN most often belonged to households of self-employed (nearly 60% of households), savings in cash were relatively most common among households of farmers (about 72% of households) and households of pensioners (over 68% of households). In terms of the household types, PLN bank deposits were most popular among the married couples without children (almost 55%). Cash was, on the other hand, relatively most common type of savings in multi-person, non-family and multi-family households (respectively over 74% and 68% of households from these groups) In both households without and with the unemployed the clearly prevailing forms of saving were bank deposits (almost 40% and almost 52% respectively) and cash (almost 60% and almost 68% respectively).

Relatively the highest percentage of households with bank deposit savings in PLN was recorded in the biggest cities (over 61% of households from those cities). Cash savings were the preferred form among households in rural areas and in smaller towns (nearly 68% and nearly 64% respectively). Bank deposit savings in PLN were the most common among households from Pomorskie and Dolnośląskie Voivodships (respectively nearly 57% and 50% of households). Definitely the highest percentage of households having savings in cash was from Warmińsko-Mazurskie Voivodship (almost 75% of households).

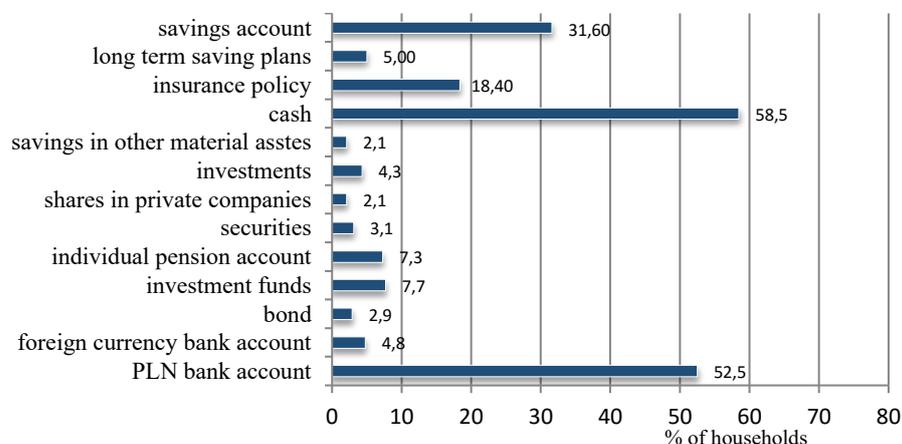


Figure 4.3.4. Forms of savings in 2015

In the years 2011-2015, there was a marked rise of almost 16 p.p. in the share of households with savings only in cash and insurance policy (5 p.p.). However, the percentage of households having savings in PLN bank deposits dropped by 17 p.p. (Figure 4.3.5).

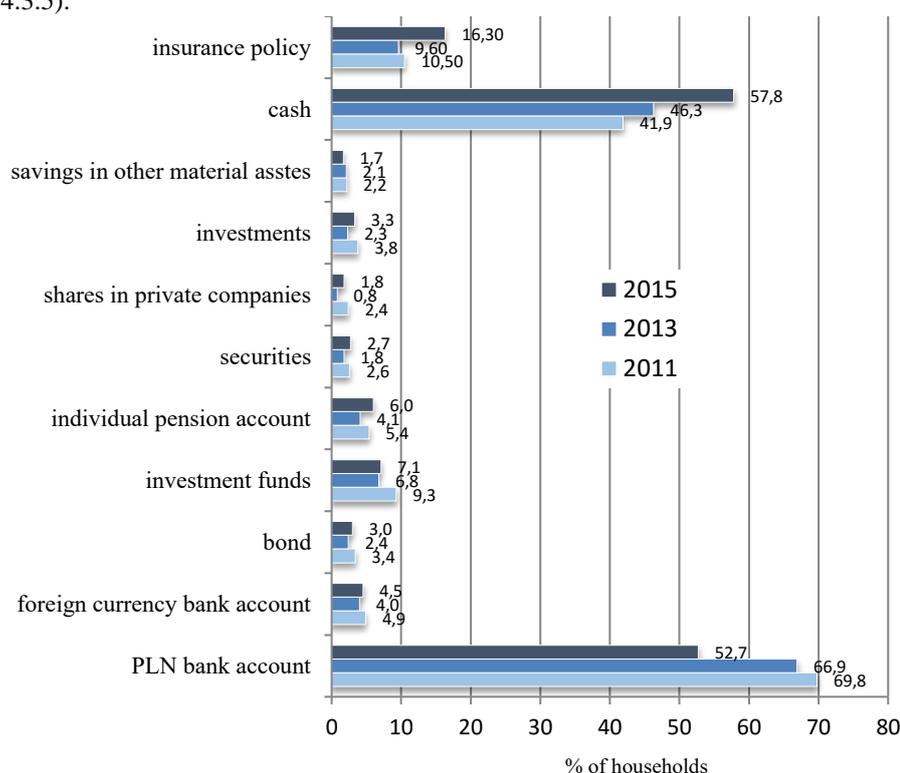


Figure 4.3.5. Forms of household savings in the 2011-2015 panel samples

Households declaring that they had savings in March/June 2015 usually gathered the savings for random events (over 71%), protection for the old age (almost 40%) and as a reserve for current spending (over 33% of households).

In the last four years, there was a significant increase of share of households gathering savings as a reserve for random events (by over 10 p.p.), treatment (over 5 p.p.) and protection for the old age and house/flat renovation (by 3 p.p. both - Figure 4.3.6).

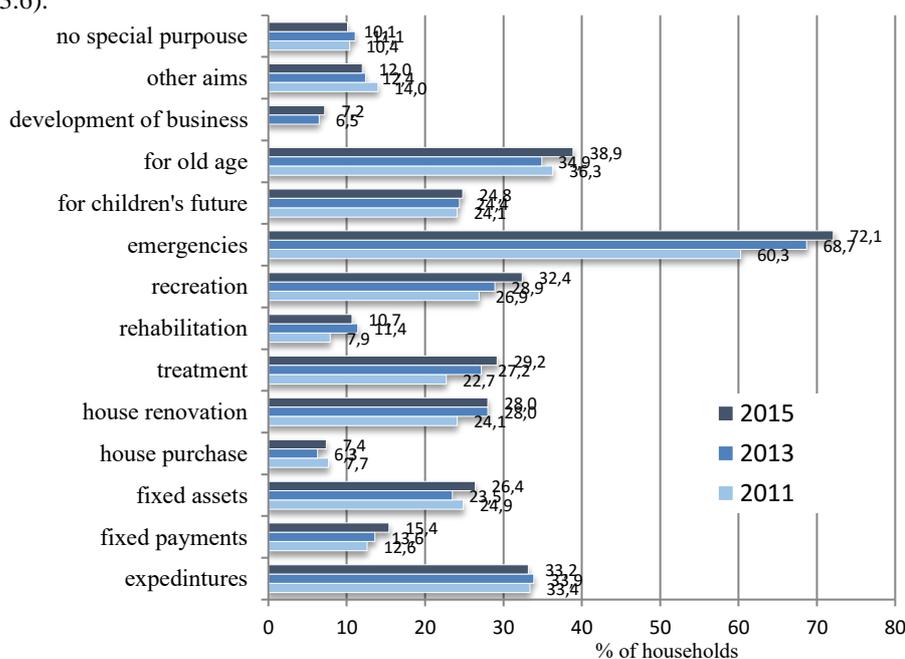


Figure 4.3.6. Purposes of household savings in the 2011-2015 panel samples

Savings gathered as a reserve for random events were most commonly observed in March/June 2015 in households of self-employed (declared by almost 75% households with savings in this social and economic group). This purpose of gathering savings, was most commonly specified by households of married people without children or married people with 2 children (almost 73% of such households). Also in case of groups of households with and without unemployed the savings were most commonly gathered as a reserve for random events (respectively in nearly 61% and in over 72% of households from this group). The differentiation of household groups gathering money as a reserve for random events was insignificant relating to the class of the place of residence or Voivodship. This purpose was most commonly popular in big cities with population of 200-500 thousand (in over 75% of households) and in Podlaskie and Dolnośląskie Voivodships (over 81% and 77% households respectively).

Treatment was relatively the most common purpose of gathering savings specified in March/June 2015 by households of pensioners and retirees (over 44% of households from this group), households of married couples without children (in almost 40% of households), households in big cities with 200-500 thousand inhabitants (in about 35% of households) and households in Dolnośląskie Voivodship (in over 37% households).

In terms of socio-economic group, in March/June 2015 savings for the current consumer needs were most frequent among households living on unearned sources (51% of households from this group). As for household type, this purpose was most often reported by households of married couples with many children and single parent families (about 40% of households from these groups). The most frequent gathering of savings for current expenditure was reported by households in rural areas (almost 37% of households) and Zachodnio-Pomorskie Voivodship (over 47% of these households) and also Lubelskie and Podkarpackie Voivodships (respectively 44% and over 43% of households). Moreover, in a group of households with unemployed, this purpose of gathering savings was considerably common (over 42% of households).

#### 4.3.1.3. Debt

Nearly 34% of the surveyed households in March/June 2015 declared they had loans to repay. Household debt most often exceeded equivalent of annual income as reported by over 36% of households in debt. The share taking loans fell markedly from March 2011 to March/June 2015 by almost 8 p.p. (Figure 4.3.6). In the last two years the share of households taking loans has dropped by 4 p.p..

In March/June 2015 the group of households in debt included mainly that of employees and self-employed (nearly 43% and around 40% respectively). In terms of the household type, the highest percentage of the households in debt was reported in that of married couples with 2 children and couples with many children and married couples with 1 child (about 44% and over 43% respectively). Frequency of debt was similar among the households with unemployed members as in those without (about 33% for both).

The debt in the last four years has dropped in every of the socio-economic groups and types of households. The highest drop of percentage of indebted households was that of entrepreneurs and married couples with one child (respectively by over 12 and over 9 p.p.).

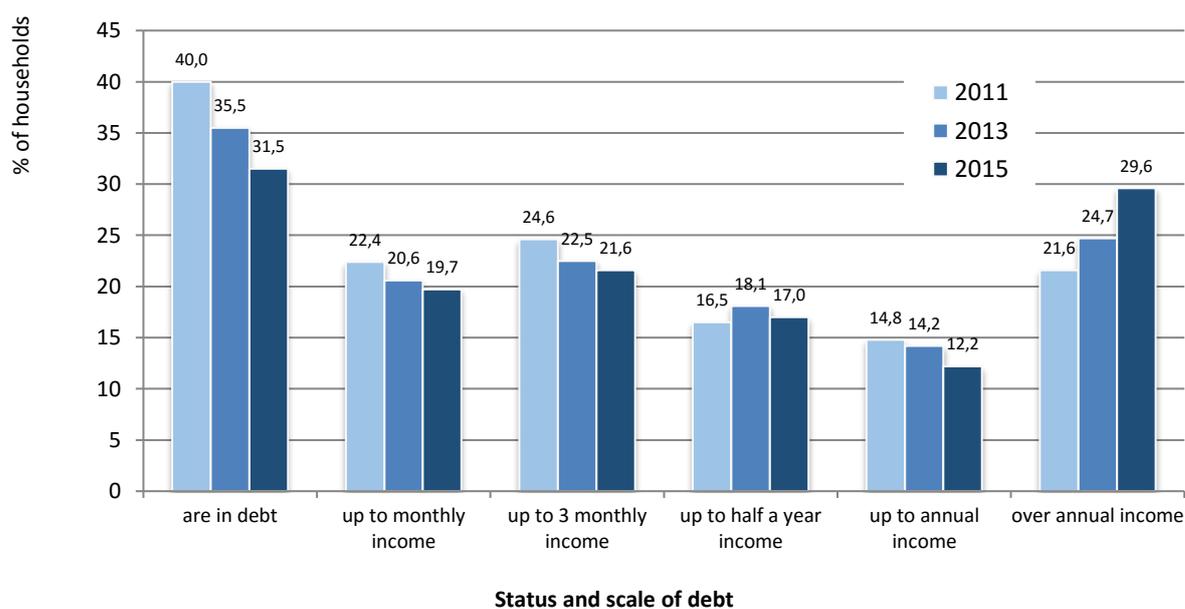


Figure 4.3.6. Structure of household debt in the 2011-2015 panel sample

The frequency of indebted households according to the class of place of residence and Voivodships is insignificantly differentiated. The highest percentage of indebted households is located in the biggest cities (almost 39% of households) and the lowest, in rural areas (over 30% of households). The highest percentage of indebted households is in Lubuskie Voivodship (almost 50% of households) and the lowest percentage in Podlaskie Voivodship (almost 21% of households).

In the last four years we could observe the fall of percentage of indebted households in all of the classes of place of residence and in all of Voivodships.

The most frequently, households, in last three months, had to allocate between 10% and 20% of their monthly income to pay their debts (almost 40% of indebted households) and then up to 10% of their monthly income (almost 28% of indebted households). Only 2% of households had to allocate over 50% of their monthly income. This highest encumbrance of income was most commonly observed in households living on unearned sources and pensioners' households (in over 2% of households of these groups), among households of incomplete families and married couples with 1 child (over 2% of households of these groups), households located in big cities with 200-500 thousand inhabitants, and small towns with 20-100 thousand inhabitants (almost 3% of households) and Zachodniopomorskie and Dolnośląskie Voivodships (in over 4% of households).

The source of external financing for over 90% of households with loans were banks and agencies offering instalment loans (5%). Only over 4% were in debt to private individuals. Between March 2011 and March/June 2015, the percentage of households using private individual loans has dropped by over 1 p.p..

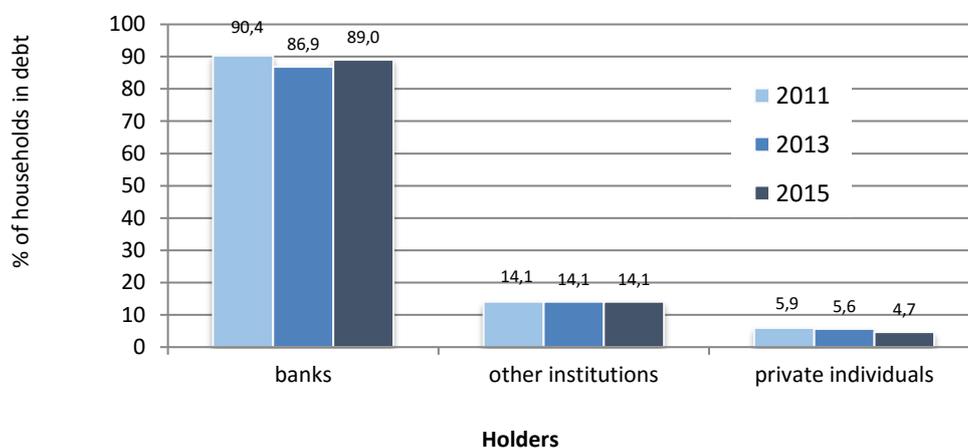


Figure 4.3.7. Holders of households' debt in the 2011-2015 panel sample

Bank credits, in March/June 2015, were most frequently used by households of farmers' and self-employed households (respectively 96% and 94% of households). Near banks and private individuals were giving loans to households of retirees and households living on unearned sources (respectively 19% and 8% and over 11% and 7% of households). Moreover, private individuals gave also loans to two previously mentioned groups of households (respectively nearly 16% and over 6% indebted of these groups). Bank credits were most commonly a fundamental source of financing households of married couples with one child and with two children (over 92% of households indebted), the loans from agencies offering instalment credits and from near banks were most frequently taken by households of incomplete families (respectively 6% and almost 10% of indebted households). Moreover, the loans from private individuals were most commonly used by single parent family households (over 7% indebted households of this type).

Groups of households with and without unemployed are strongly differentiated in relation to the source of external financing. Households with unemployed more frequently than without unemployed took loans from near banks and from private individuals (respectively 14% and 4% from the first households' group and over 4% and nearly 4% from the second group). At the same time, these households are less often taking loans from banks (respectively 80% and nearly 90% of households from these groups).

Bank loans were relatively most common among households located in the biggest cities (nearly 95% of indebted households) and in Podlaskie and Mazowieckie Voivodships (nearly 97% and over 94% of indebted households from these Voivodships).

Loans offered by near banks were taken mainly in small towns with 20-100 thousand inhabitants (almost 10% of indebted households) and Świętokrzyskie Voivodship (over 9% of indebted households). On the other hand, households located in rural areas (over 5% of indebted households) and Warmińsko-Mazurskie Voivodship (about 8% of indebted households) relatively most frequently took loans from private individuals.

Households most frequently borrowed in zloty at over 72% and 22% in Swiss francs, which was most widespread among self-employed and employees, married couples with 2 children, living in the biggest cities and Podlaskie Voivodship (respectively 36% and almost 25%, over 30%, over 28% and over 29% of households).

We surveyed households in order to identify the purposes of taking out loans collected. In March/June 2015, over 32% used loans for financing the purchase of durables, over 30% to renovate their apartment or house and nearly 27% to purchase a house or apartment. Between March 2011 and March/June 2015, we observed relatively the greatest rise in the share of households borrowing to purchase houses or flats (by over 2 p.p., Figure 4.3.8). At the same time, we observed a significant fall of percentage of households taking loans in order to renovate house or a flat (by about 3 p.p.) and for current spending (over 2 p.p., Figure 4.3.8).

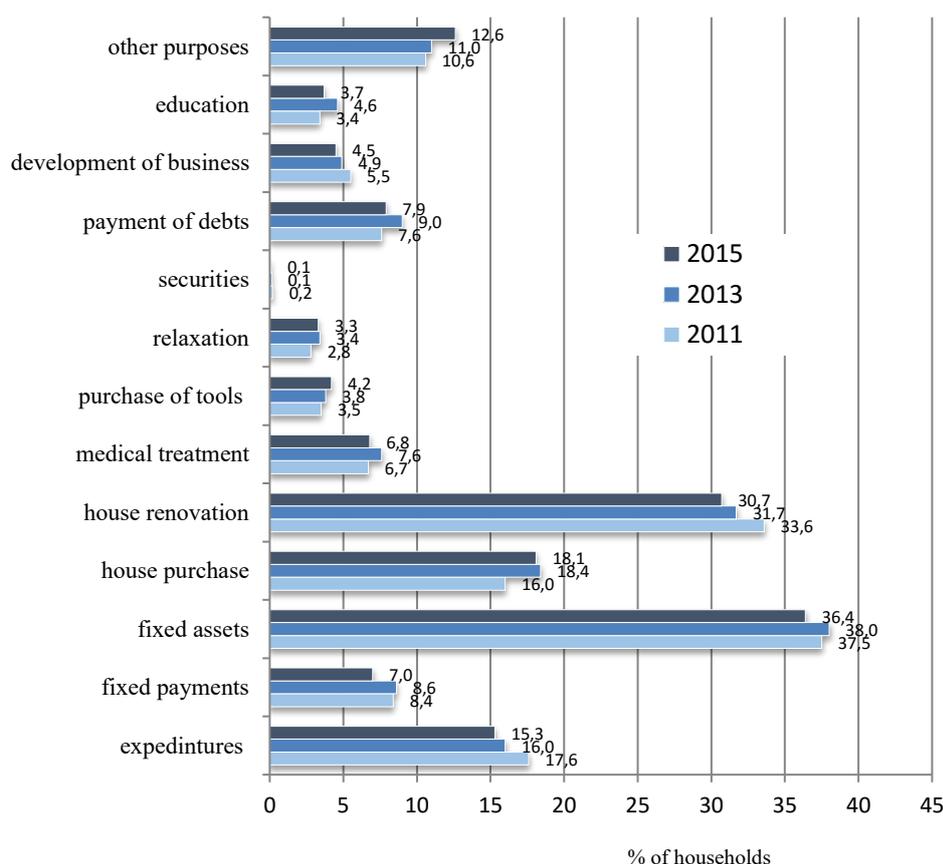


Figure 4.3.8. Purposes of the loans and credits taken out by households in the 2011-2015 panel sample

## 4.3.2. Changes in household durables 2000-2015

### 4.3.2.1. Durable goods

With the exception of the landline telephone, the spread of which was arrested in 2003 and has been falling ever faster to the level of 39% of households, there was a growth in all other durable goods in households (Figure 4.3.9), with the largest in modern communications technology.

Currently, 71% of households have access to the internet, which is 3 times that of 2005, while those with a computer (whether desktop or portable) increased sevenfold in 2015 since 2000. Also, modern household kitchen equipment is rising rapidly: the microwave 4 times since 2000, dishwasher 10 times in 15 years and washing machine by 253 p.p. to a level of 94% of households. Currently, 3/4 of households have a modern television set, and 78% (a rise of 32 p.p.) uses cable or satellite television, 2/3 have a car (over 47% more than in 2000) and in comparison to 2007, the share having more than one vehicle rose from 4% to 18% and a portable computer from 0.05% to 13%.

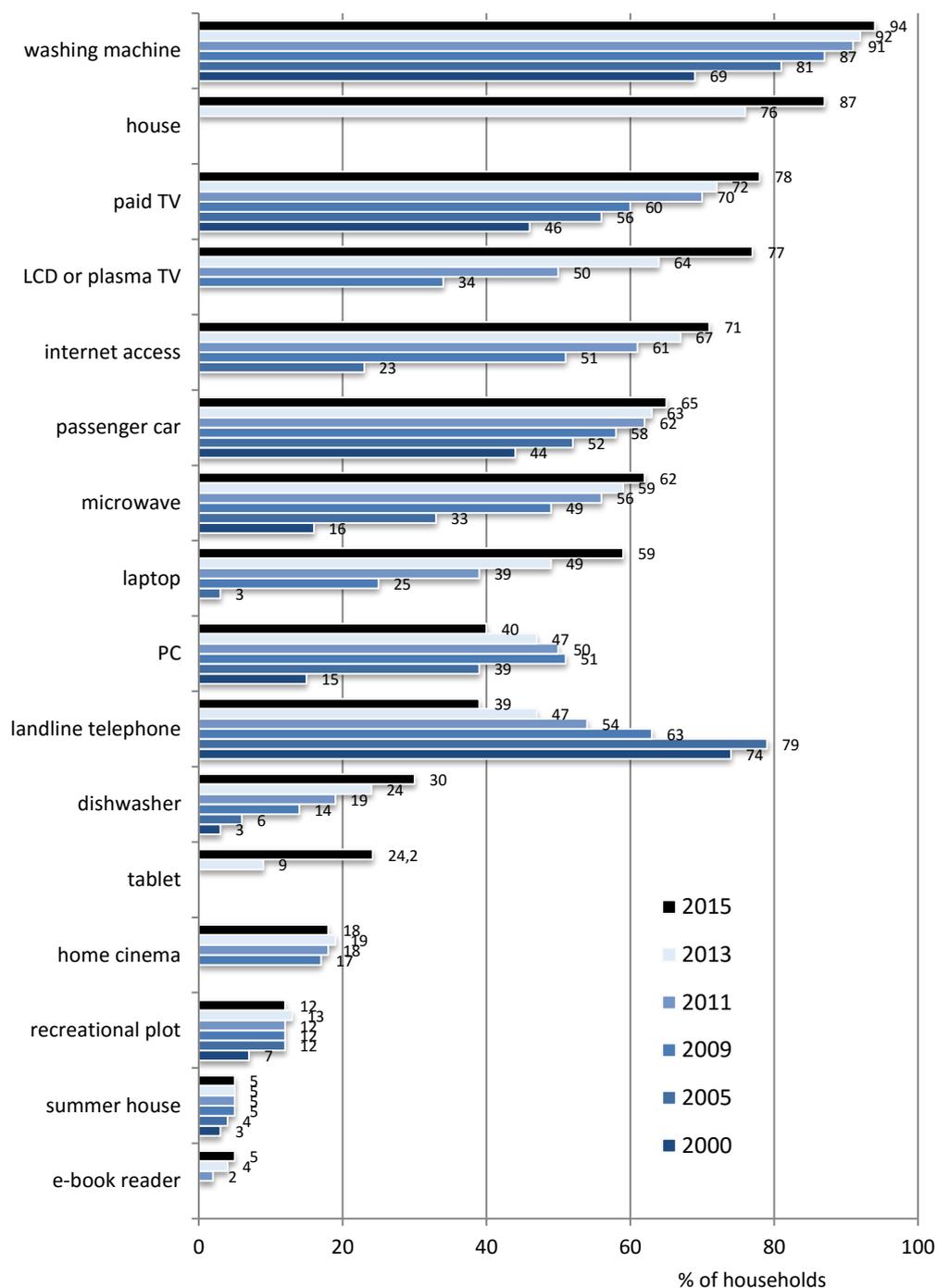


Figure 4.3.9. Percentage of households equipped with selected durable goods between 2000-2015

The share of durable goods that households do not have for financial reasons is falling (Figure 4.3.10), and today it is a lack of need rather than a lack of money that increasingly often determines whether a house does not have a specific durable. This refers in particular the landline telephone (being replaced by the mobile), the desktop computer, car and microwave.

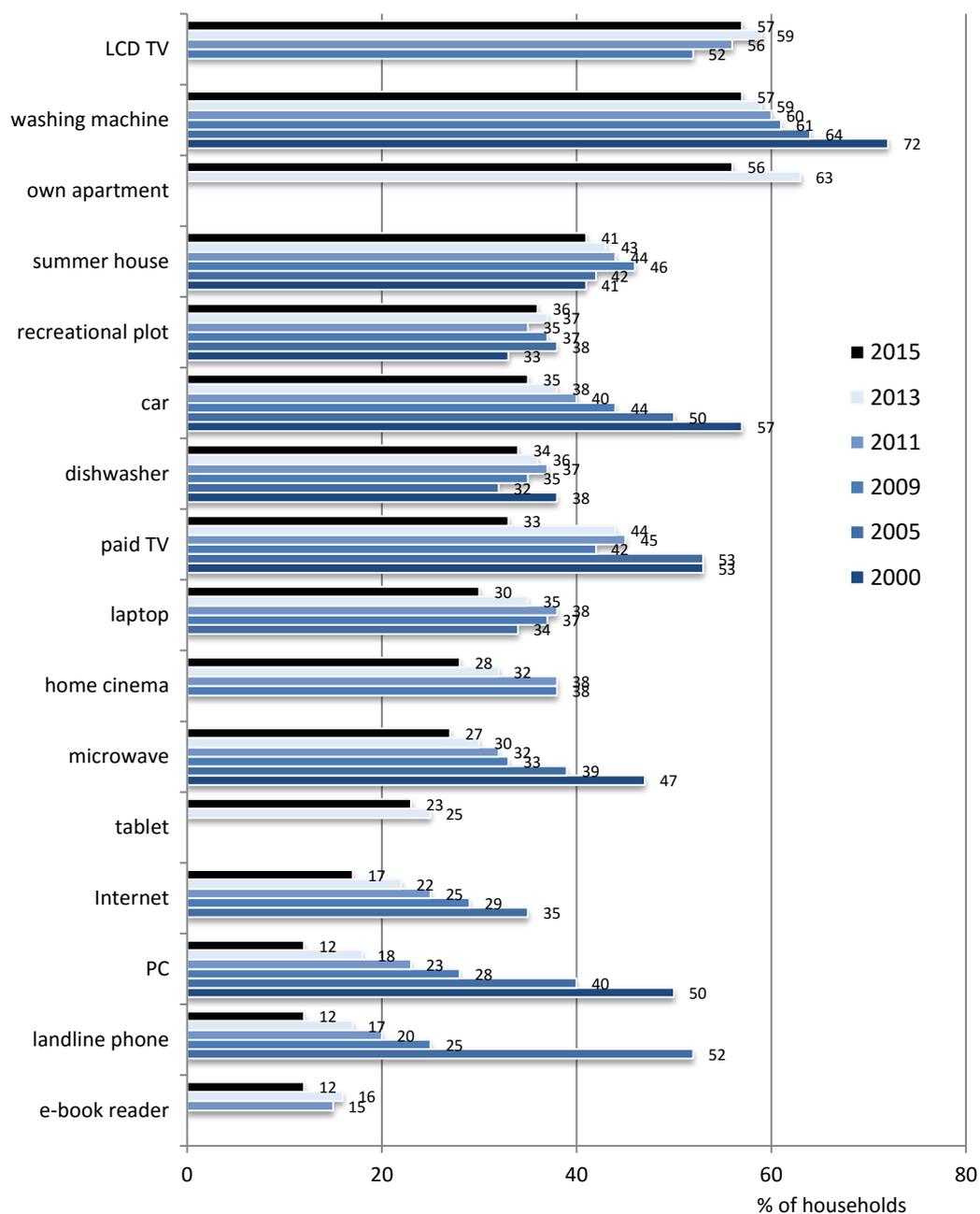


Figure 4.3.10. Percentage of households lacking in selected durables due to insufficient purchasing power between 2000-2015

#### 4.3.2.2. Savings

The share of households with some form of savings has risen almost 2 times since 2000 to 45% (Figure 4.3.11). The size of savings has hardly changed in structure since 2000, households with savings equivalent to three-months' salary continuing to dominate. The share of households with savings equal to more than an annual income remained at the low level of 7%, which means less than 3% of the whole population.

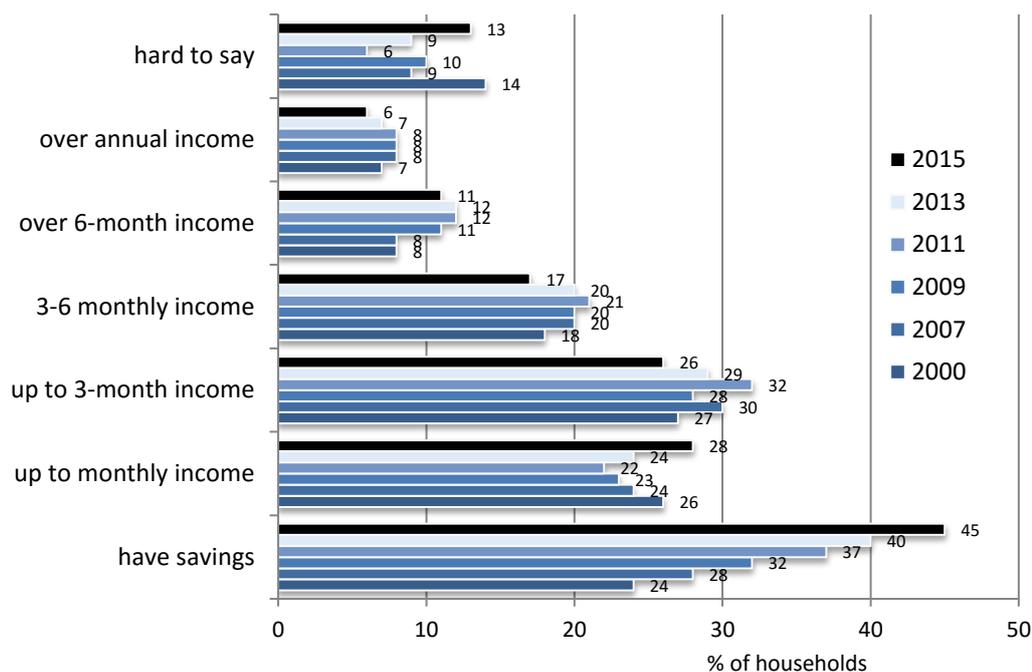


Figure 4.3.11. Percentage of households with various levels of savings between 2000-2015

However, the forms of savings have changed (Figure 4.3.12). The share of households having PLN bank accounts has fallen, and the share of households having savings in cash and insurance policy has risen.

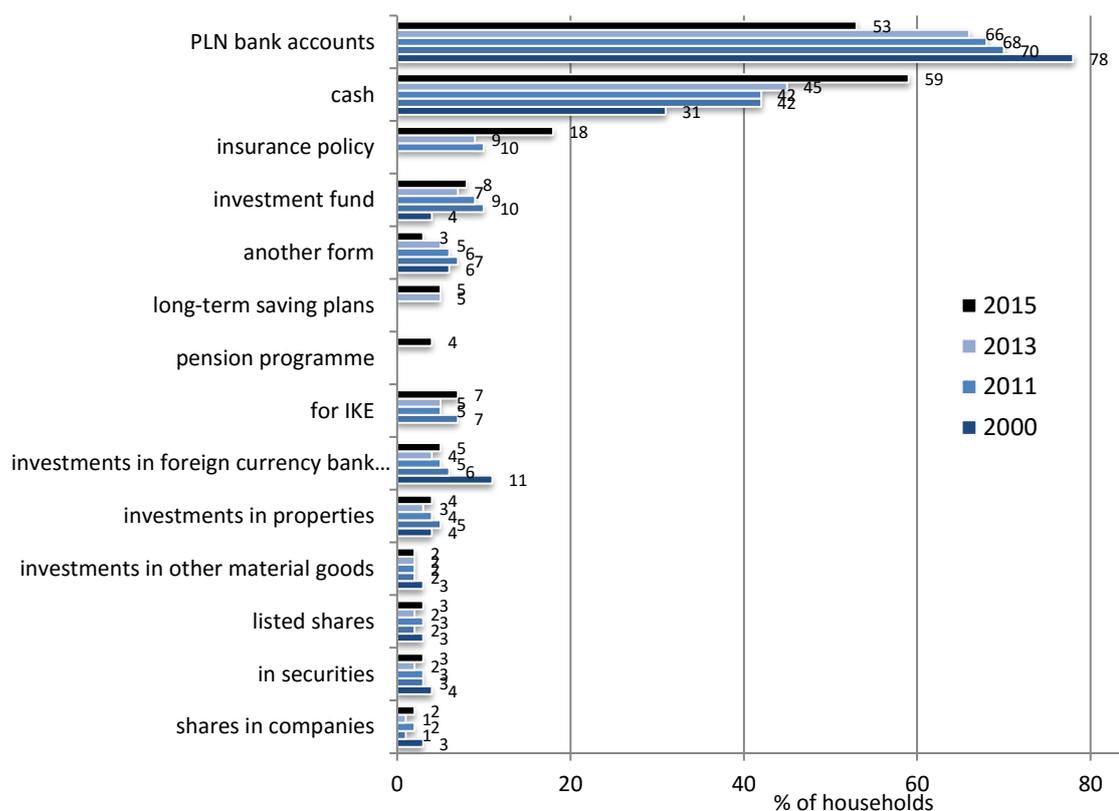


Figure 4.3.12. Forms of households' savings between 2000-2015

As far as the purpose of saving is concerned, the share of households saving to buy durable goods and purchase a house or flat fell in comparison to 2009-2011, and the share of those saving up for daily consumption spending increased (Figure 4.3.13).

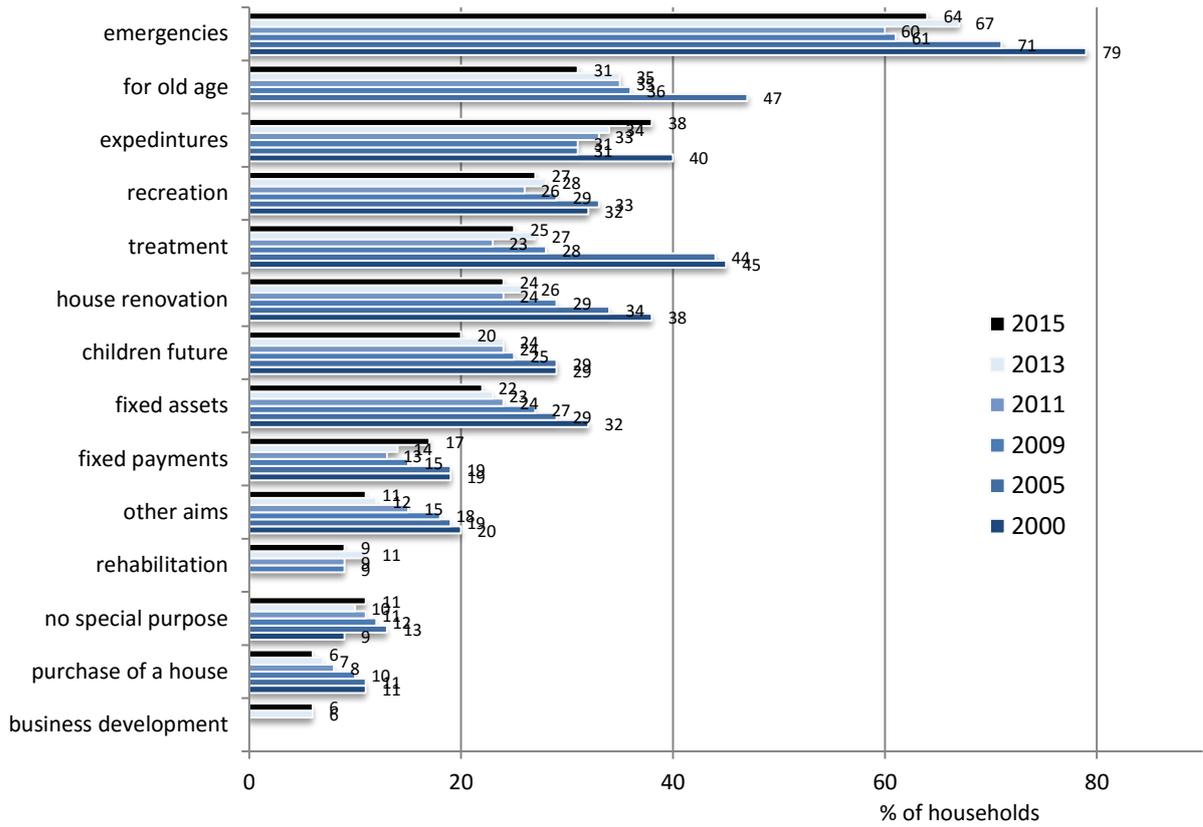


Figure 4.3.13. Purposes of household savings between 2000-2015

4.3.2.3. Debt

The number of households with debt in the last 6 years has fallen (from 41% to 34%), together with significant drop of share of households having debts of an amount of 3 months income, and share of households having debts of an amount of over a year income has risen markedly (17 p.p., Figure 4.3.14).

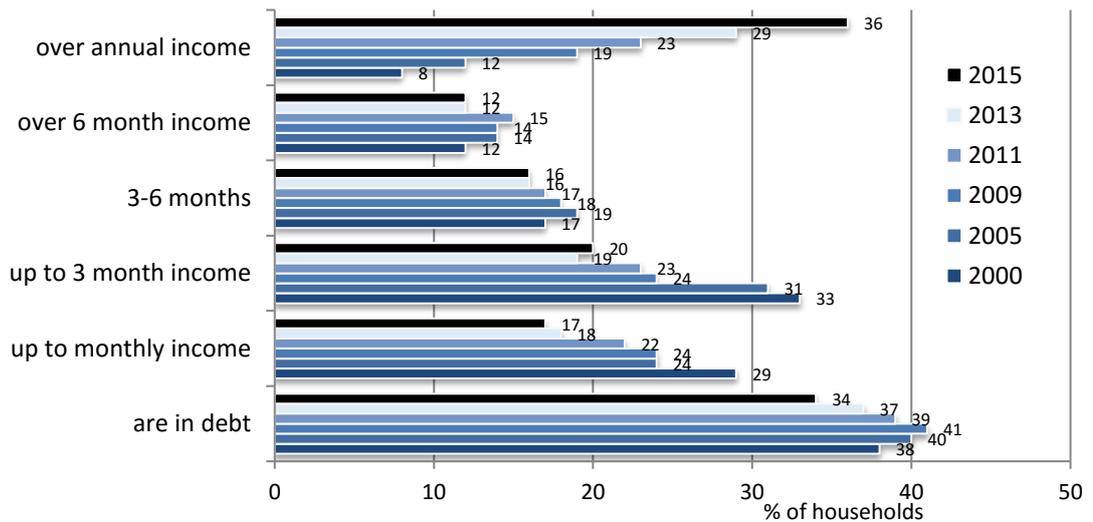
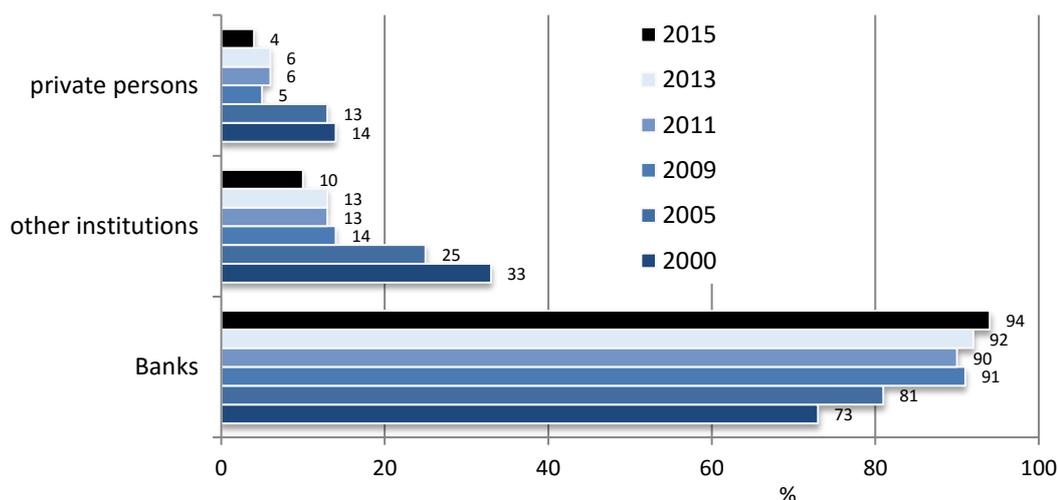


Figure 4.3.14. Percentage of households' with various amounts of debt 2000-2015

Households' debt in banks has significantly and systematically been rising since the beginning of the century (73% in 2000 to 91% in 2009 and 94% in 2015) with the cost of debts in other financial institutions and private individuals (Figure 4.3.15).



REMARKS: in years 2013 and 2015, in the survey, SKOK was counted as a bank where 4,6% households were indebted in 2013 and 3,3% in 2015.

Figure 4.3.15. Holders of households' debts between 2000-2015

Loans and credits are increasingly less used to buy durable goods and fund home redecoration, current expenditure, healthcare and cover fixed payments (e.g. accommodation), and more often for house or flat purchase (4.3.16). In combination with the change in the degree of debt, this represents a fall in consumer loans and rise in mortgage loans.

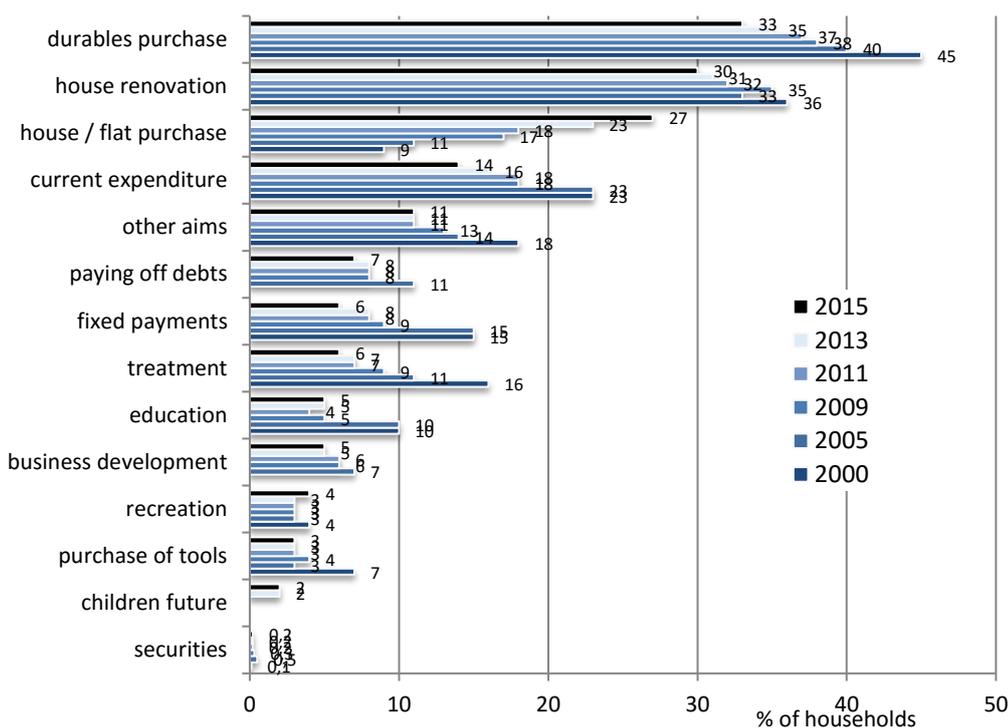


Figure 4.3.16. Purposes of household' borrowing between 2000-2015

### 4.3.3. Households' activity on the financial market

The analyses presented in the previous points clearly depict the tendencies in behaviour of households present on the financial market. The share of households declaring possession of savings rose and at the same time there was a fall in the number of households with credit. While in the light of growing income of households, rise of percentage having savings fully confirms conclusions derived from the life-cycle model (Friedman, 1957; Modigliani and Brumberg, 1954), the falling interest in credit products is surprising. In case of systematically

growing household incomes, tendency for substantial credit uptake should still be present (Białowolski, 2009). National Bank of Poland data indicates that there has been an increase in the size of savings (15%) over the past two years, what combined with rising share of households gathering savings implies the long awaited popularization of savings. Changes relating to loans, however, are not that explicit, on one hand the share of indebted households is falling and on the other hand we still observe rise of value of household debts – by about 12% in the last two years. While in the previous editions of Social Diagnosis this rise could be explained by dynamically rising number of households taking loans for flat/house purposes, the recent NBP data indicates that debts related to consumer credit rise at a comparable pace.

While searching for an answer to question "who takes loans and who is able to save money?", we analyse factors influencing possession of savings and also factors determining possession of loans. Analysis allowing to determine the influence of factors related to the cycle of life, and also income factors and those connected with the status on the labour market has been conducted for the fourth time (previously in 2009, 2011, 2013) The analysis enables to distinguish factors significantly related to saving money, and those related to credit uptake. Below we compare results for 2013 and 2015 waves of the survey. The Social Diagnosis surveys three aspects of household savings - their form, objectives and the total size. Therefore, we can provide an estimate of the value structure of Polish household savings with respect to the forms and objectives. As far as an analysis of saving forms might be also conducted on the basis of financial sector data, analysis of saving objectives is only feasible with household level data. With such data, it is also possible to analyse borrowing profiles in terms of source and aim. Additionally, the current edition of Social Diagnosis includes an additional set of questions about the size of debt repayments, allowing us to analyse the structure of total debt repayments in terms of the institutions providing household finance and also the structure of repayments by different household purposes.

#### 4.3.3.1. Factors affecting possession of savings and debts

Since the outbreak of the financial crisis, the percentage of households with savings has clearly increased from 28% in 2007 to over 40% in 2013 and almost 45% in 2015. Considering the stability of this feature (23-24%) in the 2000, 2003 and 2005 waves it is a clear indicator of a considerable, positive change of households saving behaviour. This means that in the large group of households the level of income allowing to generate savings has been reached. Though it is true that the share of households with savings is considerably lower than the one observed in countries from the Euro area where bank deposits are declared by over 96% of households, the results of the Social Diagnosis Survey show systematic increase in the share of households able to generate savings.

Household saving behaviour depends mostly on factors connected to life-cycle stage (the stages of life are determined by the age of the household head), ability to generate savings (determined mainly by income level) and household relative material position in the given period connected to the labour market status of the household head compared to an average situation expected at the given stage of life. These variables have been taken into account in the logistic regression model (e.g. Gruszczyński, 2002) for savings, in which the likelihood of the household having savings is conditioned by its material situation, age of household head and his/her labour market status:

$$P(Y = y_i) = F^{-1}(x^T \beta) = \frac{e^{x^T \beta}}{1 + e^{x^T \beta}}$$

where:

Y - is a binary random variable with the following possible values: 1 - the household has savings, 0 - the household has no savings;

F - logistic distribution function;

x - column vector for explanatory variables;

$\beta$  - column vector for parameters.

Comparison of estimation of parameters between different models (in our case periods) in logistic regression, in opposition to models of linear regression, is not directly possible. As well in logit and in probit models the independent variable is explained as a hidden variable and identification of the model is only possible thanks to assumption of logit or standard normal distribution of errors. The comparison of estimation factors is therefore highly difficult. Alison (1999) was the first who tried to solve the problem, by using heterogeneous choice models. Thanks to implementation of these models it is possible to extract comparable factors, what is achieved through simultaneous estimations of two equations - one where we estimate result variable and a second one where we estimate scaling factor (Williams, 2010). For the estimation performed survey data from 2013 and 2015 waves it turned out that estimated scaling factor does not differ significantly. Therefore, it was possible to compare the results of logistic regression for the fact of having savings depending on income, the age of household head and his/her labour market status. The models have been estimated separately for the data collected from 2013-2015 waves and depicted in Table 4.3.1.

Table 4.3.1. Results of estimation for logistic regression for savings

Variables		2013		2015	
		$\beta$ (stand. error.)	Odds ratio Exp ( $\beta$ )	$\beta$ (standard error)	Odds ratio Exp ( $\beta$ )
Income per capita (PLN)	up to 500	-1.874*** (0.163)	0.153	-2.436*** (0.305)	0.088
	500 - 999	-1.437*** (0.080)	0.238	-1.150*** (0.090)	0.317
	1000-1499	-0.713*** (0.069)	0.490	-0.610*** (0.068)	0.544
	1500-1999	ref.		ref.	
	2000-2999	0.512*** (0.077)	1.669	0.525*** (0.072)	1.690
	3000+	1.039*** (0.120)	2.826	1.175*** (0.104)	3.237
Household head age	up to 24	-0.708*** (0.270)	0.493	-0.478 (0.304)	0.620
	25-34	0.051 (0.104)	1.052	-0.128 (0.112)	0.879
	35-44	-0.085 (0.086)	0.918	0.122 (0.087)	1.130
	45-59	ref.		ref.	
	60-64	0.071 (0.082)	1.073	-0.018 (0.084)	0.982
	65 and above	0.195** (0.100)	1.216	0.293*** (0.104)	1.340
Status on the labour market	Employees	ref.		ref.	
	Unemployed	-0.241 (0.178)	0.786	0.025 (0.220)	1.025
	Inactive	-0.238*** (0.081)	0.789	-0.241*** (0.086)	0.786
Constant		-0.006 (0.073)	0.994	-0.138* (0.073)	0.871
N		12032		11703	
Measure of fit ( $R^2$ Cox-Snell)		0.146		0.130	

Variables significant by the level of significance: \*\*\* 0.01, \*\* 0.05, \* 0.1

In both periods subject to analysis differences in households' incomes influenced the probability of savings possession in a comparable way. A slight disparity in ability to generate savings may be observed between 2013 and 2015 only for the poorest groups, which is mostly a consequence of a fall in ability to generate savings by them. The probability of having savings varies significantly across income groups. The odds for savings in the group with incomes ranging from PLN 1000 to PLN 1499 were about 45% lower in 2015 than in the reference group (households with incomes within the range of PLN 1500 – PLN 1999). In the group of households with incomes between 2000 and PLN 2999, the odds for having savings were higher by 69% than in the reference group. In the lowest income household group (up to PLN 500), the odds ratio with respect to the reference group amounts to merely 0.088, which is almost by half lower than the Figure obtained for 2013. This implies that the relative chance of savings possession in the lowest income group (up to 500 PLN per person) was about 90% below that of the reference group. In the following group (PLN 500 - PLN 999), the odds for savings possession were around 70% lower than in the reference group, while ability to generate savings in these group had relatively improved in comparison to 2013. A considerable increase in the probability of savings may be observed in households with incomes exceeding PLN 2000. A significantly higher than in reference group, and improving together with the level of income, tendency to generate savings is observed for households with level of income of at least PLN 2000 per person. While in the income range of PLN 2000 – PLN 3000 odds of having savings as well in 2013 as in 2015 were about 65%-70% higher than in the reference group, in 2015 study the odds for generating savings among households with highest income (PLN 3000+) were 224% higher than in the reference group, while in 2013 odds were only 183% higher.

Job-market status was a significant determinant of savings' possession in both periods of study. It seems, however, that this factor influences the odds of having savings indirectly (through income). In both compared years households with unemployed heads had insignificantly lower odds of savings' possession compared to the working head reference group assuming the same income. In 2013 and 2015 the odds for generating savings were about 22% lower in the group of households which had heads inactive on the labour market.

Analysis of the effect of household head age on the odds of having savings indicate that the largest probability is observed among those aged 65 years or more. In 2013, the odds for having savings in this group were 22% higher than in the 45-54-year-old (reference group), and in 2015 they were 34% higher. Results indicating higher tendency to generate savings among elder people are in opposition to hypothesis of life-cycle but are in accordance with the results of other empirical studies related to Poland, which also confirm the rising tendency to secure for the older age while the age increases (Rószkiewicz, 2008).

In 2015, the influence of age on the probability of having savings was very similar across all the groups of households with heads aged 25-64. It is worth to mention, that similar situation had place 2 years before. Although, at that time, the lower odds for generating savings were related to the households with the youngest head (age up to 24).

The share of households with a loan has been systematically decreasing. In 2015, this was nearly 34%, which means a drop of around 3 pp. with respect to 2013 and 5 pp. with respect to 2011. It is worth mentioning that in

years 2003-2009, over 40% of surveyed households declared having credit debt. A decrease in household borrowing is observed in Polish credit market, which still remains relatively poorly developed as total household debt was only 35% of GDP, while the EU average is about 60% (Pyykkö, 2011). While the size of debt of consumer credits in relation to GDP has reached the level existing in better developed European countries, the debt related to mortgage is significantly lower (Białowolski, 2014a, 2013) Processes associated with convergence, rise of incomes in particular, ought to stimulate a rise in the household activity in terms of financial services. It should be underlined that over a prolonged period, there were significant barriers to credit accessibility especially for the poorest households. These limitations were mostly due to the regulatory activity of the Polish Financial Supervisory Authority, with the Recommendation T<sup>20</sup> most responsible for the effect on the Polish financial market. It reduced the supply of small-value consumer loans by banks, which initially caused a fall in the share of households on the credit market. Currently Recommendation T functions in a modified (less strict) version. Although, it was impossible to reverse negative tendencies in the share of households present on the credit market, it was possible to stop stagnation of consumer loan market observed in years 2011-2014.

In order to assess which groups of households were most strongly affected by the credit squeeze, we estimated a logistic regression model. In this model, the dependent variable is the possession of liabilities, while the explanatory variables are the same as in the case of the regression model for savings, in which the probability of having liabilities is dependent on income, age of household head and his/her labour market status. Similar to the savings, Williams (2010) procedure has been used in order to assess comparability of estimated parameters. In case of credit, we observed that for the research waves from 2013 and 2015 estimation of scaling factor is significantly different, therefore comparison of results of both logistic regressions related to the fact of having debts in dependence of income, age of household head and his/her status on the labour market should not be conducted. Therefore, below, the results only for 2015 have been presented (Table 4.3.2.).

In comparison to model of possession of savings, the level of income has no significant impact on the possession of liabilities. Nevertheless, higher income favours using credit market, what might be related to reduced presence of liquidity constraints among lower income households (Attanasio, 1994; Białowolski, 2014b; Crook, 2003), and also may relate to the strong connection between income and possession of a mortgage, which gained constantly increasing role in Poland. In the group of households with lowest incomes (up to PLN 500), odds for having credit/loan in 2015 were lower by 25% and in group of households with income PLN 500-999 they were lower by 15% in comparison to reference group of households (with income PLN 1500-1999). In households with income PLN 1000-1499 and PLN 2000-2999 the odds of having loans is similar to the odds observed in the reference group. Only, the income at the level of at least PLN 3000 significantly influences the odds for possession of credit related liabilities (by 56%). It is important to mention, that in the group of these households there was a considerable rise of odds for having loans as the effect of changes in usage of credit and higher propensity to uptake of mortgages. It is worth recalling that in 2013 it was insignificantly different from the odds of reference group.

Table 4.3.2. Results of logistic regression model estimation of household liabilities

Explanatory variables		2015	
		$\beta$ (stand. error)	Odds ratio Exp ( $\beta$ )
Income per consumer unit (PLN)	up to 500	-0.295 (0.189)	0.745
	500 - 999	-0.167* (0.092)	0.846
	1000-1499	0.013 (0.075)	1.013
	1500-1999	ref.	
	2000-2999	0.005 (0.078)	1.005
	3000+	0.447*** (0.096)	1.564
Age of Household Head	up to 24	-1.438*** (0.387)	0.237
	25-34	0.424*** (0.104)	1.528
	35-44	0.445*** (0.082)	1.561
	45-59	ref.	
	60-64	-0.176** (0.081)	0.838
	65 and above	-0.928*** (0.110)	0.395
Job-market status	Employees	ref.	
	Unemployed	-0.142 (0.196)	0.868
	Inactive	-0.121 (0.087)	0.886
Constant		-0.521*** (0.075)	0.594
N			11683
Measure of fit (Cox-Snell R <sup>2</sup> )			0.075

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

While in the model for savings income indicator has had the most significant influence on possession of savings, in the model for credit liabilities the strongest influence is observed for age of the household head. In line with expectations, in comparison with reference household groups (with the head aged 45-54), more active participation in the credit market is predicted for the group of households with the head in younger age. In 2015 the odds for having credit obligations in groups of households with head aged 25-34 and 35-44 were respectively 53% and 56% higher than in the reference group. It is mainly caused by higher propensity to meet the consumer needs characteristic for the earlier stages of life (durable goods purchase, house or a flat purchase). It is important to mention that lower activity on the credit market of households with head aged over 44 stems from a fact that on the Polish credit market this group of households had begun professional activity in a period, when credit markets were poorly developed and did not offer products adequate for the needs of this group. It specifically relates to mortgages, which keep households tied to credit products for a long period of time. Households with heads in the youngest age group (below 24 years old), are not sufficiently credible for financial institutions. It is confirmed by the availability of the credit, measured with the odds for having credit products, which are lower (by over 76%) than in reference group of households. For households of elder heads (head aged 55 years or more) the odds of possession of a credit product falls by 16% with respect to the reference group for households with head aged 55-64 and by 60% for households with head aged 65 or more.

Similar as in the model of savings, estimations of parameters for employment indicate, that having credit debts is positively correlated with employment, but coefficients for these parameters are not significant.

#### 4.3.3.2. Structure of Polish household savings in relation to the form and aims of savings

The structure of household savings in terms of the adopted form of savings is presented in Figure 4.3.12. and in terms of objectives in Figure 4.3.13. This data does not allow for the comparison of the value structure of savings with respect to forms and also their objectives. Analyses allowing to determine exact values of particular groups of assets and liabilities of households require to attribute specific values to each of the financial instruments present in the household financial portfolio. Example of such survey is the Household Finance and Consumption Survey conducted by European Central Bank (The Eurosystem Household Finance and Consumption Survey. Results from the first wave, 2013). However, information gathering in a form requiring specific description of each financial product present in the household portfolio is highly time-consuming. Such an attempt in Social Diagnosis would make it impossible to gather remaining information about households and their members. Moreover, gathering precise information about financial situation of households is highly difficult, because (1) households have tendency to maintain secrecy of information (Campbell, 2006), (2) households have too complicated financial issues to specify detailed information about them in surveys.

Combining information on the three dimensions of saving; i.e. size, form and aim allows the presentation of households' general savings structure in terms of forms and aims. Analysis was conducted on the basis of multinomial logistic regression model estimates. Table 4.3.3. presents savings profile in terms of savings form.

Table 4.3.3. Structure of savings in 2015 by form of savings<sup>16</sup>

Saving form	Estimated share of form of savings
1. Złoty bank accounts	32.4
2. Foreign currency accounts	4.2
3. Bonds	1.4
4. Investment funds	4.9
5. Individual Pension Funds / Retirement Insurance	2.2
6. Employee Pension Plan	1.1
7. Securities listed on the stock exchange	2.4
8. Shares in companies not listed on the stock exchange	1.2
9. Real estate investment	6.9
10. Investment in material goods other than real estate	0.6
11. Cash	12.9
12. Insurance policy	4.7
13. Long-term saving plans	1.3
14. Savings account	9.6
15. Checking and saving account (ROR)	13.4
16. Other forms	0.6

<sup>16</sup> The results presented in this Table show how Polish households keep their savings and the structure of those savings in terms of form. It should however be noted that a study of this kind is not capable of including the most wealthy households, and this should be taken into consideration in the interpretation of these results. Also it is impossible to take into account that the majority of assets on the Warsaw Stock Exchange are owned by a small group. So the best explanation for these statistics is that they present the forms of Polish household savings not including that of the highest earning group with the largest savings.

The lion's share of Polish household savings portfolios is in the form of PLN savings accounts. Our estimates indicate that around 32% of assets are gathered in this form. In second place there are savings in the form checking and saving account (ROR). The percentage of households saving this way is a little bit over 13%. In relation to appearance of 14 and 15 variants, as an answer to a question about savings, the share of cash as a form of savings of Poles has dropped (currently nearly 13%). Still, a lot of households choose this form of savings, despite the fact that it is the most archaic form of saving. It may be explained by lack of trust in financial institutions on the market. The substitute instrument for bank deposits are savings accounts. Therefore, it is easy to explain that almost 10% of saved money is located in these accounts. In the last years there has been an increase in savings in real estate investments. Almost 7% of the whole savings is in this form. In the form of investment funds Polish households put nearly 5%. Remaining forms of saving are less common - nearly 4% is in foreign currency deposits, 5% is invested in insurance policies and about 2% of savings has been gathered in a form of listed stock on the stock market. The smallest part of savings of Polish households is gathered in a form of material goods representing value - about 1% of savings.

However, it should be born in mind that the household perspective does not include assets invested on the stock exchange by Open Pension Funds, as well as other forms of savings involving at least a part of household savings. Many authors indicate, that together with the increase in wealth, there should be growing percentage of assets saved by households in the form of shares listed on the stock market (Campbell, 2006; Heaton and Lucas, 2000). Campbell, Viceira (2001) argue that conditions of low inflation should influence the demand for bonds. However, it is not confirmed by our results although it is possible that households save more in forms of bank deposits and banks purchase safe Treasury securities.

The results of savings structure analysis in terms of purpose indicate that households react to signals about the necessity of making provision for the old age.

In opposition to common belief that savings for the old age are rarely gathered, the largest part of Polish household savings is gathered exactly for this very purpose (22%). Savings gathered to be used in a case of some random events are close in terms of value (18%). Third most popular purpose for savings of households is leisure - nearly 8% of gathered savings is for this purpose. It may be surprising that in the face of still unfulfilled housing needs of large part of society, the purchase of flat or house is losing in significance in the list of saving purposes. While the estimation for 2013 indicated that savings for this purpose comprise about 10% of the portfolio, the result of the latest edition of the Social Diagnosis suggests a number of over 7%. It is a very low share given that the requirements of banks and other financial institutions relating to the size of necessary contribution in case of purchasing real estate are increasing. Another important purpose of savings is securing the future of children (8%). Among considered purposes of savings the least significant is covering fixed payments for a flat (only 2%).

Table 4.3.4. The structure of savings by saving purpose in 2015<sup>17</sup>

Purpose of savings	Estimated percentage of savings with a given purpose
1. Current consumption reserve (food. clothing etc.)	3.9
2. Regular household bills	2.1
3. Purchase of consumer durables	5.4
4. Purchase of house/flat. down payment for building association	7.1
5. Renovation of house/flat	4.4
6. Healthcare	4.5
7. Rehabilitation	2.3
8. Leisure	7.6
9. Reserve for the unexpected	18.4
10. Children's future	7.9
11. Old-age security	22.2
12. Own business development	2.8
13. Other purposes	4.4
14. No special purpose	6.9

#### 4.3.3.3. The structure of debt and repayments of Polish households by source and aim

Social Diagnosis Survey provides also the information on the value of Polish households' debts, their sources and aims. In this case it is also possible to combine the information from these three dimensions in order to obtain the structure of obligations in terms of their source and aims. Furthermore, since 2013, the scope of information gathered from households was extended by information on monthly payment burden. Thus, it was possible to link

<sup>17</sup> See the footnote above.

the information on the size of repayments with the source of obligation and also that on repayments burden with the obligation aim. Therefore, it was possible to present not only a breakdown of the value of debt, but also a breakdown of its servicing costs. These are often very different values, which is mostly affected by different maturities of obligations - those with shorter maturities usually result in a higher service burden because the payments of principal and interests are higher. However, it should be noted that the weight of the latter factor is often exaggerated, especially for short-term obligations.

In the current edition of the Social Diagnosis, for the second time the extended range of source of financing categories was used. Households can choose from five possibilities: (1) banks, (2) credit unions (SKOK), (3) financial intermediaries offering instalment loans, (4) other lending companies, and (5) private individuals. The structure of households' obligations by source is presented in Figure 4.3.17, point 4.3.2. Table 4.3.5 shows the structure of obligation size by source with the structure of servicing presented as well.

95% of all of the obligations come from the banking sector. It is mainly related to the fact that banking sector is financing purchases of real estates for which credits are usually of a lot higher amount. The remaining 5% of obligations comes mainly from informal sources (nearly 3%). About 1% of the whole household debt comes from SKOK's, similar result is noted in relation to financial intermediaries offering instalment loans. Loan companies and financial intermediaries offering instalment loans are lending about the same amount of funds and their share in the market is respectively 0.5% and 0.6%. In the face of whole credit market, having value of about 650 billion PLN, the debt outside bank sector is only about PLN 30 billion, of which the majority are loans from the family or familiar persons. Obligations in relation to loan companies, intermediaries and SKOK's do not exceed PLN 13-15 milliards in total.

Table 4.3.5. The structure of households' obligations and their servicing by source in 2015

Debt holder	Estimated percentage of total debt from a given source	Estimated percentage of total repayment of debt from a given source
1. Banks	95.1	88.3
2. SKOK	0.9	2.8
3. Credit agencies. shops	0.6	2.6
4. Other lending companies (e.g. Provident)	0.5	3.5
5. Private lenders	2.9	2.8

Table 4.3.6. The structure of household obligations by their aim and servicing in 2015

Aim of borrowing	Estimated percentage of total borrowing to finance a selected purpose	Estimated percentage of total repaid borrowing to finance a selected purpose
1. Current consumption reserve (food. clothing etc.)	1.6	4.5
2. Regular household bills	0.8	1.8
3. Purchase of consumer durables	6.1	16.6
4. Purchase of house/flat	66.5	36.9
5. Renovation of house/flat	12.2	17.6
6. Healthcare	1.1	2.4
7. Purchase of working tools	1.2	2.0
8. Leisure	0.8	1.5
9. Securities	0.1	0.2
10. Repayment of previous debts	2.1	4.4
11. Own business development	3.2	3.5
12. Own education	0.7	0.6
13. Children's education	0.3	0.6
14. Security of children's future	0.4	0.9
15. Other purposes	3.0	6.5

Because banking sector obligations are often longer-term, households devote a proportionally larger part of their income to servicing short-term obligations. Even though bank loans make up 95% of all household debt, the outlays on servicing debt from the banking sector account for 88% of all monthly repayments. To repay loans taken in SKOK's, with share in the whole household debt below 1%, households dedicate 2.8% of the total sum of repayments. The repayments of obligations taken from credit intermediaries and shops consume 2.6% of the total budget. Repayment of obligations taken from loan companies constitute 3.5% of repayment budget. Low costs of

servicing are related to obligations in informal sector, and repayment of obligations related to private individuals, consume 2.8% of repayment budget.

The structure of households with debts broken down by purpose is presented in point 4.3.2., and the distribution of households with debts broken down by their purpose is presented in Figure 4.3.16.. In Table 4.3.6, as in the case of the source of debt, we present the structure of debts with respect to their purpose. The results also show the share of repayments associated with particular aims in the whole repayment budget.

In 2015 the largest share of household borrowings financed purchase of a house or a flat, comprising 67% of all household obligations. Further aims were significantly less visible. Slightly over 12% of total household debt was devoted to the redecoration of houses, while purchasing of household durables comprised 6% of all debts. It is worth mentioning that the two borrowing aims were the most common. However, in the last few years the significance of loans, and especially of those for purchase of consumer durables, has dropped. It means that the wealth of Polish society has increased, but also it is an outcome of observed since a long period stagnation of demand for consumer durables. The share of credits/loans destined to repay previous obligations in the whole debt of households is currently equal to about 2%. The lowest share of 0.1% of the obligations of households is dedicated to purchase of securities.

The greatest share of borrowing associated with the purchase of house is accompanied by the corresponding highest servicing outlays. However, even so, these make up only 37% of all debt repayments. It is a consequence of the markedly longer maturity of mortgages. The next position in the servicing budget is that of the two most common borrowing goals: purchase of durables and home redecoration, making up 17% and 18% of all payments respectively. Debts for consumption purposes are rather costly as proven by their almost 5% share in the servicing budget while they only make up less than 2% of the total value of debt obligations. On the basis of the results, it can be concluded that it is the most expensive form of borrowing, because its share in budget of repayments is exceeding three times the share in the portfolio. Also the repayment of previous debts is a very costly credit target. Share in the budget of repayments is little over 4% of total sum.

The results show that households with the most difficult financial situation often pay the largest costs of repaying obligations. The situation should change along with rising income capabilities of households but should not be prompted by softening requirements for credit uptake. Because there is a solid justification, why households taking loans for current expenditure, repayments of previous debts and also medical treatment are incurring such a high costs. From the point of view of financial institutions, they are the clients of the highest risk.

#### 4.3.3.4. Summary

In 2013-2015, there were further changes in household financial market activity. Again the share of households declaring savings has increased and the share of households having credit/loan obligation has decreased. While in the years 2000 - 2007 the percentage of households with debt was higher than those of households with savings by about 15 pp., now, the difference is equal to 10 pp. but in the opposite direction, indicating prevalence of households having savings. This was caused by two features. On the one hand, the growing incomes of Polish households have translated into increased probability of saving much more strongly than into willingness to borrow. On the other hand, the market for bank financing has been strongly curbed in recent years and banks still seem to continue the policy adopted in the period of crisis. It has led to a fall in the number of households taking loans for consumption purposes. The perspectives for household activity on the financial market in the forthcoming years will be also to a great extent determined by the pace of income growth, but also by bank lending policy. Readiness to take loans will be undoubtedly limited by lower number of new households entering the market as the demographic trough of the 1990s enters the market. On the other hand, one can expect a continuation of the increasing role of mortgage borrowing.

The results of the Social Diagnosis 2015 also clearly show that households still save mainly in the form of bank deposits saving accounts, and cash and ROR (current account) savings remain considerable. An important part of household savings is „protective” in nature, as nearly half are for the old age, in case of emergency and children's future. The fact worth to mention is that increase in savings for the old age among elderly people is signalized also by other scholars. It would seem that in subsequent years, the profile of savings should change with demographics. One can expect more savings on investment in health (treatment, rehabilitation and vacations) and old-age security.

As far as borrowings are concerned, our analysis shows the unambiguously dominant position of banks, which own 95% of household debt and the repayment of these debts constitute nearly 90% of the whole budget of repayments. Mortgage payments dominate in terms of purpose of borrowings.

### **4.3.4 Households financial health in Poland**

#### *4.3.4.1 The concept of financial health*

Financial health is a condition in which the household efficiently manages income and expenditure, is prepared for the unexpected financial turmoil and plans its financial security with the long-term perspective. When it comes to the current financial situation, it is important to balance revenues and expenditures, have financial surpluses, timely pay current bills and rationally manage the household budget. In addition to the day-to-day management of money it is also important to take into account the medium-term perspective, that is, to prepare for unexpected events resulting in the financial expenditure. A financially healthy household should have savings which are the 'safety cushion' and it should be insured. In the long term, financially healthy households should have accumulated means for personal and professional development of the family members, and for improving the quality of life and material security for the old age.

The first definitions of financial well-being (Porter 1993) were based mainly on the subjective assessment of, inter alia, the level of income and savings and the material security. However, a recent study (Sass 2015) showed that households in assessing their financial welfare are mainly considering the current financial condition, rarely medium or long-term financial security. Subjective self-assessment is not a good measure of financial health, as it is based primarily on the short-term perspective. It is, therefore, necessary to approach with a more comprehensive assessment of all dimensions.

The concept of financial health, taking into account all three time perspectives (CFSI 2015) was created in the United States by the Center for Financial Services Innovation (CFSI) on the basis of the results of research of Consumer Financial Protection Bureau (Consumer Financial Protection Bureau, 2015), and it was adapted to the Polish conditions by the Microfinance Centre Foundation (Pawlak 2015).

Studies of the level of financial health and well-being carried out in the US strive for a better understanding of the situation of households, which will allow for the creation of recovery programmes (PwC 2015) as well as for designing financial products and services improving the situation of households (CFSI 2015). In Poland, as yet, there has been no research on the financial health of the households on a broad scale, which would take into account both the current situation as well as short and longer time horizon. Most commonly, the material conditions are analyzed thanks to the information from the household budget survey (GUS by 2015; GUS 2014). Studies on financial behavior are also conducted (Kronenberg Foundation, Citi Handlowy 2014, NBP 2012), as well as on saving and borrowing practices in the context of financial services use (e.g. Rószkiewicz 2008a, 2008b; Kośny, Piotrowska 2012).

Social Diagnosis data allow not only for an in-depth analysis of the living conditions of the households and the quality of life, consistently carried out since the first edition in 2000. Since the edition of 2009 financial behaviour of households participating in the financial market is also analysed. The data obtained from the survey of 2015 allow for the first time to have a comprehensive look at how income, savings, debts and other financial behaviours impact households' financial security and preparedness for the future, that is, to assess the financial health of Polish households. The following analysis of the financial health of households refers to the analyses presented in the other chapters of this report concerning behaviour and material wealth. It is an attempt to take a synthetic view on the financial situation of households in three time perspectives - current, medium and long-term.

The assessment of the financial health of Polish households in 2015 was carried out on the basis of the financial health index - a synthetic measure taking into account the set of variables describing the financial situation of the household in the current, mid-term and long-term perspective. The analysis of diversification of financial health was carried out in groups of households segmented by demographic, social and economic characteristics. The assessment of the financial health of households also includes an analysis of the components of the synthetic measure.

Unfortunately, the financial health index used for the analysis based on data from 2015 could not be used to assess the financial health in previous years due to the lack of certain data in previous editions of the Diagnosis. It was, therefore, suggested to use a reduced financial health index, which takes into account fewer variables and follows changes between 2009 and 2015.

#### *4.3.4.2 Method of measuring and evaluating the financial health of households*

The financial health index (IZF) was used to assess financial health. The index was calculated using nine variables that describe different elements of the financial health. The financial health index is an aggregate measure that combines three dimensions:

I - Day-to-day management of the household budget:

- size of the surplus of income over the minimum expenditure per person expressed as a percentage of monthly income per person  $([HL1]-[HL4])/[HL1]$

- timeliness in paying rent, bills, credit payments [HG6\_1 to HG6\_4]
- way of income management [HL5]

#### II - Preparedness for unexpected expenses:

- value of savings equivalent to at least six-month income [HF7]
- value of installments of credits relative to income [HF15]
- place of residence insurance [HG3]
- group or private life insurance of the household head [HP108]

#### II - Long-term perspective:

- saving for old age [HF8]
- value of the savings equivalent to over three-year income [HF7].

The values of each of the proposed variables were normalized to take one of the five values in the range of 0-100 (0, 25, 50, 75, or 100). The values were assigned arbitrarily, for example, in the case of the size of the income surplus over expenditure, it was concluded that that value of 0 shall mean no surplus, the value of 100 will mean the surplus of 30% or more, and the remaining values will mean a surplus of between 1 and 29% of income.

Health index (IZF) was calculated as an arithmetic mean of the values of the above variables. Its value for each household is interpreted as the number of points that it can get, with the maximum number of 100 points. For the day-to-day management of the household budget, it is possible to receive up to 33 points, if the household has a surplus in excess of 30% of income, no delays in paying bills and loan installments, and declares that it has enough income for everything. For the preparedness for unexpected expenses, a household could receive a maximum of 44 points if savings exceeded the value of the six-month income, total loan installments were not exceeding 40% of the income, the house/flat was insured and the household head had life insurance. The long-term perspective was evaluated at a maximum of 22 points if the household was saving for the old age and the value of these savings exceeded the value of the three-year income.

#### 4.3.4.3. The results of the assessment of the financial health of households

The average value of the index of financial health (IZF) of households in 2015 was equal to 52.6 points with a standard deviation of 16.02. It is considered to be low, indicating that households, on average, meet only half of the full financial health conditions. The largest number of households (79%) was in the range of 40-70 points (Figure 4.3.17). Only 2% of households were located in the two lowest deciles. Unfortunately, also a small number of households qualified for the two highest deciles (5%). Half of the households reached only a little above 50 points (median of 52.8 points), which, as in the case of the average, indicates a rather bad financial condition of households.

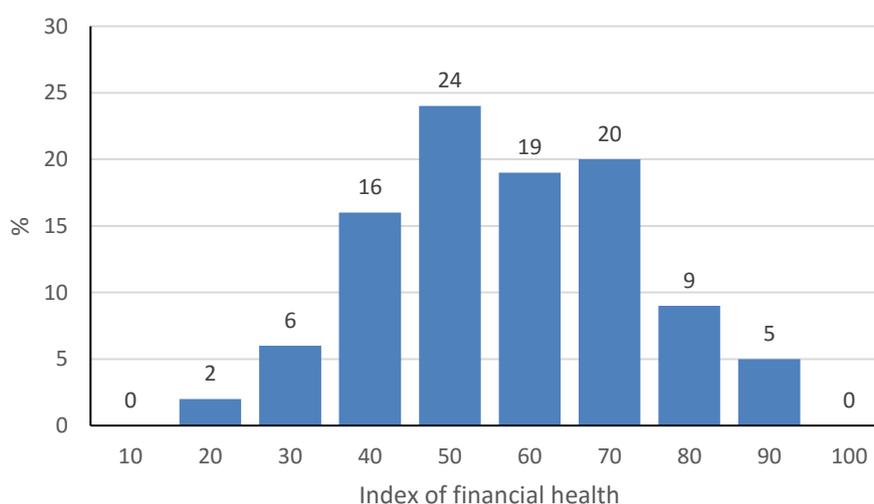


Figure 4.3.17. Distribution of values of the health index (IZF)

Table 4.3.7. Financial health index values (IZF) according to selected characteristics of households

Groups of households	The average value of the index of financial health
Total number of households	52.59
<b>Gender of the household head</b>	
Men	53.98
Women	52.08
<b>Age of the household head</b>	
Up to 24	48.42
25-34	53.20
35-44	54.74
45-59	53.19
60-64	52.02
65+	50.49
<b>Place of residence</b>	
Towns of more than 500k population	56.42
Towns of 200k-500k	56.17
Towns of 100k-200k	54.59
Towns of 20k-100k	51.70
Towns of fewer than 1k	52.27
Rural areas	50.01
<b>Voivodship</b>	
Dolnośląskie	51.41
Kujawsko-Pomorskie	51.26
Lubelskie	50.81
Lubuskie	51.70
Łódzkie	49.99
Małopolskie	53.44
Mazowieckie	54.41
Opolskie	53.10
Podkarpackie	52.97
Podlaskie	53.68
Pomorskie	54.85
Śląskie	52.08
Świętokrzyskie	54.57
Warmińsko-Mazurskie	50.00
Wielkopolskie	53.63
Zachodnio-Pomorskie	51.62
<b>Education of the head of a household</b>	
Elementary and lower	42.78
Vocational	47.86
Secondary	53.40
Higher	61.26
<b>Equivalent income</b>	
Lower quintile (<PLN 1055)	38.86
2nd quintile (PLN 1055-1426)	47.39
3rd quintile (PLN 1427-18326)	52.98
4th quintile (PLN 1837-2420)	58.91
Upper quintile (>PLN 2420)	66.02
<b>Socio-professional status</b>	
Public sector	60.51
Private sector	55.82
Private entrepreneurs	59.37
Farmers	51.57
Pensioners	45.12
Retirees	52.20
School and university students	48.62
Unemployed	39.41
Other inactive labour	45.32

Although the differences in the level of financial health are not large in the particular groups of households, we can observe that better financial health in households located in cities with over 100 thousand inhabitants, residents of Pomorskie, Świętokrzyskie, Mazowieckie, households with income in the two upper quintiles, that is above PLN 1837 per person, public sector workers' households or those of entrepreneurs. Better financial health

was also characteristic for households, in which the head was at the age of 35-44 and had a post-secondary or higher education (Figure 4.3.7.).

The biggest difference between the values of the index of the financial health (27 points) was observed between households with income located in the upper quintile and households with income within the limits of the lower quintile. The considerable difference (21 points) also divided households of people employed in the public sector and households of the unemployed. Then, the index for those households whose head had post-secondary / higher education was about 18 points higher than the value of index for households with the head with maximum elementary education.

Financial health index is correlated with income per capita in the household as well as with the size of the financial surpluses available after servicing of the necessary expenditure (Figure 4.3.18.). The average household with the value of index equal to 50 points spent all of its income on current needs. At the same time, households with financial health index up to 30 points, on average, were living on the level of social minimum or slightly below. Households living below existence minimum were observed rarely (5% of the households for which IZF was calculated) and their financial health index had values mainly in the lowest ranges. Households with the highest financial health index (above 90 points) reached on average the level of income over PLN 3000 per person.

Households living below the existence minimum presented a low value of the financial health index - on average 34 points, while households with income between the existence and social minimum reached 42 points, on average.

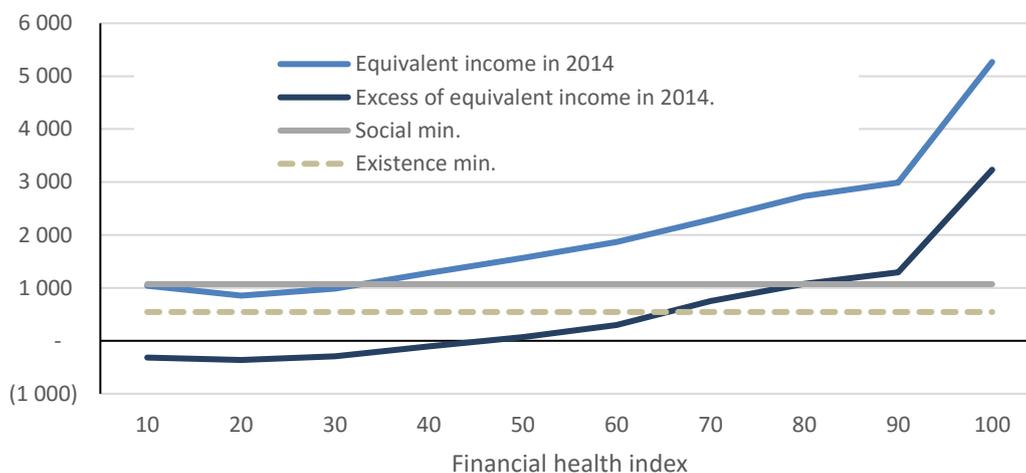


Figure 4.3.18. The relationship of the financial health index and the average income of households

In addition to the level of income, the stability and predictability of income is an important factor in the financial health of the households (Figure 4.3.19.).

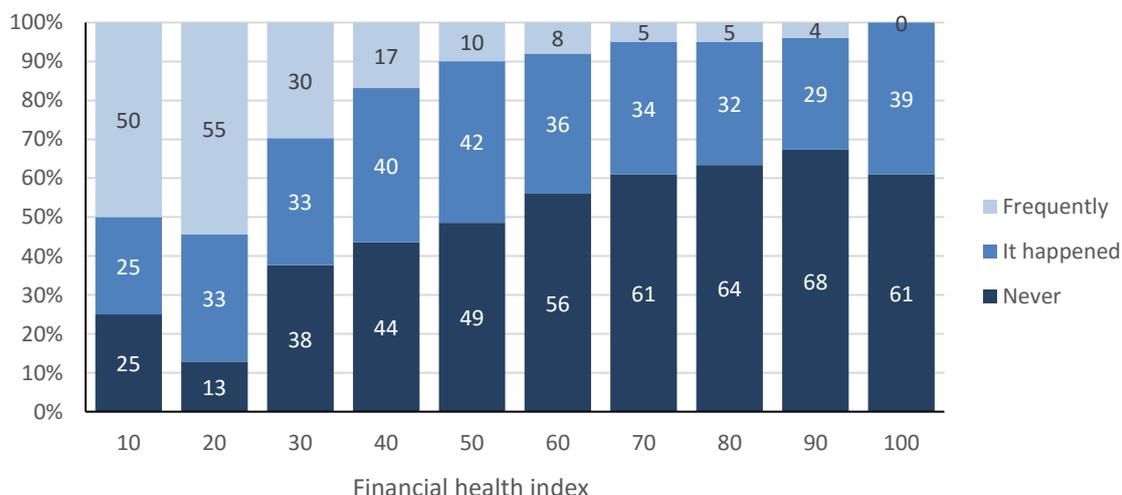


Figure 4.3.19. Households in relation to the index of the financial health and feelings of uncertainty and instability of source of income

Heads of households with lower financial health much more frequently reported that they experienced uncertainty and instability of the source of income. In the households with the financial health index in the range of 60-100 points, more than a half of the heads of households declared that they never had such feelings.

In addition, attitudes and opinions of household heads with better financial health were identified. Such people are more satisfied with their current life, and for them, having money, is not the necessary precondition for happiness. If such people are in trouble or a difficult situation, they mobilize themselves and start acting, they do not give up, and also do not resort to alcohol or sedatives.

In order to assess the importance of various aspects of financial health, the analysis of the average values of each of 9 components of the financial health index was conducted (Figure 4.3.20.). Among all of the elements included in the index structure, the best results are seen in the timeliness of payments - an average household scored 97 out of 100 possible points. The worst results are seen for the indicator relating to having significant savings exceeding the value of three-year income (an average for all of the households equals to 1 out of 100 possible points), and long-term savings as a security for the old age (the average of 20 points).

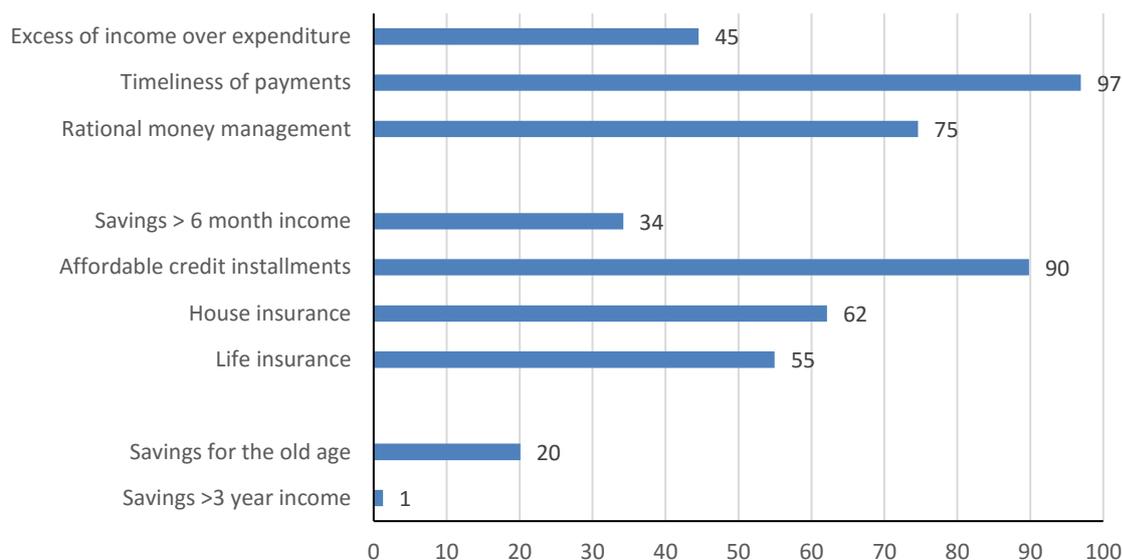


Figure 4.3.20. The average values of individual components of financial health index in 2015

As mentioned before, due to the lack of certain variables in the previous editions of the Social Diagnosis it was not possible to calculate the financial health index for the past years, using the method proposed above. To analyse changes of the financial health of households over time the index of financial health was constructed using only 5 components: surplus of income over expenditures, timeliness of payments, rational income management, value of savings, saving for the old age. The values of this index for the years 2009-2015 show an increasing tendency, especially between 2013 and 2015 (Figure 4.3.21.).

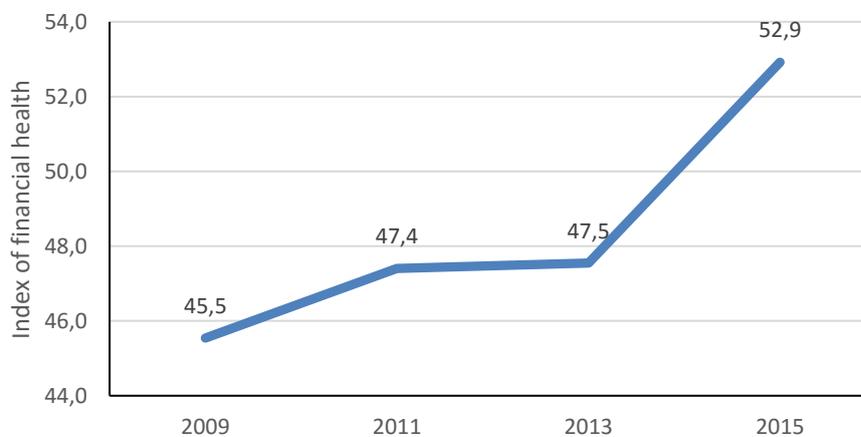


Figure 4.3.21. The dynamics of changes in the average value of financial health index (5 components) in years 2009-2015

The average values of 5 components of the index in 2009-2015 were estimated. The comparative analysis indicates an increase in each of them (Figure 4.3.22.), which means that observed improvement of the financial health of households resulted from the beneficial changes in all the components of the synthetic measure. In 2015, households had higher monthly financial surpluses, higher savings, higher percentage of households saved for retirement and more rationally managed money. These observations are in accordance with the results of the analyses presented in chapter 4.3.3., where it has been shown that in 2015, the chances of having savings in almost every income group (with the exception of the poorest with income below PLN 500 per person) have increased. This, *inter alia*, indicates better financial management allowing to generate savings.

The biggest changes were observed in the area of savings - 39% of the households in the panel sample of 2013-2015 observed an increase in the value of the savings. At the same time, 13% of households had a decline in the value of savings, which gives a net difference of 26 percentage points. In addition, we observe a marked improvement in the area of income surplus - 33% of households increased the surplus of income over expenditures, and with the drop of surplus observed in case of 22% of households we obtain the net difference of 11 percentage points.

Between 2013 and 2015 nearly 13% of households started to save for an old age, but also in the same period, approximately 7% of households stopped to save with long term perspective (giving the net difference of 6 percentage points).

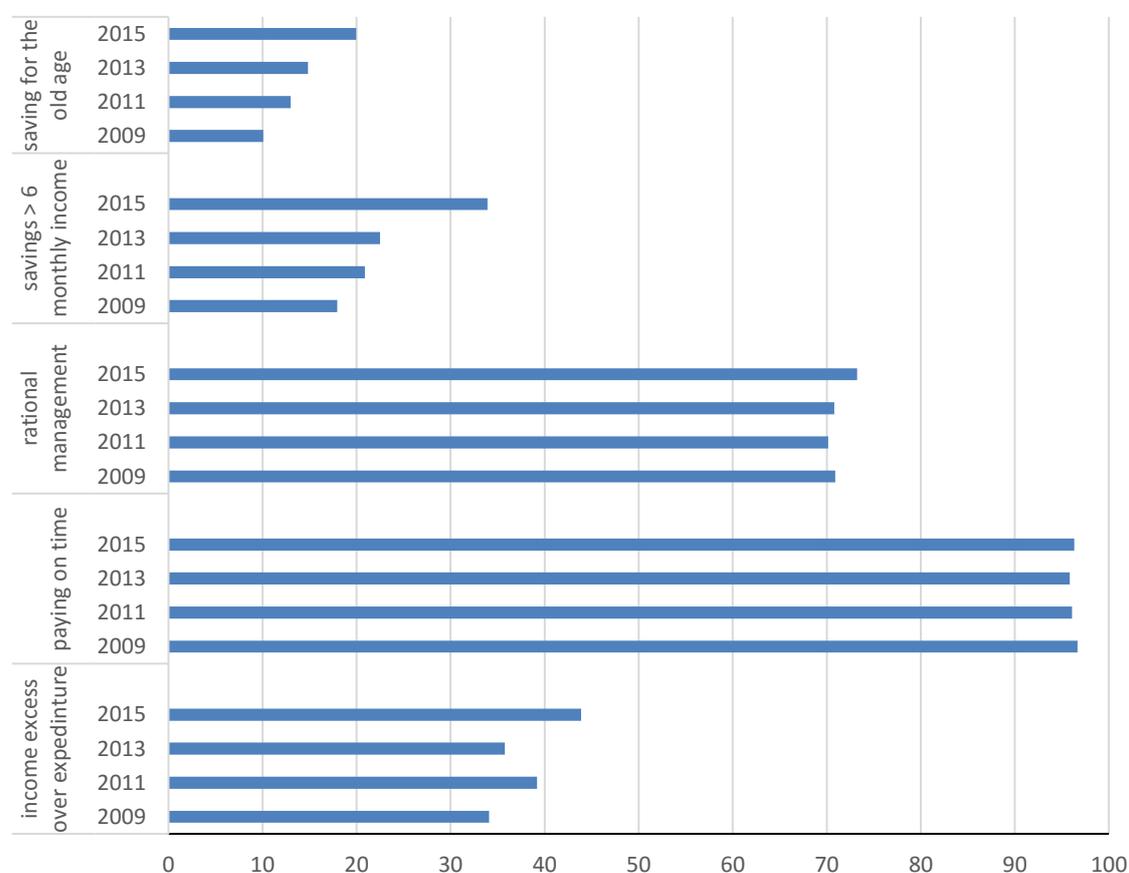


Figure 4.3.22. A comparison of the average values of individual components of the index in the period 2009-2015 (panel sample)

Generating a surplus and saving a larger sum was possible thanks to the improvement of the income of households. The increase of surplus was observed among people who for the last year took better paid or additional job and gained new qualifications or skills.

Increasing surpluses and amounts of savings was also related to taking credits by those households, which in 2013 did not have to repay any loans or credits.

The mere fact of starting to save for retirement was not related to changes in the financial situation. Saving for old age was started by less wealthy households, mostly those with the income per person located in the second and third quintile (between PLN 1055 and PLN 1836).

#### 4.3.4.3 Summary

The analysis of the financial health index indicates that the majority of Poles live from day to day, being able to satisfy their current financial needs. Insignificant part of the households secures its financial condition for a long term, and many households are not prepared for a financial turmoil. It is a disturbing situation taking into account an increase in the instability of employment in Poland and limited pension protection by the State.

There is a positive tendency of small but steady increase in the average level of financial health index for the years 2009-2015, except the period of stagnation in the years 2011-2013. This growth is, in particular, due to the increase of households' savings. The improvement relates more often to those households, whose members are active and looking for solutions to their difficulties through action. However, it should be pointed out that, to the highest degree, financial health of the Polish households is affected by the improvement of income and its stability, and this is closely related to the external factors – the improvement of the situation on the labour market, receiving promotions and/or increases of wages.

The identified strategies for improving income and, therefore, financial health, and which are at the discretion of the households, are limited to taking an additional job and/or raising qualifications. Both of these strategies are associated with certain restrictions. Taking an extra job is not always possible, though the unemployment in Poland is decreasing. It may also be related to the limitation of free time beyond the minimum required to maintain good health, and may also affect the quality of interpersonal and family relationships. The strategy of improving qualifications and acquiring new skills requires additional financial resources, what in most cases, for those Poles who struggle to make ends meet, may prove to be difficult or impossible to achieve without access to external financing. The strategy of taking loans may help solve the problem of the lack of funds for investment in own development for people with good credit standing and permanent employment. At the same time it may not necessarily be a good solution for the Poles who have uncertain or unstable source of income. Improving financial health by taking a loan is a short-term strategy, taking into account the necessity to repay the loan and pay the costs associated with the use of this financial instrument. It may also become an additional source of uncertainty and worsening of financial health in case of losing a job, changing a job for lower paid one or with for one with less stable income.

A positive change is also observed in the area of retirement saving. It is generally noted among less wealthy households and does not stem directly from the improvement of their financial situation. It may be assumed that an increase in awareness of low pension security offered by ZUS (Social Insurance Institution), and OFE (Open Pension Fund), discussed widely in the media during the process of implementing the pension reform in 2014, has contributed to the change of attitudes towards long-term planning. However, the fact that the households whose financial health is worsening reduce, in the first place, the amount of money saved for retirement, is disturbing.

Concluding, taking into account the data available in the Social Diagnosis and chosen to construct the index, financial health is most of all determined by the level of income and its stability. It is not possible to identify the determinants associated with the individual choices of Poles, which application would improve the financial health, due to the limited information on the financial attitudes and behaviours of the Poles. For example, having information relating to the way of managing home budgets (expenditure planning, monitoring of actual expenditure versus planned, methods of saving, setting long-term financial goals) would help to better understand which attitudes and ways of managing finance contribute to better financial health of Polish households.

It is important to mention that low level of financial health in Poland is definitely inadequate to the challenges and responsibilities, which Poles should undertake caring not only for their "today", but "today, tomorrow and the day after tomorrow ...". It is, therefore, very important to continue monitoring the level of financial health in the following years, and also to get better understanding of the factors that affect its improvement or deterioration. It would be particularly important to conduct a detailed analysis of the impact of internal factors - attitudes, strategies, financial and non-financial behaviors that depend on individual choices of the Poles.

#### 4.3.5. Attitude towards financial institutions

High importance of financial institutions, not only for the functioning of enterprises, but also for households, which increasingly more use those institutions while managing personal finances, is obvious. The expectation of a comprehensive response to the question about the trust<sup>18</sup> in financial institutions, seems to be fully justified. On one hand, it comes down to describing changes related to attitude towards financial institutions. On the other hand, it is also interesting to confront the credibility of financial institutions with social trust in state institutions, which

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<sup>18</sup> The trust is "expressed in action, expectation towards partner, that his reactions will be beneficial for us. In other words: undertaken bet in the conditions of uncertainty, about what our partner will do" We assume it relates to "institutional trust to existing organizational entities, engaging multiple groups of anonymous participants (e.g. to university, bank, stock exchange)", "institutional trust directed towards large organizations, and indirectly towards mass of anonymous officials and representatives of such organizations, fulfilling various social roles in those organizations" (Sztompka, 2015, p 312 and 326).

are increasingly expected to be properly active and have appropriate interventions, related to functioning of given financial subjects.

The fact that in Poland the trust in financial institutions, is still insufficient, is obvious. However, it should be noted that up to 2007, their credibility was increasing. It was confirmed by results of the subsequent Social Diagnoses, surveying, among other things, trust of Poles towards banks, insurance companies, investment funds<sup>19</sup>, stock exchange, Open Pension Funds<sup>20</sup> and Social Insurance Institution (ZUS), taking into account opinions about these institutions in terms of gender, age, education, material situation, socio-vocational status and place of residence<sup>21</sup>.

Currently, there is an opportunity to present this trust in long term. Let us try to compare the trust in financial institutions up to 2007, this is, from a point of view or "rhythm" of *Social Diagnoses* before the economic crisis (financial)<sup>22</sup>, with present condition of credibility of these institutions.

#### 4.3.5.1. Attitude towards financial institutions in the years 2003-2007

In 2007, when asked about the institutions which we use most often, *Do you trust in banks?* - the answers were as follows: Yes-54% (in a study of 2005-46%, in a survey of 2003-44%); No - 16% (in a study of 2005 - 20% in a study of 2003 - 21%); had no opinion - 30% of surveyed people. Among those who had opinion, the degree of trust in banks clearly grew and in 2007 was already 77%, in a study of 2005 it was 70%, and in the survey of 2003-68%.

To the question, *Do you have confidence in life insurance institution?* -percentage of positive replies in a study of 2007 amounted to 26%, in previous surveys this percentage was smaller, because in 2005 it was 23%, and in 2003 - 20%. The percentage of negative responses in 2007 was equal to 27% (in a study of 2005-30%, and in the survey of 2003-31%). A large share of respondents, more than 47 percent, was unable to express opinion on the given topic (in a study of 2005 the percentage was also 47%, and in the survey of 2003-49%). While taking into account those who had opinion, the degree of confidence in life insurance institutions was higher than in previous years- 49% (2005 - 43%; 2003-39%).

In turn, to the question, *Do you have in confidence in property insurance institution?* -percentage of positive replies in a study of 2007 amounted to 15% (in a study of 2005-12% in a study of 2003 - 11%), and percentage of negative responses was equal to 28% (in a study from 2005 and 2003 - 30%); still a large number of the respondents, 57% had no opinion (in a study of 2005-58%, in a study of 2003-59%). Taking into account those who had opinion, the degree of confidence in property insurance companies statistically significantly increased, though, it was still low, because it was equal to 34% (in a study of 2005 - 28%, in a study of 2003 - 27%).

To the question, *Do you have confidence in stock exchange?* -answers were less favourable. Confidence in the stock market was declared by 8% of respondents (in a study of 2005-7%; in a study from 2003-5%), and lack of confidence was expressed by 28% (in a study of 2005 - 29%; in a study of 2003 - 28%); However, 64% of respondents had no opinion on this subject (similar in 2005, and in a study of 2003-67%). Among those who had opinion, the degree of confidence in the stock market was 22% (in a study of 2005 - 19%; in a study of 2003 - 15%).

In 2007, the Social Diagnosis presented, for the first time, a question about Social Insurance Company as near financial institution which administers of Social Insurance Fund. Answers to the question- *Do you have confidence in Social Insurance Company?* -have proven to be interesting compared to those which were strictly related to financial institutions. Confidence in the Social Insurance Institution (ZUS) had, at that time, 25% of the respondents, and the lack of confidence was declared by 39%. 36% of respondents had no opinion. Among those who had opinion, the percentage of confidence in Social Insurance Institution was 39%.

As it can be observed, the degree of social confidence in financial institutions in 2007 was rather low. However, it should be noted that the credibility of these institutions in the years 2003-2007 was clearly increasing.

#### 4.3.5.2. Attitude towards financial institutions in years 2007-2015

The following Tables in detail present the status of the statistical confidence in financial institutions established on the basis of *Social Diagnosis 2015*. Let us have a look at general results, then compare them with those of 2007, the pre-crisis period, in which- as we underlined above - we noted an increase in the credibility of financial institutions.

<sup>19</sup>In this research wave we will not present trust to investment funds which were not included in the research waves from 2013 and 2015.

<sup>20</sup>In this research wave we will not present trust to Open Pension Funds which were not included in research wave from 2015.

<sup>21</sup>Diagnoses present results in the arrangement of voivodeships and in relation to the size of city and rural area. This diversity is not taken into account while discussing the results of Diagnosis, because it is less significant and more difficult to interpret.

<sup>22</sup>As the beginning of crisis we assume year 2008 rather than 2007.

The comparison needs to be preceded by important methodical remarks. First, since 2011 in Social Diagnosis there had been a question about confidence in the National Bank of Poland, and in the question about confidence in banks we added a "commercial" term. It turned out that it significantly changed the answers regarding the credibility of the banking institutions. Secondly, in 2013, answers to questions about confidence in the financial institutions had been expanded. Instead of three possible answers: (1) Yes (2) No (3) No opinion, we introduced four possible answers: (1) Yes- significant (2) Yes - moderate, (3) No, (4) No opinion, making it difficult to compare data from 2013 and 2015 with data from previous years. The point is, that answer "Yes- significant" is relatively rare, and the reply of "Yes-moderate" probably included some of declarations which previously could mean "No". In other words, the sum of answers "Yes- significant" and "Yes -moderate" inflates the trust resulting previously from "Yes" answer. We will return to these remarks while discussing and comparing the results of the diagnoses.

In 2015, when asked a question *Do you trust commercial banks?* (see Table 1) –answers "Yes- significant" and "Yes -moderate" sum together to 44% (in 2013 - 38%), and answer "No" equals 26% (in 2013 - 28%), No opinion had 30% of respondents. Among those who had opinion, positive answer to the question about commercial banks was declared by 63%, which is more than in 2013 (58% then).

To the question, *Do you have confidence in the life insurance institution?* (see Table 2) – the percentage of positive replies in a study of 2015 was more than 35% (31% in 2013). The number of negative responses is equal to 32% (2013-34 percent). 33% of respondents had no opinion. Taking into account those who had opinion, the degree of confidence in life insurance institutions is 52%, which is higher than in 2013 (about 48% then).

Then, to the question, *Do you have confidence in property insurance companies?* (see Table 3) – the percentage of positive replies according to Diagnosis of 2015 is 31% (27% in 2013). The negative response percentage is equal to 32% (in 2013 - 34%). 37% of respondents had no opinion. Taking into account those who had opinion, the degree of confidence in property insurance institution is equal to 49%, which is also higher than in 2013 (46%).

To the question, *Do you have confidence in the stock market?* (see Table 4) answers (for understandable reason - risk aversion) are consistently less favourable than for other financial institutions. Trust (sum of answers "Yes-significant" and "Yes-moderate") to the stock market in 2015, had, in fact, (as in 2013) 16% of the total surveyed, and lack of trust is equal to 28% of surveyed (in 2013 - 34%). However, 56% of respondents had no opinion. Taking into account those who had opinion, the degree of confidence in the stock market now stands at only 36%, but also in this case the degree of confidence is higher than in 2013 (then amounted to 32%).

In 2015, when asked, *Do you have confidence in Social Insurance Company?* (see Table 5) - 39% responded positively (in 2013 - 36%). Lack of confidence was expressed by 42% of respondents (in 2013 - 45%). Nearly 19% had no opinion. Taking into account those who had opinion, the degree of confidence in Social Insurance Institution is equal to 48% of surveyed - higher than in 2013 (44%).

In 2015, when asked, *Do you have confidence in the National Bank of Poland?* (see Table 6) – answers "Yes-significant" and "Yes-moderate" sum together to 63% (in 2013 - 62%), and answer "No" was declared by 12% (similar as in 2013); 25% of respondents had no opinion. Taking into account those with opinion the percentage is equal to 84% of surveyed what is similar as in 2013.

Taking into account the results of the Social Diagnosis 2013 one could contrarily say that only a change of scale of expressing opinion, which "artificially" inflated the results then, allowed to improve the credibility of certain financial institutions, compared to 2007. This relates in significant degree to property insurance companies (45% trust in 2013 to 34% trust in 2007); Stock Exchange (32% trust in 2013 to 22% trust in 2007), and also in lesser degree to Social Insurance Company (44% trust in 2013 to 39% trust in 2007). At that time only life insurance companies had a decrease of its credibility (in particular regarding methodical change; 47% of trust in 2013 to 49% of trust in 2007. However, they had relatively high level of trust (even higher than property insurance companies).

Moreover, on this background, on the basis of a fully comparable data, it can be concluded that, in the past two years (2013-2015) trust in all financial institutions increased. It happened despite the fact that at that time we had at least few events (limitation of share of OFE - Open Pension Fund in the pension system, the problem of housing loans in Swiss francs, the turbulence around the life insurance with the equity fund) which somehow compromised this trust. It seems reasonable to assume that, without these heavily publicised problems in the functioning of the financial market – the credibility of financial institutions could in the 2013-2015 be increased even more markedly.

The degree of trust in financial institutions is constantly varied, when we take into account the specific characteristics of demographic and socio-occupational of people, who are concerned with specific questions (Tables 4.3.8, -4.3.13.). In general, higher than the average degree of trust to individual financial institutions show middle-aged people (25-44 years), people who possess at least a secondary education, wealthier people, private entrepreneurs and their employees and people working in the public sector. However, at this point to, it should be reminded that at the beginning of the economic crisis of 2008, the dramatic decline of trust in financial institutions

(Social Diagnosis, 2009) related to these socio-professional groups, which were more likely to use the services of financial institutions and express higher than average level of trust towards them.

From the characteristics of individuals who express higher degree of confidence in financial institutions and strongly respond to the market "disturbance", the characteristics of the people who express confidence in Social Insure Companies are highly differentiated. In this case, the higher trust relates to people aged 60 years or more, those with a lower education, people from the lower income groups and benefits recipients (pensioners and retirees).

Table 4.3.8. Confidence in commercial banks in 2015 (%)

The degree of confidence	YES, significant	YES, moderate	NO	No opinion	Total
Total households	5.1	38.9	25.6	30.4	100.0
<b>Gender</b>					
Men	5.4	40.7	27.1	26.8	100.0
Women	4.9	37.4	24.2	33.5	100.0
<b>Age</b>					
Up to 24	4.0	33.9	16.9	45.2	100.0
25-34	7.1	47.4	21.6	23.9	100.0
35-44	5.9	46.3	22.7	25.1	100.0
45-59	4.5	38.8	27.4	29.3	100.0
60-64	4.8	32.8	31.8	30.6	100.0
65+	3.9	29.0	32.0	35.1	100.0
<b>Education</b>					
Primary	3.1	25.2	29.7	42.0	100.0
Vocational	3.1	31.1	27.8	38.0	100.0
Secondary	5.8	40.6	25.1	28.5	100.0
Higher	7.7	53.1	21.3	17.9	100.0
<b>Equivalent income</b>					
Lower quartile	3.5	27.2	29.0	40.3	100.0
Middle 50%	4.7	37.2	28.1	30.0	100.0
Upper quartile	7.6	50.3	23.8	18.3	100.0
<b>Socio-professional status</b>					
Public sector	5.9	49.1	22.5	22.5	100.0
Private sector	6.5	45.7	24.1	23.7	100.0
Entrepreneurs	9.1	50.6	23.8	16.5	100.0
Farmers	3.0	34.2	29.8	33.0	100.0
Pensioners	4.0	29.2	26.1	40.7	100.0
Retirees	4.3	30.9	32.2	32.6	100.0
School and university students	3.5	32.7	16.0	47.8	100.0
Unemployed	3.1	32.3	25.5	39.1	100.0
Others inactive professionally	3.4	32.1	23.5	41.0	100.0

Table 4.3.9. Confidence in life insurance institutions in 2015 (%)

The degree of confidence	YES, significant	YES, moderate	NO	No opinion	Total
<b>Total households</b>	1.9	33.5	31.8	32.8	100.0
<b>Gender</b>					
Men	1.5	34.0	34.6	29.9	100.0
Women	2.2	33.0	29.4	35.4	100.0
<b>Age</b>					
Up to 24 y.o.	1.6	25.1	26.3	47.0	100.0
25-34	2.0	35.4	33.6	29.0	100.0
35-44	1.9	37.5	35.5	25.1	100.0
45-59	1.6	35.8	32.2	30.4	100.0
60-64	2.0	31.6	34.7	31.7	100.0
65+	2.4	30.2	27.5	39.9	100.0
<b>Education</b>					
Primary	1.6	25.1	25.7	47.6	100.0
Vocational	1.4	30.5	28.7	39.4	100.0
Secondary	1.8	35.4	33.0	29.8	100.0
Higher	2.8	39.1	37.1	21.0	100.0
<b>Equivalent income</b>					
Lower quartile	1.4	24.5	29.1	45.0	100.0
Middle 50%	2.1	33.2	32.2	32.5	100.0
Upper quartile	2.2	40.4	36.2	21.2	100.0
<b>Socio-professional status</b>					
Public sector	2.6	38.9	36.0	22.5	100.0
Private sector	1.6	37.5	34.3	26.6	100.0
Private entrepreneurs	2.2	36.0	38.6	23.2	100.0
Farmers	0.8	29.2	31.3	38.7	100.0
Pensioners	1.3	29.4	27.3	42.0	100.0
Retirees	2.6	31.0	28.8	37.6	100.0
School and university students	1.9	24.3	23.7	50.1	100.0
Unemployed	1.0	28.2	31.8	39.0	100.0
Others inactive professionally	1.6	31.9	29.7	36.8	100.0

Table 4.3.10. Confidence in property insurance institutions in 2015 (%)

The degree of confidence	YES, significant	YES, moderate	NO	No opinion	Total
<b>Total households</b>	1.6	29.4	31.7	37.3	100.0
<b>Gender</b>					
Men	1.3	30.6	34.3	33.8	100.0
Women	1.8	28.3	29.4	40.5	100.0
<b>Age</b>					
Up to 24	1.4	23.4	26.0	49.2	100.0
25-34	1.7	31.4	33.9	33.0	100.0
35-44	1.5	32.9	36.1	29.5	100.0
45-59	1.3	32.0	31.9	34.8	100.0
60-64	1.8	27.0	32.2	39.0	100.0
65+	1.8	25.2	27.7	45.3	100.0
<b>Education</b>					
Primary	1.5	21.2	26.3	51.0	100.0
Vocational	1.1	25.5	29.1	44.3	100.0
Secondary	1.5	31.4	32.8	34.3	100.0
Higher	2.3	35.9	36.0	25.8	100.0
<b>Equivalent income</b>					
Lower quartile	1.3	21.5	29.1	48.1	100.0
Middle 50%	1.7	27.7	32.3	38.3	100.0
Upper quartile	2.0	37.1	34.8	26.1	100.0
<b>Socio-professional status</b>					
Public sector	1.7	34.5	35.3	28.5	100.0
Private sector	1.6	32.8	34.2	31.4	100.0
Private entrepreneurs	1.8	33.9	39.4	24.9	100.0
Farmers	0.7	30.6	29.8	38.9	100.0
Pensioners	1.1	23.7	27.1	48.1	100.0
Retirees	2.1	26.6	28.1	43.2	100.0
School and university students	1.4	23.2	23.4	52.0	100.0
Unemployed	0.9	22.6	32.3	44.2	100.0
Others inactive professionally	1.4	26.9	31.9	39.8	100.0

Table 4.3.11. Confidence in stock exchange market in 2015 (%)

The degree of confidence	YES, significant	YES, moderate	NO	No opinion	Total
<b>Total households</b>	1.0	15.0	28.2	55.8	100.0
<b>Gender</b>					
Men	1.6	18.0	30.9	49.5	100.0
Women	0.6	12.4	25.9	61.1	100.0
<b>Age</b>					
Up to 24 y.o.	1.3	17.0	23.9	57.8	100.0
25-34	1.2	19.6	32.0	47.2	100.0
35-44	1.6	19.8	30.6	48.0	100.0
45-59	0.8	14.3	30.0	54.9	100.0
60-64	0.6	11.2	28.3	59.9	100.0
65+	0.5	7.3	22.4	69.8	100.0
<b>Education</b>					
Primary	0.3	7.3	22.5	69.9	100.0
Vocational	0.4	10.5	27.2	61.9	100.0
Secondary	1.3	15.4	28.7	54.6	100.0
Higher	1.8	23.9	31.9	42.4	100.0
<b>Equivalent income</b>					
Lower quartile	0.2	9.1	25.0	65.7	100.0
Middle 50%	0.8	13.0	27.7	58.5	100.0
Upper quartile	2.2	21.8	32.2	43.8	100.0
<b>Socio-professional status</b>					
Public sector	1.2	20.2	32.1	46.5	100.0
Private sector	1.6	19.1	31.7	47.6	100.0
Private entrepreneurs	2.9	20.3	35.3	41.5	100.0
Farmers	0.4	9.6	27.2	62.8	100.0
Pensioners	0.3	9.0	23.5	67.2	100.0
Retirees	0.5	8.5	24.2	66.8	100.0
School and university students	1.1	18.5	21.2	59.2	100.0
Unemployed	0.4	13.3	28.6	57.7	100.0
Others inactive professionally	0.3	12.7	25.7	61.3	100.0

Table 4.3.12. Confidence for Social Insurance Institution in 2015 (%)

The degree of confidence	YES, significant	YES, moderate	NO	No opinion	Total
<b>Total households</b>	3.9	35.2	42.4	18.5	100.0
<b>Gender</b>					
Men	3.5	32.8	46.2	17.5	100.0
Women	4.3	37.3	39.0	19.4	100.0
<b>Age</b>					
Up to 24 y.o.	1.4	21.9	40.0	36.7	100.0
25-34	2.1	28.4	51.2	18.3	100.0
35-44	2.7	28.5	51.9	16.9	100.0
45-59	3.2	34.8	45.0	17.0	100.0
60-64	5.9	46.1	33.9	14.1	100.0
65+	8.5	51.5	26.2	13.8	100.0
<b>Education</b>					
Primary	6.0	40.5	31.4	22.1	100.0
Vocational	3.5	34.4	38.1	24.0	100.0
Secondary	4.2	35.4	42.8	17.6	100.0
Higher	3.0	33.2	52.5	11.3	100.0
<b>Equivalent income</b>					
Lower quartile	4.3	35.8	35.9	24.0	100.0
Middle 50%	4.6	38.7	41.0	15.7	100.0
Upper quartile	4.2	33.9	50.6	11.3	100.0
<b>Socio-professional status</b>					
Public sector	3.4	33.8	50.5	12.3	100.0
Private sector	2.3	28.8	52.2	16.7	100.0
Private entrepreneurs	2.0	26.4	60.0	11.6	100.0
Farmers	1.5	29.4	35.5	33.6	100.0
Pensioners	6.9	45.3	29.1	18.7	100.0
Retirees	8.3	51.8	27.2	12.7	100.0
School and university students	1.2	22.4	36.5	39.9	100.0
Unemployed	1.7	27.7	45.7	24.9	100.0
Others inactive professionally	2.6	32.2	41.3	23.9	100.0

Table 4.3.13. Confidence in National Bank of Poland 2015 (%)

The degree of confidence	YES, significant	YES, moderate	NO	No opinion	Total
<b>Total households</b>	13.6	49.6	12.2	24.6	100.0
<b>Gender</b>					
Men	14.0	50.0	14.0	22.0	100.0
Women	13.2	49.3	10.6	26.9	100.0
<b>Age</b>					
Up to 24 y.o.	8.4	39.5	11.5	40.6	100.0
25-34	12.6	53.3	12.5	21.6	100.0
35-44	15.0	53.0	11.7	20.3	100.0
45-59	13.9	52.9	11.1	22.1	100.0
60-64	15.3	49.8	12.1	22.8	100.0
65+	15.2	43.8	14.0	27.0	100.0
<b>Education</b>					
Primary	8.8	38.4	16.9	35.9	100.0
Vocational	9.2	45.7	13.6	31.5	100.0
Secondary	15.0	51.8	11.2	22.0	100.0
Higher	19.6	57.4	9.2	13.8	100.0
<b>Equivalent income</b>					
Lower quartile	9.2	42.4	15.0	33.4	100.0
Middle 50%	13.5	51.4	12.5	22.6	100.0
Upper quartile	20.4	56.3	9.4	13.9	100.0
<b>Socio-professional status</b>					
Public sector	17.5	56.7	9.5	16.3	100.0
Private sector	14.3	53.8	11.9	20.0	100.0
Private entrepreneurs	18.9	56.8	10.2	14.1	100.0
Farmers	8.6	52.9	13.2	25.3	100.0
Pensioners	10.4	44.9	12.4	32.3	100.0
Retirees	15.8	46.6	13.0	24.6	100.0
School and university students	7.8	38.0	10.0	44.2	100.0
Unemployed	9.0	42.1	17.0	31.9	100.0
Others inactive professionally	8.8	41.6	14.0	35.6	100.0

A spectacular research operation in the description of trust in financial institutions is establishing the cases in which the fact of trust is statistically higher than the lack of trust. In 2013 this applies to trust in:

- the National Bank of Poland;
- commercial banks, with the exception of people 60-64 year olds and older than 65, those with elementary and lower education, those of the lowest income and farmers, those receiving welfare benefits and pensioners;
- life insurers, but only of people aged 25-34, those with higher education, those with the highest income and private sector employees;
- property insurers, but only of those of the highest income and private entrepreneurs;
- Social Insurance Institution (ZUS), but only of the people aged 60-64 and 65 and more, those with elementary education and receiving welfare benefits and pensioners;

While in 2015, such situations have occurred in broader range, as they were related to:

- general trust in, again, the National Bank of Poland;
- wider trust to commercial banks, with the exception of those with elementary and lower education;
- wider trust to life insurers, but with the exception of people aged 60-64, those with the lowest income, private entrepreneurs, farmers and unemployed;
- similar trust in the Social Insurance Institution (ZUS), but only of the people aged 60-64 and 65 and more, those with basic education, people with low and average income, pensioners and retirees;

The advantage of lack of trust over trust in the case of stock exchange, relates to each of the groups of respondents.

We should take a closer look at change in 2013-2015 in structure of trust to property insurance companies. While in 2013 the fact of having trust, statistically higher than lack of trust was related to people with highest income and entrepreneurs, in 2015 the trust expressed towards property insurance companies was noted among women, people aged 45-59, people with higher education, people with the highest income, employees of private and public sector, farmers, retirees and university and school students.

The lack of trust in financial institutions is a serious social problem, as the belief that trust is the most important factor of social life, from both theoretical and practical point of view, is rather obvious. However, the distrust in

financial institutions is often explained with diametrically different reasons. On the one hand, distrust resulting from a lack of experience in using the services of financial institutions, despite the passing of twenty-five years since the beginning of the transformation. On the other hand, we may observe the greed of financial institutions seeking a "solid" profit from its activity. Cultural aspects of trust should not be overlooked, problems with the culture of trust, or the general trust strengthening social ties, which penetrates entire collectivity and is treated as an obligatory rule of behaviour (metaphorically: the climate or atmosphere of social trust)<sup>23</sup> what is considerably more difficult to change.

In this context it is important to pay attention to trust in state institutions, which have regulatory (requirements to gain permission to operate) and supervisory (execution of correct market functioning: stability, security and transparency, forming trust in the financial market and securing the protection of market participants' interests)<sup>24</sup> instruments in relation to financial institutions.

According to Diagnoses from 2013 and 2015 (see Table 8), the trust to basic state institution increased. If we add together answers "Yes –significant" and "Yes –moderate", then among those who had opinion, the trust to government in 2013 was declared by 33% of respondents and in 2015 -40% of respondents. Trust towards parliament was expressed in 2013 by 33% and in 2015 by 41% of respondents. Trust in president was declared by 59% of respondents in 2013 and 60% in 2015.

Table 4,3,14. Confidence in national institutions in 2013 and 2015 (%)

The degree of confidence	YES, significant	YES, moderate	NO	No opinion	Total
<b>2013</b>					
Government	1.9	26.2	56.2	15.7	100.0
Parliament	1.5	25.2	54.9	18.4	100.0
President	7.8	41.0	34.0	17.2	100.0
<b>2015</b>					
Government	1.9	31.9	50.8	15.4	100.0
Parliament	1.9	31.7	48.7	17.7	100.0
President	7.4	42.7	34.1	15.8	100.0
<b>Change between 2013-2015</b>					
Government	0.0	+5.7	-5.4	-0.3	100.0
Parliament	+0.4	+6.5	-6.2	-0.7	100.0
President	-0.4	+1.7	+0.1	-1.4	100.0

Therefore, it is difficult to consider trust at the level of 40% to government and 41% to parliament, as satisfactory, if at the same time there are discussions about low trust to financial institutions. While the trust to government and parliament is lower than trust to majority of financial institutions.

Building the credibility of institutions of public trust (social), which on one hand are state institutions, and on the other hand financial institutions whose activity is licensed, certainly takes time. However, it would be interesting to establish whether there is any relation between trust in financial institutions and public trust in public institutions of a political character as the lesser trust in financial institutions paradoxically undermines trust in state institutions, while state's proper supervising function is especially in demand. A culture of distrust ("a widespread and general suspicion towards people and institutions requiring a constant monitoring and control of their activity out of fear of fraud, abuse, falsehood, incompetence, collusion and conspiracy")<sup>25</sup>, may present an obstacle to trust but a thorough, competent consideration of its causes ought to be in the interest of financial institutions.

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<sup>23</sup>Sztompka, 2005

<sup>24</sup> Act from 21 July 2006 about supervision of financial market (Journal of laws 2006, No. 157, Item 1119 as amended)

<sup>25</sup> Sztompka, 2005, quote p.326-327

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## 4.4 Housing conditions

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### Abstract

*3.3% of members of surveyed households did not live on their own in March/June 2015. The percentage decreased in the period between March 2011 and March/June 2015 by almost 1 p.p.. During the last four years we have been observing an increase of the percentage of households equipped with all installations and equipment referred to in the study.*

### 4.4.1. Situation in 2015 and its changes in the last four years

3.3% of members of households did not live on their own in March/June 2015. The percentage decreased in the period between March 2011 and March/June 2015 by almost 1 p.p.<sup>26</sup>. However, during the last two years this percentage changed insignificantly.

The household members not living on their own were recorded most often in the group of farmers and employees 'households (around 5.4% and around 3.8% of households respectively). In 2011-2015, there was a fall of percentage in all socio-economic groups of households not living on their own with exception of self-employed households.

As regards the breakdown of households by type, non-family, 1-person and multi-family households most often reported members who did not live on their own at about 4.5% of both. In March/June 2015 compared to March 2013, there was a slight fall in the frequency of non-separate rooming in all of the groups of households extinguished by its type with the exception of married couples with many children.

In households without unemployed over 3.4% did not have separate rooming in 2015, while the Figure for those with unemployed was 2.3%. In the last four years, the changes in the share of households without separate rooming among those with and without unemployed members were not significant and less than 1 p.p..

Households without separate rooming were most frequent in the biggest cities with more than 500 thousand population (4.8% without separate rooming). The voivodship with the highest percentage of households without separate rooming was Lubelskie (nearly 6%). The marked fall of households without separate rooming, in the last four years, we observed only in households from rural areas and medium cities with 100-200 thousand of citizens (over 1 p.p.). Voivodships which had the highest rise in separate rooming in period March 2011 - March/June 2015 were Zachodniopomorskie and Opolskie (both above 5%).

In March/June 2015, among the households taking part in the survey, the average usable floor area of an apartment per person was over 34 m<sup>2</sup>. In relation to March 2011, this area increased by almost 2m<sup>2</sup>.

The highest occupancy density was observed among the households of employees in March/June 2015 (about 29 m<sup>2</sup> per person). In the period 2011-2015, a rise in occupancy density was observed in all socio-economic groups of households, apart from the households of self-employed (by over 5m<sup>2</sup>).

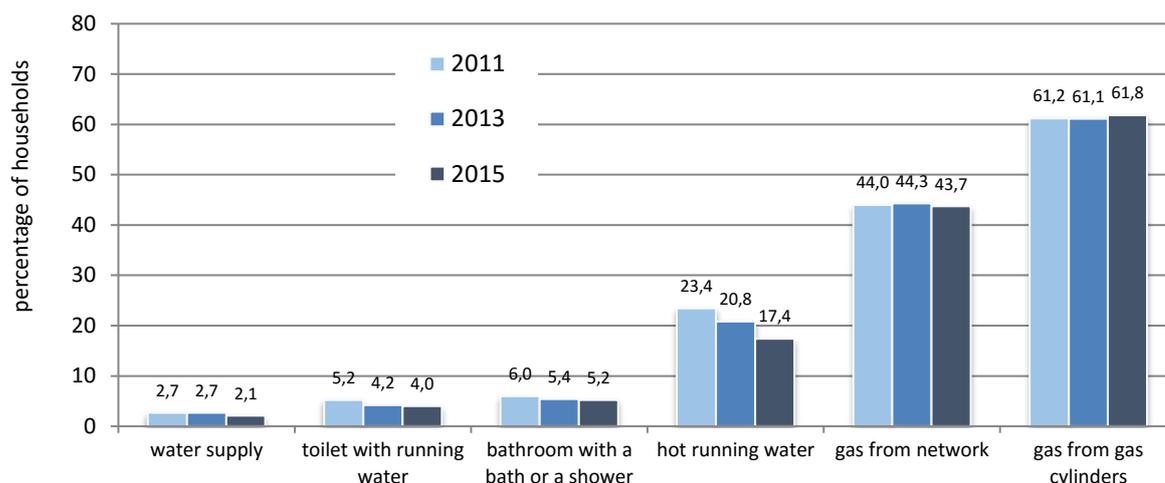
As regards the types of households in March/June 2015 the highest occupancy density was recorded in homes of married couples with many children and in multi-family households (around 19m<sup>2</sup> and about 21m<sup>2</sup> of useable floor area per person accordingly). In March/June 2015, occupancy density, in relation to March 2013, did not change significantly among all types of households with the exception of non-family, multi-person households where density increased by over 2m<sup>2</sup> per person.

In the unemployed members' group, occupancy density was significantly higher than in that without the unemployed at an average of almost 23m<sup>2</sup> and over 35m<sup>2</sup> per person. Only in group of households without unemployed there had been fall of density in years 2011-2015 (by about 15m<sup>2</sup>).

Occupancy density in households in rural areas is considerably lower than in the case of urban households. When broken down by voivodship, the differences between the groups of households as regards occupancy density can be treated as insignificant, the largest was in Warmińsko-Mazurskie at almost 30m<sup>2</sup> per person. In all groups of households broken down by place of residence class and in most of voivodships, a fall of density was observed in the last two years. The greatest fall in occupancy density was observed only in households of large cities (200-500 thousand citizens) - by nearly 3m<sup>2</sup> per person, households of medium cities with 20-100 thousand citizens (by over 2m<sup>2</sup> per person) and Dolnośląskie, Opolskie and Śląskie voivodships (by over 3m<sup>2</sup> per person).

As regards the equipment and installations included in the survey in March/June 2015, the most common was water supply from network, (only 2.1% without). At the same time, we observed a rise in the share of households equipped with all devices and installations included in the study over the last four years (Figure 4.4.1.). It also should be noted that there was more common supply of gas from gas cylinders rather than gas network.

<sup>26</sup> All changes in terms of housing conditions in 2011-2015 refer to the panel sample for those years, this means those households which were surveyed in 2011, 2013 and 2015



#### Chosen equipment and installations

Figure 4.4.1. Percentage of households without selected equipment and installations between in 2011- 2015 in panel sample

In the last two years there has also been a rise of households equipped in installations and devices, significantly in terms of hot running water (nearly 6 p.p.) and toilet with running water (over 1 p.p., Figure 4.4.1.).

The most frequently households had no hot running water (16%). Hot running water installation was not in possession of households living on unearned sources (32%) and those of pensioners (about 29%). The rise of percentage of households, in the last two years, equipped in installations and devices is observed in all socio-economic groups of households.

In group of households with unemployed the household equipment with devices and installations was far less common than in group without unemployed. For example, 23% and 15% of households had no running hot water respectively. The equipment of apartments of households in two analysed groups, in all included devices and installations, except hot running water installation, and bathroom with bathtub or shower, for households with unemployed has risen significantly in the last four years.

Flats without hot running water was most commonly observed in the group of non-family multi-person households (over 24%) and households of single-parent family and non-family one-person households (both almost 22%). In last 4 years the rise of percentage of households equipped with hot running water has been observed in all types of households, with the strongest rise in case of one-person non-family households (by almost 8 p.p.).

Relatively, most frequently, apartments without hot running water were observed in rural area households (almost 24%). In last four years in all of the classes of place of residence there was improvement in equipment of apartments in analysed installations, with the exception of cities with 200-500 thousand citizens, in case of toilet with running water and in case of bathroom with bathtub or shower.

Households which in its apartments did not have running hot water were most commonly located in Warmińsko-Mazurskie and Lubuskie voivodships (respectively almost 32% and almost 26% of houses without hot running water). In years 2011-2015 in the vast majority of voivodships there had been an increase in the degree of equipment in devices and installations.

Apartments of households, in March/June 2015 usually had individual or collective central heating (47% and 42% respectively). Although, nearly 11% of households were heated with fuel-heated furnaces. Apartments heated with furnaces were most commonly observed in group of households living on unearned sources and those of pensioners (nearly 28% and nearly 21% respectively) and in non-family multi-person households (over 21%). This type of heating has been present in over 18% of households with unemployed and only in 10% of apartments of households without unemployed. Households having furnace heating were located mainly in rural areas (about 18%) and Lubelskie and Warmińsko-Mazurskie voivodships (respectively over 16% and nearly 16%).

In the last four years there has been a marked fall (over 1 p.p.) of percentage of houses where furnaces were used rather than individual central heating (Figure 4.4.2.).

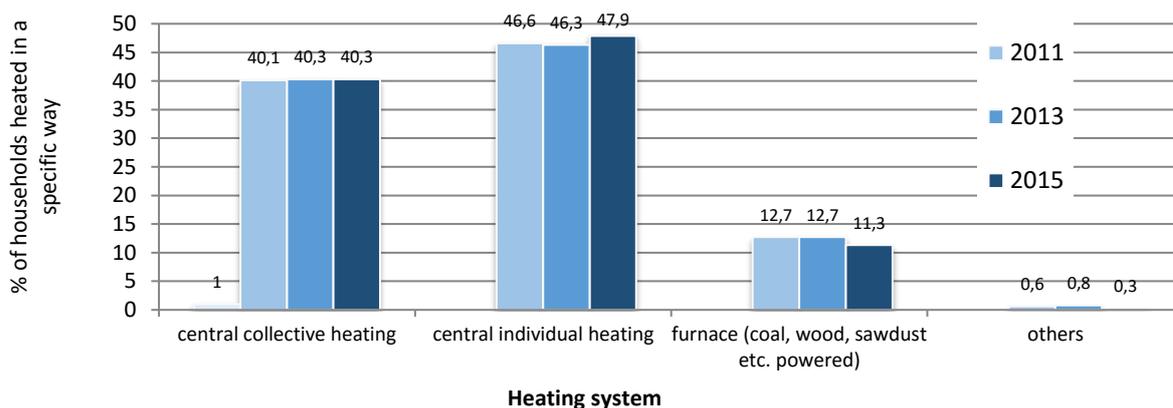


Figure 4.4.2. Households with specific types of heating systems in 2011-2015 panel sample

Over the last four years, we have most often observed this kind of change among households living on unearned sources, those of farmers, multi-person non-family, married couples with many children, in rural areas and in Lubuskie voivodship. These are the same groups of households, of which relatively the largest share were coal or wood-heated in 2015.

About 5% of households had arrears of rent in March/June 2015 and about 2.5% had arrears of their gas and electricity bills. The percentage of households having arrears of rent and gas and electricity bills had markedly fallen in years 2011-2015 (by over 2%, Figures 4.4.3. and 4.4.4.).

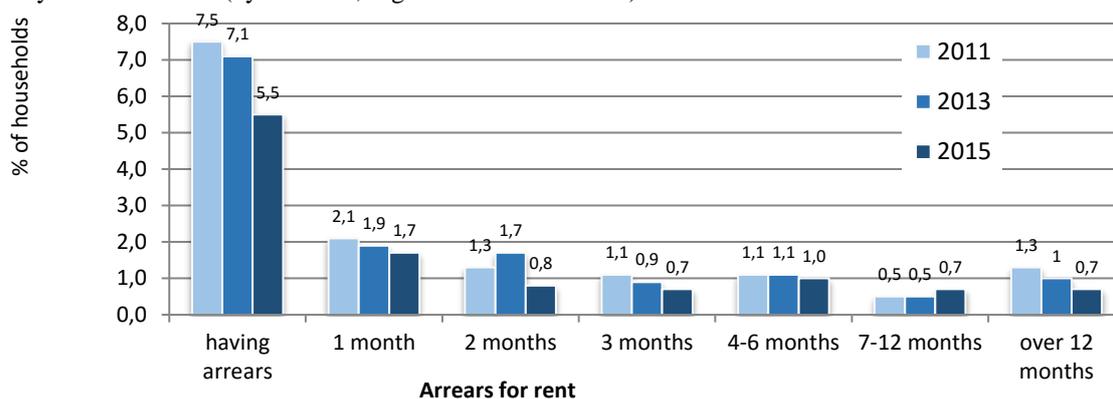
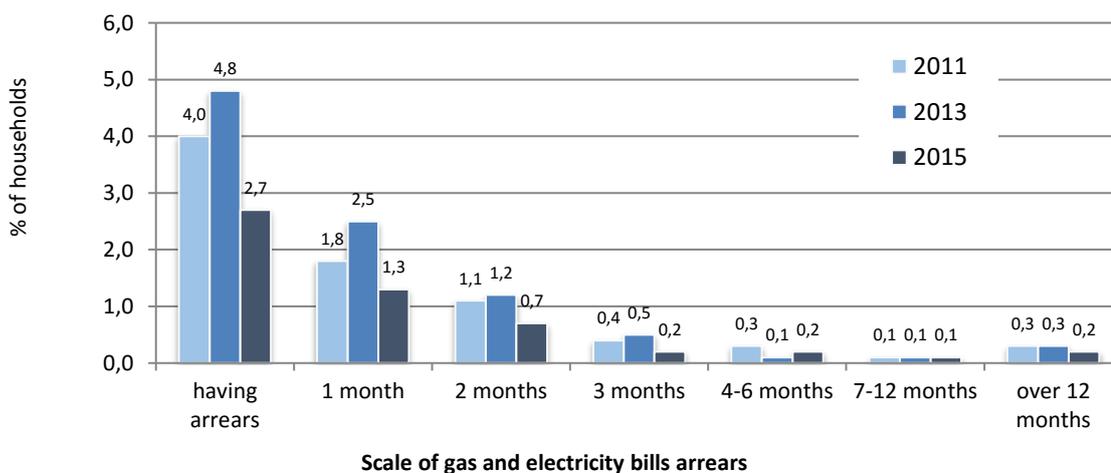


Figure 4.4.3. Rental arrears in the 2011-2015 panel sample



Figures 4.4.4. Gas and electricity bills arrears in the 2011-2015 panel sample

Households with arrears of rent, gas and electricity bills were most frequent among those living on unearned sources (over 25% and nearly 23% respectively), households of incomplete families (over 19% and nearly 5%) and multi-person non-family households (respectively over 9% and over 3%).

In the last two years, there has been a marked fall in the share of households with rent arrears observed among all of the socio-economic groups of households. The strongest fall was in group of households of self-employed and farmers. In case of groups of households broken down by its type there was a marked rise of percentage only in the group of non-family multi-person households (by almost 5 p.p.). In case of gas and electricity bills all of the socio-economic groups of households noted a decrease of those with arrears (strong for the majority).

Households with arrears of a rent were much more frequently observed among those with unemployed rather than those without (by over 10 p.p.). Then, households with arrears of gas and electricity bills were much more common among the second group (by almost 4 p.p.).

The diversity of household groups selected by place of residence class in relation to rent arrears and gas and electricity bill payments was not significant in March/June 2015. However, as far as household rent payments are concerned, rural areas households tend to be slightly more in arrears than those in large cities, though in the case of gas and electricity bills, the opposite situation was observed. Between March 2013 and March/June 2015, there was a marked fall in the share of households in rent arrears in every of the selected place of residence classes with exception of households of big cities with 200-500 thousand citizens. In the case of gas and electricity bills, there was a fall in percentage of households with arrears observed in every class of the place of residence.

The largest percentage of households with arrears of rent in March/June 2015 were in Podlaskie and Świętokrzyskie voivodships (both about 10%) and households being behind with their gas and electricity bills were in Warmińsko-Mazurskie (at almost 6%).

Only 1.4% of households studied in March/June 2015 were in arrears with their mortgage payments, and most often these households were in the group retirees (over 2% of households) and in group of non-family one-person households (in almost 3%).

In years 2011-2015 there was a marked fall in the share of households having arrears of mortgage payments (Figure 4.4.5.), in particular significant in the last two years (by almost 3 p.p.).



Figure 4.4.5. Mortgage arrears in the 2011-2015 panel sample

In the last two years there has been a marked growth of share of households having arrears of mortgage payments in group of households belonging to farmers (over 2 p.p.). In the remaining socio-economic groups as well as in other types of households we observe a fall of this share or no significant changes.

Households with unemployed members were insignificantly more in arrears with their mortgage payments in March/June 2015 than households without. In the last two years there was a significant fall in the share of households with unemployed members (over 3 p.p.) as in those without unemployed members (nearly 3p.p.) with this kind of financial problem.

Arrears in mortgage payments are also common among households located in various city sizes and those in rural areas. We do not observe any significant changes in this range in the terms of voivodship. In the period March 2013 - March/June 2015, we may notice a marked fall of share of households having arrears of mortgage payments in the biggest and in the smallest cities (nearly 5% and almost 4% respectively).

The vast majority of surveyed households (nearly 86%) declared that their housing conditions in March/June 2015 in relation to situation in 2013 had not changed. Nearly 8% of households declared worsening of these conditions and almost 7% declared improvement. In relation to evaluation from March 2013 the share of households declaring positive changes has fallen (by 4 p.p.) to the benefit of households declaring no changes.

Households declaring worsening of housing conditions were most common among households of employees and self-employed (both over 10%) and in groups of households belonging to married couples with many children and married couples without children (both over 10%).

The variation in households reporting deterioration in housing conditions in relation to the situation from two years before, in terms of class of place of residence was not significant. Most often, those residing in the largest towns (with over 200 thousand citizens) claimed that conditions had worsened (at nearly 10%), and were most frequent in Zachodniopomorskie and Lubuskie voivodships (respectively nearly 11% and over 10%).

#### 4.4.2. Changes of housing conditions between 2000-2015

An analysis of housing conditions between 2000 and 2015 in entire samples reveals a fall in the percentage of households without network water supply from 5.5% to 2%, without a toilet with running water (11.2% to 3.4%), a bathroom with a shower or bathtub (13.8% to 4.4%) and hot running water (from 29.6% to 15.9%; Figure 4.4.6.).

Changes related to late payment of household rent were less systematic over the last decade. The largest share of households with over 2 months of arrears was observed in 2003 and 2005. Later we have observed a marked fall in the share of these households (Figure 4.4.7.). In 2015, rent arrears, in relation to 2013 had fell even further.

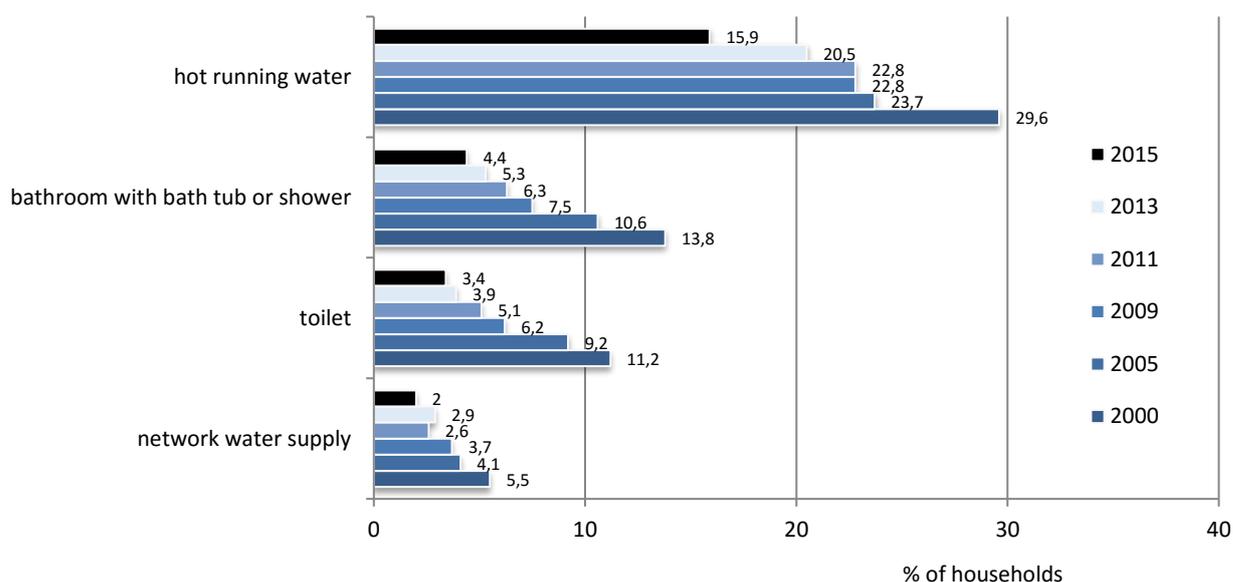


Figure 4.4.6. Percentage of households without selected installations and equipment in whole samples between 2000 and 2015

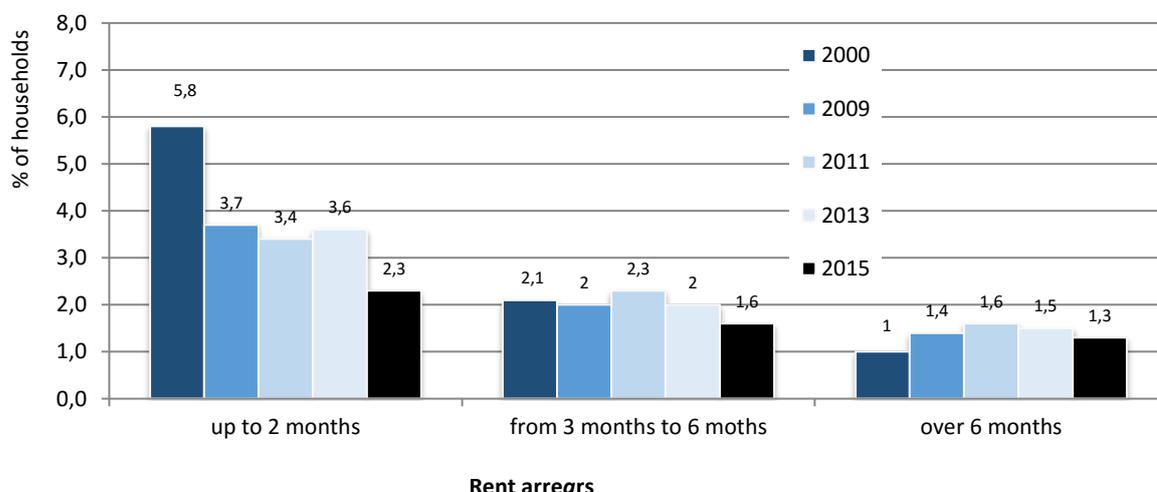


Figure 4.4.7. Rent arrears between 2000 and 2015 in whole samples

The dynamics of change for arrears in gas and electricity payments is similar to that for rent (Figure 4.4.8). Currently 2% reported being late with payments compared to 4.5% in 2000. This may indicate a more rigorous approach by suppliers to households being behind with payments and their fears of getting cut off from the supply.

Mortgage arrears rose in 2013 in comparison to 2011 almost to the level from the beginning of century, but in 2015 they had fallen to the lowest level in all of the periods of research (Figure 4.4.9).

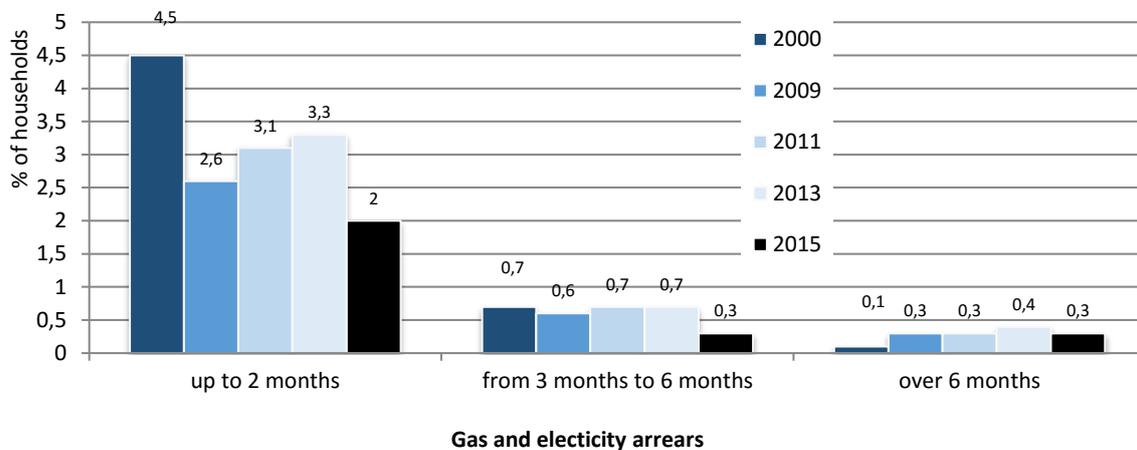


Figure 4.4.8. Gas and electricity arrears between 2000 and 2015 in whole samples

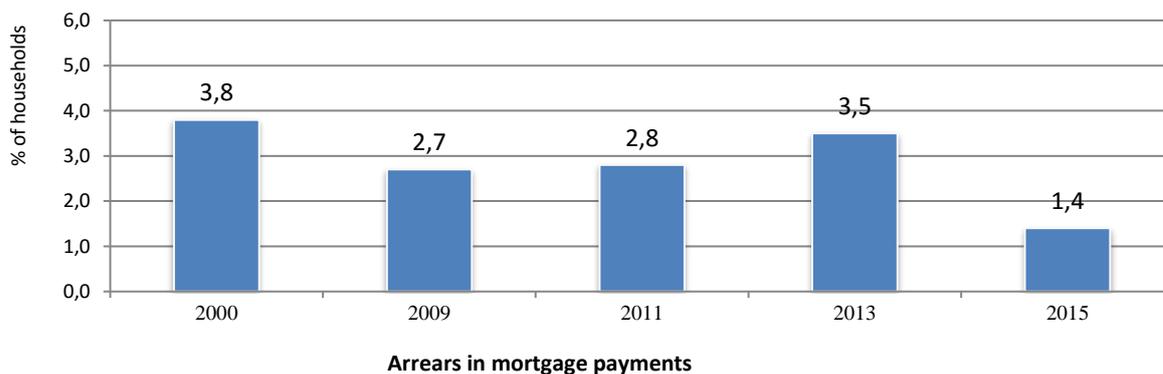


Figure 4.4.9. Percentage of households with mortgage arrears between 2000 and 2015 in whole samples

## 4.5. Education

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### Abstract

*There was a further improvement concerning the use of services of nurseries and kindergartens – from 34% in 2013 up to 37% in 2015. It was continued in almost all classes of place of residence, with the exception of the smallest towns. In 2015 the percentage of using educational services in the age group of 20-24 was 53%. The downward tendency observed in the previous studies was intensified and it was visible in all types of residential areas, with the exception of residents of big cities, where the situation was stabilized. Even though, territorial differences between urban and rural areas, decreased, they are still significant. The scope of using educational services is significantly decreasing among people aged between 25 and 29 and amounted to 14% in the last wave, however, the decrease reported since 2009 stopped. The level of educational activity of people aged 30-39 remains very low (3%), and decreasing even further in 2015. Also the lack of interest in using educational services by persons above 39 was still maintained. The vast majority of households in 2015 wanted their children to complete their education at Master's level at over 73%. However, almost 13% of households were satisfied with vocational qualifications and nearly 11% with a vocational bachelor's degree or its equivalent.*

### 4.5.1. Educational status of household members

The aim of this part of analyses is to evaluate the level of usage of educational services at different stages of life, including changes present since the first edition of *Social Diagnosis* in 2000. Therefore, we are interested not only in usage of educational services at the stage of childhood and youth, but also learning after reaching maturity. Educational activity started by people in different forms through the whole life has not only significant importance for development of human capital at the level of whole society, but also performs fundamental role in the case of a unit. The level of education determines chances of acquiring a job and to remain being employed and influences functioning of the unit in society (e.g. Magda, Ruzik-Sierdzińska, Perek-Białas, 2014; Panek, Zwierchowski 2014). While limiting to the job market it is important to say that on one hand the level of human capital is considered as one of the factors influencing professional activity of people in working age, including also elder employees (e.g. Matysiak i in., 2010; Józwiak, Kotowska, Abramowska, 2008, Komisja Europejska, 2012; Grabowska, 2012; Active Ageing, 2012; Lindley, 2012; Stonawski, 2014), and on the other hand availability of education and care services for children is a factor improving professional activity of mothers (e.g. Sztanderska, Grotkowska, 2007; Matysiak et al., 2010; Thevenon 2015).

This assessment of educational activity of population is made on the basis of the range of use of a specific educational service within the school system (education in schools in full-time, evening or extramural mode, all postgraduate studies) or outside it, measured using the percentage of people in the given age group using specific form of education service. This measure for educational services provided within the school system corresponds to the schooling rate, for the services addressed to children aged 6 and below it is equivalent to the coverage rate and is used for assessing the scope of institutional care for children, and in the case of persons aged 25 and above it may be used to assess their educational activity. While analysing the educational activity of adults (persons aged 18 and above), also the forms of educational activity and the status of respondents on the labour market are taken into account. In the case of schooling rate, *Diagnosis* values differ from those provided by the Central Statistical Office (GUS), as net schooling rate indicators. The *Diagnosis* indicator includes all educational activities, both those at school and beyond it, as opposed to that of GUS, which apply only to study at school. Moreover, the GUS reading is dated from 31st December of a given year, and not the given moment of study as is the case here.

Analysis of usage of educational services, according to the age, embraces period 2000-2015. Then, the educational activity of adults in terms of formal and informal activity is examined. We will also relate to forms of gaining supplemental education of adults and the range of usage of educational services according to the status on labour market. This part will be concluded by thoughts on educational migrations.

#### 4.5.1.1. Educational activity of household members

Table 4.5.1. shows the indicator values of the use of educational services for following waves of research dated 2000-2015, where in the research from 2003 also educational activity outside the school system was taken into account, which has an impact on the assessment of adults' educational activity. Our comments are focused on the results from last four waves and include the changing tendencies in period between 2000 and 2015.

Table 4.5.1. Household population by educational status and place of residence(percentage of people in specific age and place of residence using specific educational service) in 2000-2015 (%)

Educational status	Class of residence						total
	Town over 500k.	Town 200-500k.	Town 100-200k.	Town 20-100k.	Town below 20k.	Rural area	
Total percentage receiving education services	22.7 <sup>8</sup>	23.9	21.9	20.4	20.7	22.6	22.0
	25.1 <sup>7</sup>	23.9	24.2	21.2	23.2	23.5	23.3
	25.3 <sup>6</sup>	25.7	24.5	22.3	24.0	24.2	24.1
	26.6 <sup>5</sup>	28.0	25.0	25.1	25.3	25.6	25.8
	27.1 <sup>4</sup>	27.3	27.6	25.2	27.3	26.6	26.6
	28.2 <sup>3</sup>	27.9	29.5	27.8	30.0	26.8	28.0
	25.4 <sup>2</sup>	23.8	26.7	24.0	25.8	22.2	23.9
27.0 <sup>1</sup>	26.4	24.0	27.2	27.4	24.6	25.9	
Children aged 0-6 at nursery or kindergarten	50.2(43.0)	50.3(40.6)	46.2(36.4)	39.8(30.1)	36.2(27.5)	29.3(18.1)	37.3(27.4)
	49.1	44.6	46.1	33.8	41.3	1)	33.6
	47.9	37.9	30.9	30.0	32.8	21.9	29.1
	31.5	32.1	27.0	21.7	23.0	20.0	20.5
	25.9	25.2	22.8	22.3	18.4	12.6	18.7
	24.2	31.2	20.5	32.1	20.8	12.1	19.8
	19.1	19.5	20.4	19.9	12.22	10.8	13.5
31.2	22.3	14.5	33.7	7.3	7.7	21.4	
Children aged 7-15 at school	97.7(95.7)	98.9(97.4)	96.7(96.0)	98.3(95.3)	96.9(96.6)	98.0(95.4)	97.9(95.8)
	85.2	92.0	94.3	87.8	89.0	4)	89.7
	91.6	90.0	87.5	88.7	92.2	90.30	90.7
	88.0	89.0	93.5	91.4	92.2	91.60	90.5
	96.4	97.4	97.4	99.0	97.0	89.90	98.1
	92.8	91.9	92.6	96.0	95.5	98.75	93.9
	76.7	77.1	81.4	78.3	79.9	93.22	79.2
99.4	98.7	99.2	98.8	98.2	80.14	98.5	
16-19 year-olds at school	93.0	97.4	92.4	97.2	97.4	96.7	96.3
	93.6	97.4	96.1	93.8	93.9	93.5	94.1
	98.1	93.1	86.4	98.2	91.2	92.5	93.5
	96.5	94.7	97.1	97.1	96.4	94.2	95.4
	97.4	98.9	93.5	91.7	98.6	95.1	95.3
	92.8	93.7	94.3	91.7	89.7	92.9	92.4
	93.7	91.1	93.8	89.1	94.0	87.7	90.4
89.4	97.6	86.3	90.0	87.5	85.4	88.5	
20-24 year-olds receiving education services within and outside the school system	78.5	69.2	53.3	56.2	50.0	44.0	52.7
	78.8	75.3	63.1	61.2	52.5	48.0	57.6
	73.5	72.8	57.1	61.2	60.1	49.4	58.8
	83.0	72.6	66.9	65.8	58.0	47.6	60.9
	80.2	72.8	57.5	64.6	62.7	49.2	60.8
	70.4	67.6	63.8	57.3	53.6	50.8	57.5
	61.6	61.5	61.0	53.9	46.3	39.0	49.9
61.1	58.2	23.9	45.2	45.8	26.0	40.5	
25-29 year-olds receiving education services within and outside the school system	20.5	22.9	15.5	12.9	15.9	9.2	13.8
	20.2	16.9	13.3	14.4	16.8	8.5	13.3
	26.8	24.5	10.5	13.8	16.6	9.0	15.1
	28.7	26.3	21.2	19.5	16.4	11.4	18.4
	34.4	19.0	26.9	16.8	15.7	8.5	17.2
	24.7	15.5	21.7	12.3	18.3	8.9	14.1
	18.3	17.3	15.0	17.0	10.0	7.6	12.7
16.7	18.6	2.4	18.2	8.5	7.1	11.4	
30-39 year-olds receiving education services within and outside the school system	7.3	6.8	3.7	2.7	1.8	1.6	3.3
	9.2	8.3	2.6	3.7	5.4	2.7	4.7
	7.1	6.8	6.9	3.4	6.0	1.9	4.3
	7.5	10.8	8.6	7.6	6.9	3.8	6.2
	11.6	8.8	10.8	8.8	8.0	2.5	7.0
	11.1	8.1	4.3	5.6	5.9	1.8	5.0
	8.1	9.6	9.0	4.6	4.9	3.2	5.4
4.7	2.5	5.3	3.2	1.9	0.3	2.3	
39+ year-olds receiving education services within and outside the school system	3.1	3.4	2.1	1.2	1.1	0.8	1.5
	3.1	2.3	2.0	1.3	1.5	0.8	1.6
	3.2	2.2	2.3	1.0	0.8	0.5	1.3
	2.7	2.4	1.5	1.4	1.5	0.9	1.5
	4.6	2.5	2.9	1.6	1.4	1.1	1.9
	2.1	0.9	1.8	1.3	1.4	0.9	1.3
	2.4	0.8	2.0	0.8	2.2	0.6	1.2
0.5	0.9	0.3	0.8	1.3	0.3	0.6	

<sup>8</sup>survey results of 2015, <sup>7</sup> survey results of 2013, <sup>6</sup> survey results of 2011, <sup>5</sup> survey results of 2009, <sup>4</sup> survey results of 2007, <sup>3</sup> survey results of 2005, <sup>2</sup> survey results of 2003, <sup>1</sup> survey results of 2000.

Detailed analysis of the degree of usage of preschool services in the recent years proves to be more difficult due to transitional period of binding education reform implemented in act from 30 August 2013 on the change of the act on education system and the act on change of some of the other acts (Journal of law 2013, item 1265) according to which, education is obligatory for 6-years old. In the school year 2014/2015, thus ongoing in the time of research, part of children born in 2008 was embraced by this obligation (children born in the first half of a year), and part of those children had only right to use it (children born in the second half of this year). For this reason, there was an estimation of indicator of using kindergartens and nurseries and other educational services for both children aged 0-5 (for comparison in following wave of research) and 0-6 (for comparison in the 2013 wave). Group aged 0-6 is analogous as in previous years, what makes it possible to compare regarding time, with the reservation, that part of children aged 6 is obligated by the school duty.

The results of analyses from 2015, similar as two years ago, indicate significant raise of usage of care and school services in this age group (37% compared to 34%).<sup>27</sup> The improvement of access was noted in all of classes of place of residence, with the exception of the smallest towns where there was a regress (of over 5 p.p.). The highest growth was observed in big cities 200-500 thousand inhabitants and in medium towns from 20 to 100 thousand citizens (about 6 p.p.) and also in rural areas (7 p.p.). It is important to mention that as well in 2013 as in 2015 there was a marked growth for cities of 200-500 thousand residents, what caused that the range of using education and care services in those cities had become equal with the biggest cities. In comparison to the previous research wave the indicator for biggest towns and medium towns of 100-200 thousand citizens had stabilized. Although, despite observed changes in 2015, the disparity in using of care and education services in this age group according to the class of place of residence remained. Still, the biggest percentage of children going to kindergartens and nurseries or using other educational services was noted in cities over 200 thousand citizens (about 50%). Still, children in cities considerably more often were going to care and educational facilities, than those from rural areas, where only 29% were using such services.

Alternatively, in a Table below, there is information relating to the level of usage of care and education services for group aged 0-5. Similar to the group aged 0-6, also for children 0-5 there is observed selectivity of usage of these kind of facilities according to the class of place of residence. In general, indicators of usage of those services for this age group are lower than for 0-6 group (27% compared to 37%), where the biggest differences were observed in rural areas (11 p.p.). This means that the general indicator of using care and education services of children aged 0-6 is formed in almost 1/3 by children with the oldest age (in rural areas 40%). This result may be an approximate value of the scale of exclusion of mothers from the labour market until the child reaches 5 years, what is in particular negative for women living in rural areas.

In opposition to the research from 2013, where there was a deepening of diversification of dimensional access to care and education services between town (even small town) and rural area, currently there is a significant lowering of the gap between towns (even the biggest) and rural areas. The rise in number of births observed in Poland in 2004-2009<sup>28</sup>, being a result of realization by postponed births of numerous ages of mothers from population boom of 80's of 20th century, increased the demand for room in kindergartens and nurseries. The market of these services in cities, especially in the range of private services, faster adjusted to increased demand, what influenced the territorial diversification in access of these facilities in previous periods of the research. In 2011 the significant rise in usage of care offered by kindergartens or nurseries was undoubtedly related to the availability of funds from European Social Fund under the Operational Programme Human Capital Development, which made it possible to finance creation of kindergartens, especially in rural areas. In 2015 the improvement of indicators of usage of care and education services was influenced as well by the activity on the central level relating to pro-family policy (Act from 4 February 2011 on care of children aged 0-3 - Journal of laws, no.45, item 235, of the new initiative of government, pro-family policy programme of the President of Poland) as by the activity on local level.

Similar to the previous years the majority of children were using public kindergartens and nurseries, in 2015 in a range of whole country the share of usage of public facilities were equal to 88%, this value is similar to the results of 2009 and 2011. In 2015 this share was ranging from nearly 85% in places with more than 500 thousand residents to 93% in rural areas in comparison with 84% and 90% in the biggest cities in 2013 and 2011 and 92% and 93% in rural areas in the same periods. The significance of non-public facilities was systematically rising up to 2011, in 2013 there was observed a regress in usage of those facilities in the biggest cities together with relative stabilization of this share in the whole country. This fall did not sustain in 2015 when the level of usage of non-public facilities came back to the level from 2011.

Similar as in the case of usage of care and education facilities in the youngest age group, also in the next examined group we will use indicators with different age of beginning school education. For comparison with

<sup>27</sup>Up to 2009 (except 2003) in the whole country only 1 on 5 children aged 6 used these services.

<sup>28</sup>In the period of increase of birth number, this is years 2004-2009 the increase of births was amounted to 66.5k total (GUS, 2015)

previous research waves we will use group aged 7-15. We will also present data for group 6-15, which will be used for comparison in following periods, where children aged 6 will be embraced by school duty.

As in previous years including 2015, there were no very significant territorial differences observed in education availability for children aged 7-15 nearly 98% in this group were learning, 97% in the smallest cities, 99% in cities of 200-500 thousand population and 98% in rural areas. In 2013, at the national level and in rural areas around 90% of children at this age were learning in schools, which is a result similar to 2011. The results between the present wave and those of 2005-2013 can be explained by methodological factors. 7 year-olds between January of the research year and a moment of study in years 2005-2013 are presented for 7-15 year schooling rates group even though they can still go to kindergarten. After adding up share of kindergarten children in this age group as well as that of the schooling rate indicator, territorial differences almost disappear and the share of children in both forms of education was around 97-99% in 2013. This procedure yielded similar results in previous years with the exception of 2003. The results are similar to those from 2015 when the procedure had no use because in school year 2014/2015 half of 6 years old was already obliged by school duty. Therefore, in the time of research all of the children counted as 7-year-old, regardless of month of birth were obligated by school duty. Results from 2003 were influenced by education reform from 1999. Then this age group included for the first time not only children and juveniles from elementary school but also from junior high schools. The role of private schools in this age group was insignificant in all research waves (not exceeding 10-12% in the biggest cities) and in the last wave it decreased (not exceeding 5% for the biggest cities).

In 2015 the percentage of juveniles aged 16-19 using full-time, extramural and external educational services in the terms of territory was equal to 96% on the level similar to 2007-2013. In territorial approach the indicator was in range of 92%-97%, similar as in the previous research wave. In comparison to 2011 the diversification has decreased. Only in the smallest cities and rural areas the percentage of learning juveniles was systematically rising in period 2011-2015, for other places of residence classes the changes were not so regular. Usually the percentage of learning youth was higher or at similar level to the values from 2011, the decline was observed only in the biggest cities. Moreover, there is still a low significance of non-public schools for this age group - not more than 6% of juveniles were learning in non-public schools regardless of the place of residence what is similar as in the case of 7-15 years old group.

The picture of territorial diversification of access to education services significantly changes in relation to educational activity of people in the following age groups - percentage of people aged 20-24 using education services is ranging from 44% in rural areas to 79% in the biggest cities.<sup>29</sup> Decreasing tendency observed in previous research waves was intensified and visible in all place of residence classes except the biggest cities. Intensification of the decrease since 2013 is ranging from 2.5 p.p. to 9.8 p.p. The falling tendency was started in 2011 - the highest percentage of learning people were equal to 61% in 2009, while in the current wave 5% from this group used education services.

On this level of education, the role of non-public facilities is more significant, although in 2015 compared to 2013 there was a fall of share of usage of these facilities from 16% to almost 12%. The reason for this situation is demographic low of 1990 years, which now enters the age of starting higher education. Juveniles more often choose public facilities, because of the high availability of places, even in the case of fee-paying studies - non-public facilities are chosen as a second option. The mechanism translates into observed decrease of students in many non-public schools.

It should be underlined that some rising differences in the educational activity between men and women in this age group are emerging. Women study more often than men (61% of women in 2015 and 69% in 2013, in comparison to 45% and 48% of men). The growing tendency of educational activity among women, which was slowed in the previous research waves, in current wave had been reversed, and observed before fall of education activity of men aged 20-24 had remained the same. The gender gap which had been growing in the previous research waves, in 2015 has lowered due to huge decrease of usage of educational services by women in this age.

Significant diversity of education activity of men and women aged 20-24 is observed in regard to the place of residence.

In 2015, women aged 20-24 in urban areas used educational services to a greater extent in comparison with women in rural areas. For the cities, the relevant rate fluctuates between 59% and 84% depending on their size (66% - 92% in 2013). In rural areas percentage of women using education services has decreased from 59% in 2013 to 55% in 2015, therefore stabilizing the gap between women in rural areas and towns in terms of educational services, but with lower than in 2013 level of indicator. Among men in towns who use educational services in the school system and outside the percentage in 2015 is equal to 42% up to 74%. There was a marked fall of using education services in small cities, however, the biggest cities noted a small increase. In rural areas there was a fall from 38% in 2013 to 35% in 2015, what increases diversification between large cities and rural areas in the terms of using education services by men aged 20-24.

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<sup>29</sup>The term of education activity means participation of people aged 18 or more in different forms of education, however, in relation to presented grouping by the age the analysis which results we present below relates to people aged 20 and more

The extent of educational service use is significantly lower in the next age group - 25-29 year-old in comparison to previous group. This tendency has remained. However, there was a constraint of falling tendency noted since 2009, when the percentage of using education services was equal to 18%. Share of people aged 25-29 active educationally in 2015 was on the level of 14%. Two years ago the fall of using educational services was resulting most of all from worsening of indicators of cities over 500 thousand residents (fall of nearly 7 p.p.), cities of 200-500 thousand citizens (by almost 8 p.p.), although in remaining types of towns there was a little increase or stabilization. Indicator for using education services did not exceed 20% in towns, and was only 9% in rural areas. In 2015 observed in previous research waves tendencies of change by the class of place of residence had been reversed. There was a rise in the level of usage of education services in large and medium towns - from 200 to 500 residents (by 6 p.p.) and in towns with 100-200 thousand citizens by 2.2 p.p. and stabilization of the usage in the biggest cities and rural areas and small differences in remaining classes of the place of residence. Territorial differences in education activity in this group age have remained the same, especially in relation to city-rural area, however, relations between town indicators were changed for disadvantage of small and smallest towns.

In case of women the decreasing tendency for using educational services in age group 25-29 had been stopped (16% in 2015 in comparison to 19% in 2009). In case of men, however, there had been observed a stabilization of falling since 2009 degree of use of educational services in this age group (11% in comparison with 17% in 2009). This age group is characterized by the highest fertility of women, which may limit their education activity and raise the motivation of men towards job income with the cost of their educational activity. The territorial disparity had decreased - percentage of women from rural areas aged 25-29 which are active educationally is two time lower from the highest percentage for towns, while two years ago it was three times lower. In case of men disparity town-rural area is also high, even though lower than for women and also lower than in previous research wave.

Territorial differences of educational activity remain the same among people aged 30-39. In order to maintain comparable numbers of surveyed in relation to previously mentioned groups of age, it had been decided to present group 30-34 and group 35-39 together. However, the determining influence on values of indicators presented below belongs to the group 30-34. People aged 30-39 over 4 times less often use different education services in comparison to people aged 25-29, the difference is higher than in 2013 and 2011. Data of the last wave of Social Diagnosis indicate worsening of degree of usage of education services- only 3% were active in comparison to 5% in 2013. Increased tendency had been stopped in nearly all of the categories of places of residence with the exception of cities with 100-200 thousand residents, the biggest falls were observed in the smallest cities and rural areas. Percentage of women educationally active in this group was equal to 3% and was similar to the percentage of men.

Among people aged 39 or more the educational activity is constantly fading- almost 1.5% is active educationally.

Concluding, the analysis of educational activity conducted separately for adult women and men, and from the point of view of their age and place of residence, demonstrates a continuation of the falling tendency of educational service use among 20-24 and 30-39 year-olds, with the stop of this tendency for people aged 25-29. Highly disturbing is the fact of lowering the degree of use of education services for women aged 20-24 and 30-39 while taking into account constantly falling, since few years, tendency of use of those services by men in these age groups. Also, another negative phenomenon - fall of this already low percentage is observed among people aged 30-39 using education services. It is also important to notice stabilized high education ambitions of women. Moreover, another important thing is that territorial disparity of educational service use relate not only to residents of cities and rural areas but there are also big differences between cities.

#### 4.5.1.2 *Forms of adult educational activity*

In 2015, educational activity of the over-18s took place mainly in schools or higher education facilities at 89% (in comparison to 90% in 2013 and 93% in 2011). This is connected with the age structure of the educationally active population of respondents, because 70% of active educationally were constituted by people aged 18-24. In years 2007-2011 their share was between 70-74%. Share of people aged 25-29 was nearly 13%, ranging between 11% and 14% in years 2007-2011, then the share of people aged 30-39 was only about 7% (ranging from 7%-9% in the mentioned period). The vast majority of educationally active were using public schools (almost 87%). Since 2007 share of people learning in public schools has clearly increased (from 80% in 2007)

Among the over-24s using educational services, there is a higher use of services outside the school system organized in the form of courses and trainings, both at work and outside the workplace, financed by various sources (personal, employers or European Social Fund), it relates mainly to people aged 30-39. In 2015 about 5% of educationally active people in age of 25-29 were using this method of education in relation to 20% of active educationally people aged 30-39. Significantly lower percentage of people aged 25-29 using outside school system of education, in comparison to people aged 30-39 is resulting from, inter alia, more frequent usage of postgraduate schools, general development of market, full-time services or better preparation for requirements of labour market (related e.g. with use of computers) by younger people.

It is important to notice that there is a fall in tendency of share of people gaining supplemental education in both age groups (from 14% in 2007 for younger and from 31% in 2009 for second age group). The results from 2011 in comparison with previous research waves were indicating a significant fall of usage of courses and trainings among people aged 30-39, which was higher than general fall of education activity in this age group. It suggested movement of education activity towards school offers, in particular those of higher education facilities. In 2013 the share of people active educationally aged 30-39 who started supplemental education in forms of courses and trainings had returned almost to the level of 2009, but in current wave it decreased again. However, it should be noted that currently the intensification of fall of usage of courses and training is similar to the fall of general usage of education services in this age group.

Another important thing to say is that nearly 69% people using services outside the school had higher education in comparison with following research waves: 74% (in 2013), 69% (in 2011), 53% (in 2009) and 47% (in 2007), on the other hand 23% had secondary or post-secondary education in comparison with respectively 19%, 28%, 35% and 32%. Up to 2013 the selectivity of using education services by the level of education by people aged 24 or more had deepened, the results from the last wave seem to indicate the diminution of selectivity. Moreover, the increasing tendency of share of people with the lowest level of education participating in further education, is continued.

#### 4.5.1.3. Educational service use and labour market status

Around 67% of 18+ year-olds using educational services considered in terms of labour market status were inactive as professionals compared to around 64% two years ago and 60% in 2007-2011. In the group of inactive in labour about 88% are the people aged Up to 24 y.o., still learning in schools, while this share is falling from 95% in 2007. The share of inactive in labour people in the structure of usage of education services is rising especially for the group aged Up to 24 y.o., what with the general fall of using education services by adults means strengthening of differences of education activity in terms of age - an adult using education services, in most cases, is a not working student.

Among people aged 18 and more, who used education services in 2015, 23% were people professionally active. Only 11% of this group was constituted by unemployed (in comparison to 13.2% in 2013, 13.6% in 2011, 8.5% in 2009 and 14% in 2007).

In the process of raising qualifications among people aged 24 or more, the biggest share is constituted by working people (about 67% in 2015), who, on average, already have relatively higher qualifications than unemployed or inactive in labour.

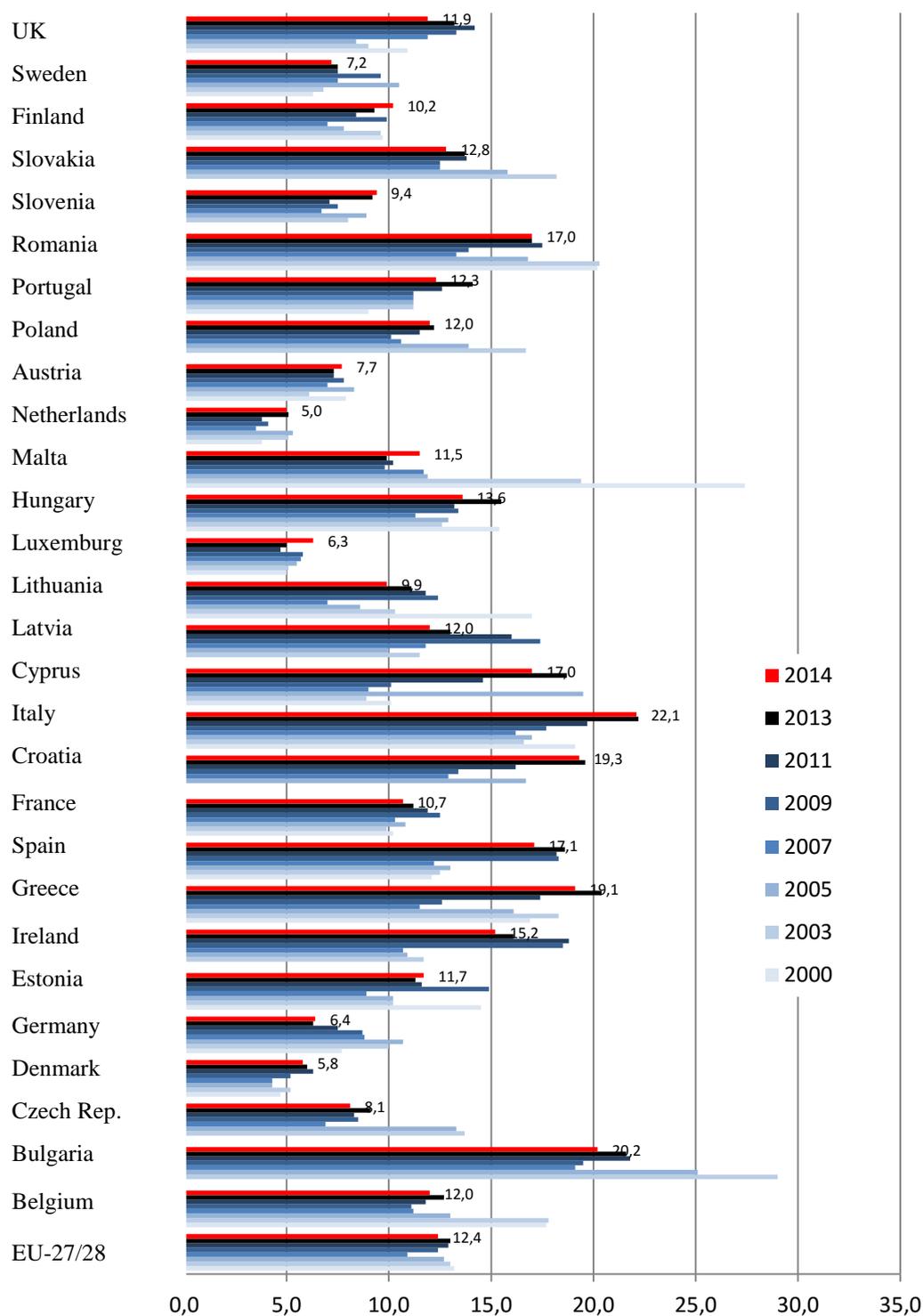
As well in the group of working as in group of unemployed aged over 18, active educationally the most frequently are women, which constituted 65% of unemployed (57% in 2007 and respectively 55%, 66% and 58% in following waves) and 57% of working people (since 2007 respectively 58%, 54%, 58%, 59%).

People active professionally and educationally were using services offered in school system - 97% of unemployed and 90% of working people (in 2013 respectively 82% and 70%, in 2011 87% and 81%, in 2009 93% and 78% and in 2007 97% and 80%). In 2013 there was a rise of role of education services offered outside the school, especially among employed, in 2015 there had been an improvement of role of services offered in the school system especially among unemployed.

Important in the analysis of the future fate of 15-24 year-olds in the labour market is determining what part of young people stays outside employment and education in school system or outside school system (NEET - not in employment, education or training). Table 4.5.2. presents information related to the share of inactive professionally and educationally in age group of 15-24 in 2000-2015.

Table 4.5.2. Persons inactive both in labour and in terms of education between 15-24 by gender and place of residence between 2000-2015 (%) (NEET)

Place of residence/sex	2000	2003	2005	2007	2009	2011	2013	2015
Total	12.7	12.8	12.6	10.4	8.6	8.7	10.2	10.7
Women	14.7	11.8	11.9	10.7	7.8	8.2	10.0	10.1
Men	11.3	13.8	13.3	10.1	9.4	9.2	10.5	11.3
City	10.8	11.2	11.6	9.6	7.3	7.2	8.3	10.5
Rural area	16.0	15.3	14.5	11.5	8.6	8.7	12.5	11.6



NOTES: for years 2000 and 2003 data relates to EU-27, since 2005, EU-28; the selected data labels in the Figure apply to 2014.  
 Source: Eurostat, 2014, Internet resource, <http://ec.europa.eu/eurostat/data/database> (available on: 02.09.2015).

Figure 4.5.1. The share of inactive professionally and educationally aged 15-24 years old in the EU-27/28, 2000-2014 (NEET)

In the years 2000-2005, the share of occupationally and educationally inactive persons aged 15-24 years remained constant at about 13%, then after the decline and stabilization at around 9 percent up to 2011 there is an increase to 10.7% in 2015. This measure for women showed a downward tendency up to 2011, which had been reversed. For men, a significant decline had been observed after 2005, but since 2013 similar as in the case of women there was an increase. In 2015, the situation of men has deteriorated slightly. Differences in dynamics of changes of the NEET indicator by gender throughout the analysis period can be associated with greater educational

activity of women, especially in the years 2000-2005. The general 'inactive indicator' is lower for women than men. Lower professional activity of women in this age group is compensated by their higher educational activity in comparison with men.

NEET rate remains consistently higher for the rural population compared to city dwellers. Particularly negative in 2013-the gap between the city and the countryside has grown significantly to 4.2 p.p.. In 2015 the gap was down to 1.1 p.p.-due to the improvement of the situation in this respect in the countryside and the deterioration in cities.

International comparison in the European context illustrates presented above Figure. The data concerns EU-27 between 2000 and 2014. Data for 2015 that could be used for comparison are not yet available. Differences in the absolute values of the indicator computed by Eurostat compared with the results from Social Diagnosis stem from the way of its calculation, in particular with regard to the educational activity. The Diagnosis concerns the situation at the moment of the research, and in the Eurostat methodology applies to 4 weeks prior to the test.

However, Eurostat data confirms the downward tendency of this indicator over the analysis period. Poland in 2014 is a country located slightly below the EU-28 average for the NEET indicator, which is mainly the result of relatively high educational attainment of people from this group. The lower the value of the indicator was reported in the Czech Republic, Germany, Slovenia, Malta, Lithuania, Denmark, Finland, Sweden, the Netherlands, Luxembourg, France, Estonia and Austria.

#### 4.5.1.4. Educational migrations

Analysis of education migration embraces migrations that had place in 2005-2009, 2007-2011, 2011-2013 and 2013-2015 for migrations participants who returned to the country. In Social Diagnosis survey 2011, 2013 and 2015, in opposition to wave from 2009, there were questions about education migration plans, therefore the analysis is limited only to migrations realized in 3 examined periods.

Analysis of educational migration in 2005-2009 (N=157), 2007-2011 (N=107), 2011-2013 (N=68) and 2013-2015 (N=52) is limited by the small size of respondent group. Merely 0.2% of household members went abroad for education in years 2011-2013 and 2013-2015, which is similar result to 2007-2011 and 2005-2009, when the share was 0.4% and 0.5%. The vast majority of those who did go abroad for education in 2013-2015 were 18-34 year-olds at around 74% in comparison to 61% in period 2011-2013, 67% between 2007-2011 and 74% between 2005 and 2009, of whom 62% were women in the four compared periods. The share of educationally motivated migrating women is greater than differences in the schooling rate indicator for men and women of that age-group, what suggests a greater readiness of women to undertake this types of migration. Due to the high age selectivity of educational migration, further analysis will concern the 18-34 age group.

The percentage of people who went abroad for educational purposes among respondents aged 18-34 is equal to 0.4% in 2011-2013 in comparison to 0.5% in 2011-2013 and to 0.8% in 2007-2011 and 1.2% in 2005-2009, while the Figure of people taking supplemental education in this age group was 1.1% in 2013-2015 in comparison to 0.7% in 2011-2013, 1.6% in 2007-2011 and 2.2% in 2005-2009. This suggests an immeasurably low level of educational migration, which recently has fallen even further. Because of the low number, a breakdown of respondents who emigrated for educational purposes in 2011-2013 and 2013-2015 is not presented for place of residence, age or migration destination.

Education migration experience surveyed in the research suggests its minor significance. We are taking into account only people who came back. Undoubtedly these kinds of migrations are not estimated. It is important to mention, that educational activity abroad is often connected with a job. It is, however difficult to determine if the job is taken to be able to live abroad and study or as an additional activity.

#### 4.5.1.5. Summary

The data from the survey in relation to educational services use in 2015 and changes in 2011-2013 may be summarized as follows:

- improvement of using services of nurseries and kindergartens is continued in almost all of the classes of place of residence with exception of the smallest towns. The biggest increase of indicator was observed in big cities with 200-500 thousand citizens and medium towns with 20-100 thousand residents and also rural areas. In comparison with previous research wave, there was a stabilization of the indicator for the biggest cities and medium ones with 100-200 thousand residents. Those changes caused that indicator of use of nurseries and kindergartens for children aged 0-6 has increased despite the fact that part of 6 year olds (born in the first half) was already obliged by the school duty;
- access to education among children and juveniles aged 7-19 is not significantly territorially diversified;

- educational activity of adults aged 20-24 and 30-39 has decreased in comparison with previous wave of research with small increase of this activity among aged 25-29;
- observed in the previous waves falling tendency of usage of educational services in age group of 20-24 was intensified and visible in all of the types of place of residence with the exception of large cities where indicator was stabilized. Though, the territorial differences decreased, they are still high between cities and rural areas;
- in age group 20-24, women more frequently than man are using educational services. Growing tendency of women had been stopped, and the fall of activity of men aged 20-24 is stabilized. In previous waves of research, the gap of using educational services according to gender grew, in 2015 it was smaller as resulting from decreasing of usage of educational services by women in this age group;
- the range of using education services is decreasing significantly among people aged 25-29, but the falling tendency observed since 2009 had stopped. Territorial differences in educational activity in this age group were maintained, especially in relation city - rural area, however relations between cities had changed to the disadvantage of the smallest ones;
- for women aged 25-29 not only decreasing tendency had stopped, but there was also a small increase of using educational services. For men at this age however, there was a further (insignificant) decrease of level of usage of educational services;
- the level of educational activity of people aged 30-39 remains very low, and furthermore decreasing in 2015;
- lack of readiness for using educational services in age group above 39 is maintained;
- still process of raising qualifications of adults is selective in terms of age, gender, place of residence, education and labour market status.

Social Diagnosis results continue to indicate that further adult education, considered as one of the basic conditions of raising employment potential, remains narrow in scope in Poland, and the positive tendencies observed in 2009 suffered a reversal in the following years. Also the research of determinants of education decisions realized in 2014 and 2015, indicates a decrease of participation of people aged 25-64 in informal education (Magda, Ruzik-Sierdzińska, Perek-Białas, 2015). This is an alarming signal, because, even though there was a significant improvement of level of education of Poles, there are still present generation differences between cities and rural areas, employed, unemployed and inactive professionally. The range of demand between educational services resulting from present level of education and qualifications of population on one hand, and technological changes and requirements relating to the job - on the other hand, and presented above model of education activity of selected groups of population, suggests the need of constant intensification of the further education in Poland. A development of different forms of supplemental education and raising qualifications (evening, extramural or correspondence studies, postgraduate studies, courses and trainings) as well as activity influencing increase of usage of educational are much in demand. It relates, in particular to people in immobile age.

#### **4.5.2. Children's education**

73% of household members reported they wanted their children to graduate from university with a Master's degree in March/June 2015. Then, almost 13% declared they were satisfied with technical or vocational education and almost 11% with a higher education vocational bachelor's degree.

The most commonly people who wanted their children to finish university with a master's degree, in March/June 2015 were from households of self-employed and employees (over 83% and nearly 76%) and from households of married couple with one or two children (77%). Households without unemployed were more often indicating this level of education than households with unemployed (76% and 57% respectively). Households with such ambitions in the range of children education was most frequent in cities over 500 thousand citizens (89%) and Świętokrzyskie, Podlaskie and Mazowieckie voivodships (respectively nearly 87%, almost 82% and over 80%). This demanded level was least often among households living on unearned sources (nearly 52%) and single parent families (nearly 63%). These households most often were located in rural areas (about 65%) and Warmińsko-Mazurskie voivodship (about 50%).

Households which desired education level of their children to be technical or vocational, were relatively more often among those living on unearned sources and retirees (both about 20%) and single parent families (almost 18%). These households were most often located in rural areas (nearly 17%) and Mazowieckie voivodship (over 21%).

Most frequently households were financially forced in school year 2011/2015 to resign from additional and private lessons for children (respectively over 12% and over 10%). The change to a school with lower fees was happening the least often (below 1% of households).

In years 2011-2015<sup>30</sup> we observed a significant decrease of resignations caused by financial reasons in range of limiting or suspending paying fees, resignation from meals in school and other limitations (Figure 4.5.2.). In other researched areas of limitations, changes were insignificant. At the same time in the last two years there was a significant fall of frequency of resignation and limiting of households in all of the areas of education of children.

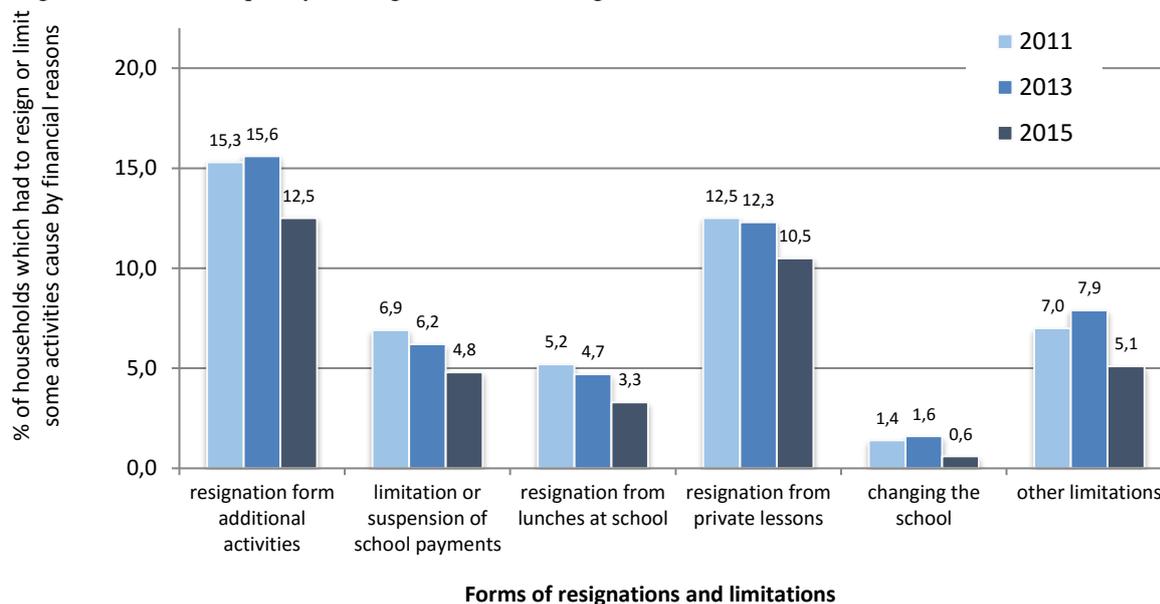


Figure 4.5.2. Households' financial difficulties in terms of children's education in the 2011-2015 panel sample

Households that were most frequently forced into various forms of financially motivated resignation from their children's education were those living on unearned income and pensioners at around 40% and nearly 26% respectively in the case of additional activities. Households with unemployed members were for more often forced to limit spending on their children's education than those without (in case of additional activities and private lessons about 20% and 19% from the first group and 11% and 9% from second group). Analysis of the scale of financial limitation as regards children's education by household type reveals that incomplete families and couples with many children were most affected at over 25% and nearly 22% respectively in the case of additional activities. Relatively most frequent were forced limitations, of the kind discussed, among households in large cities (200-500 thousand residents) and in Pomorskie voivodship at nearly 19% and 22% respectively.

In the last two years, there has been a marked rise in resignations, especially in the case of additional activities among households of married couples with 2 children by nearly 5 p.p., in rural areas, towns of less than 100 thousand residents by over 2 p.p. and in Kujawsko-Pomorskie, Lubelskie and Śląskie voivodships at nearly 8 p.p., 7 p.p. and over 5 p.p. respectively.

In March/June 2015 over 78% of households reported that the level of their children's educational needs satisfaction had not changed in two years, over 16% claimed it had worsened and 5% noted an improvement. Compared to 2013, household assessments regarding changes in their children's educational needs fulfilment had not changed significantly. Changes for the worse were most often reported by households living on unearned sources and pensioner households at around 37% and over 24% respectively, and those of incomplete families and with many children (over 26% and over 21% respectively). Households, claiming their children's educational needs satisfaction had worsened over the last two years, with unemployed members are clearly more frequent than those without (over 28% and nearly 14% respectively). Households declaring worsening of level of educational needs satisfaction in children's education are not differentiated by the class of place of residence. This worsening in comparison to a situation from two years before were indicated by households of big cities with 200-500 thousand residents (over 20%) and households from Podkarpackie voivodship (over 19% of households).

<sup>30</sup> All of the changes in range of children education between 2011-2015 relate to sample of households for these years, this means those households which were surveyed as well in 2011 as in 2013 and 2015.

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## 4.6. Culture and recreation

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### Abstract

29% of the examined households declared in 2015 that in the last year they had to forego a trip to the theatre, opera, operetta, philharmonic or concert for financial reasons, over 27% had to forego a trip to the cinema, and over 22% had to forego a trip to a museum or exhibition. However, there has been a significant improvement during the last four years. Slightly more than 52% of households bought books in 2014 (other than student's books and manuals), which is slightly more than in 2012 (47.6%). The biggest percentage did not buy more than 3 books. The percentages of households which had to resign from holiday trips due to financial reasons in 2015 were between almost 35% in case of family trips (adults and children) and 40% in case of trips of adults. However, we observed a significant improvement in this field in comparison to 2011.

### 4.6.1. Culture

In 2013, between 10% to 13% of examined households were forced to forgo a trip to the cinema, theatre, opera, operetta, not attend a concert, visit a museum or an exhibition or purchase a book, newspaper or magazine for financial reasons. The situation occurred most often in case of going to the cinema (16% of households), while least often for visiting museums or exhibitions (10.3%) (Figure 4.6.1.).

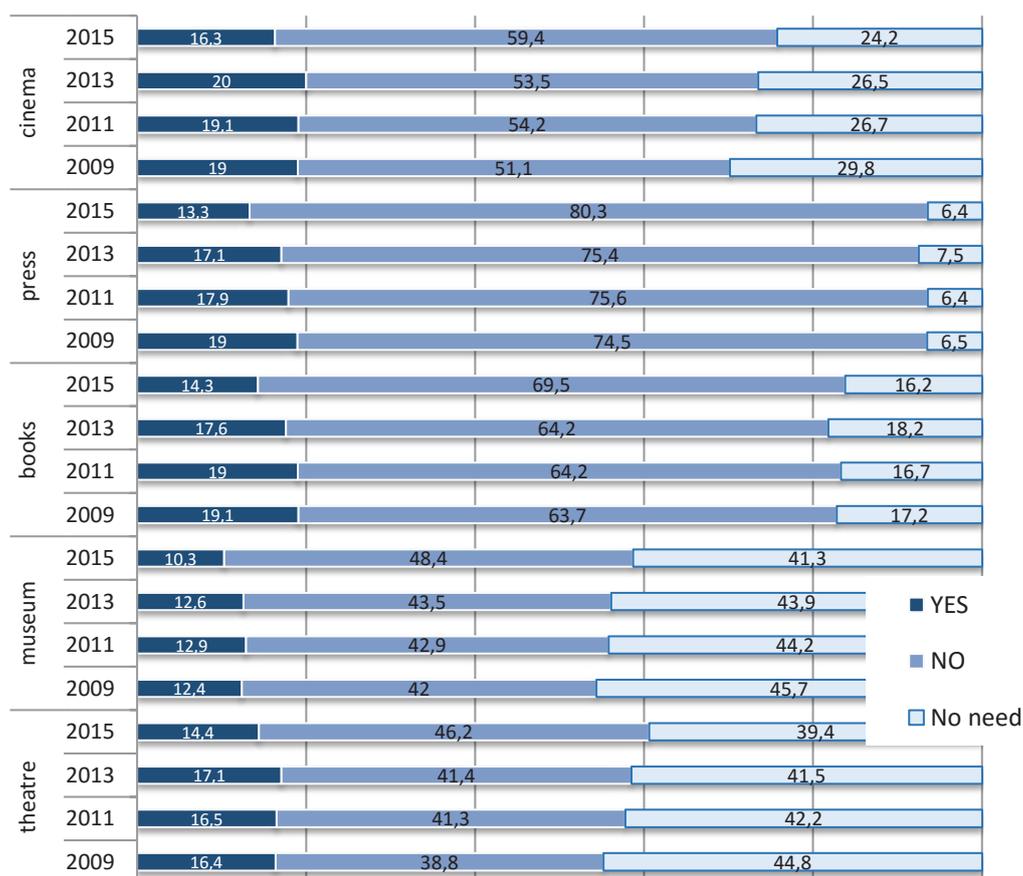


Figure 4.6.1. Was any of the members of the household forced to forgo selected forms of participation in culture due to lack of funds in the last year (in the 2009-2015 panel sample in % of answer)

A slight improvement was observed here in the last six years (Figure 4.6.1.). However, the share of households in the panel sample that had to refrain from participating in these cultural events did not shrink significantly in the last four years<sup>31</sup> panel sample (Figure 4.6.2.).

<sup>31</sup> All the changes in the scope of households' participation in culture in the 2011-2015 period pertain to the panel sample from those years, i.e. the households that were examined in 2011, 2013 and 2015.

While taking into account only those households that had to resign despite the need to participate in culture, definitely the largest share of those forced to withdraw from the selected forms of cultural participation in March/June 2015 were the poorest households, those living on unearned sources and those of pensioners at over 53% and nearly 46% respectively for theatre, opera, operetta, philharmonic or concert, while the smallest share at around 19% was observed for the entrepreneurs. In all socio-economic groups of households, the number of resignations decreased significantly in 2015 compared to 2011 (from over 11p.p. in case of theatre, opera, operetta, philharmonic or concert to over 2p.p. in case of cinema).

Among groups of households broken down by type, forgoing selected forms of participation in cultural events mostly concerned single-parent families and families with 3 or more children, where cancellation frequency exceeded even 35%. In 2015, compared to the situation reported four years ago, there was a marked rise in the frequency of cultural event attendance cancellations observed in the group of non-family multi-person households from nearly 13p.p. in case of theatre, opera, operetta, philharmonic and concerts to nearly 9p.p. for museum or exhibitions.

Financially motivated withdrawals from all analysed forms of cultural participation in households with unemployed members were around 20p.p. higher than in those without such members in 2015. In the last two years, we observed a marked fall in the share of households with unemployed members or without those that were forced into withdrawals for financial reasons however, it was significantly higher in the first group.

In 2015, the differences between respective groups of households broken down by class of place of residence in terms of their need to forgo attendance at selected forms of cultural events for financial reasons were not very significant, though greatest in the case of households from the largest cities at as much as 29% for theatre, opera, operetta, philharmonic and concert. In terms of Voivodship, households that reported withdrawals the most often were located in Łódzkie at almost 41% for theatre, opera, operetta, philharmonic and concerts. In the last two years, a fall in cancellations of attendance at cultural events for financial reasons was observed in all place-of-residence classes, while it was the biggest in the 20k-100k towns for the theatre, opera, operetta or philharmonic by even 7p.p.. A rise in opportunities to attend cultural events in that period was reported by households in all voivodships, most often by households from Lubuskie (an increase from 14 to over 20p.p.) and Łódzkie (an increase from almost 3 to over 9p.p.).

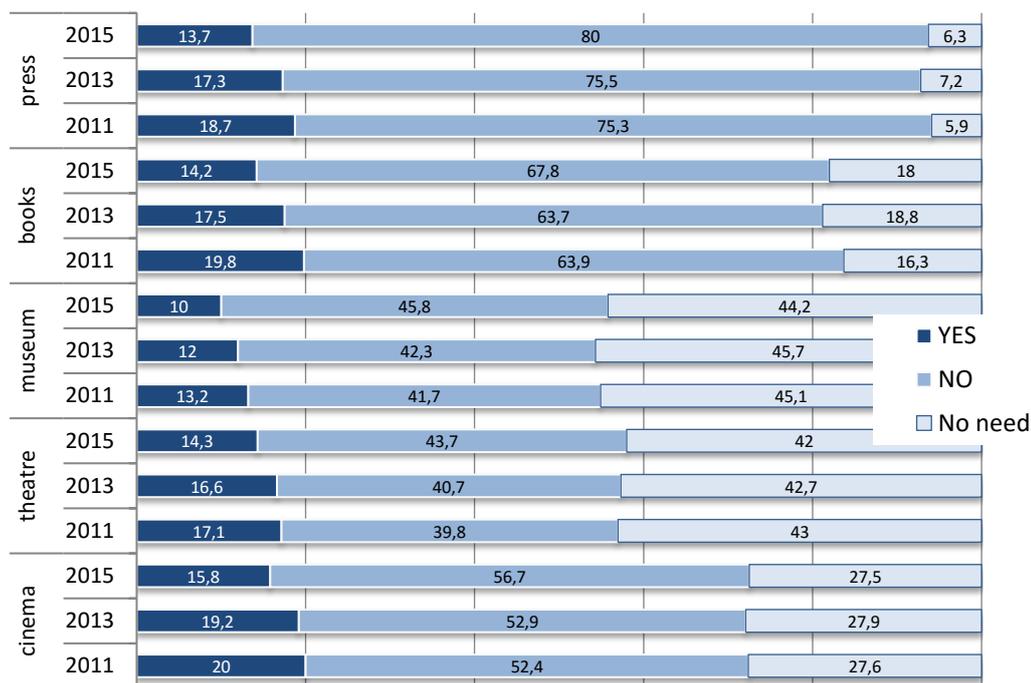


Figure 4.6.2. Households forced to forgo selected forms of participation in culture due to lack of funds in the last year (in the 2011-2013 panel sample in % of answers)

17% of the analysed households were forced to abstain from purchasing a book for financial reasons last year. This number decreased in 2015 by almost 6p.p. with respect to 2011 (Figure 4.6.1.). In the last two years, the percentage of abstentions from purchasing a book for financial reasons dropped by over 4p.p.

In 2015, resignations from press purchase were clearly the most frequent in households living on unearned sources and the farmers' ones (almost 39% and over 27% respectively). The lowest resignation rate was reported by entrepreneur households (below 8%). The frequency of press purchase resignations did not decrease

significantly in 2015 in comparison to 2013 only in households living on unearned sources. The highest decrease occurred in the group of farmers' households (decrease by almost 10p.p. in this group).

The necessity to abstain from press purchase occurred significantly more often in households with unemployed members than without in 2015 (almost 26% and almost 16% respectively). In the 2013-2015 period, the frequency of such abstentions decreased significantly in both groups.

Considering the types of households, the lack of funds for press purchase occurred most frequently in single-parent households in 2015 (almost 23% of households of that type). In the last two years, the scope of resignations from press purchase decreased significantly in all types of households, while it was the biggest in the households with more than three children and in single-parent households (by over 9 and almost 3p.p. respectively).

The necessity to abandon press purchase was most frequently reported in towns of 20k-100k inhabitants and the biggest ones of over 500k inhabitants at almost 16%. The differences across Voivodships in terms of households that had to forgo buying press for financial reasons were marked. The necessity was most often reported in Dolnośląskie and Kujawsko-Pomorskie (18% and almost 17% respectively). Decrease of those types of resignations in the previous two years was observed in all classes of places of residence, while it was the biggest in the smallest towns (around 6p.p.). In all voivodships we observed a decrease of percentage of towns declaring lack of funds for press purchase in the last two years; it was the strongest in Łódzkie, Lubuskie and Warmińsko-Mazurskie Voivodship (almost 9 for the first one and 7p.p. for the last two).

In 2015, apart from the resignations from participation in culture for financial reasons, the lack of need to participate in culture was also examined in the households. The lack of need to purchase press was expressed the most rarely (over 6%), while it was the most frequent for visits to museum or exhibition (over 41%). The lack of need to go to theatre, opera, operetta, philharmonic or concert was declared by almost 40% of households, for the cinema it was over 24% and for book purchases – around 16%.

In the 2011-2015 period, the percentage of households expressing a lack of need to participate in culture in the aforementioned ways increased significantly only in case of book purchases (by almost 2p.p.) (Figure 4.6.3.). At the same time, the frequency of lack of interest in going to theatre, opera, operetta, philharmonic or concert decreased in households (by over 1p.p.)

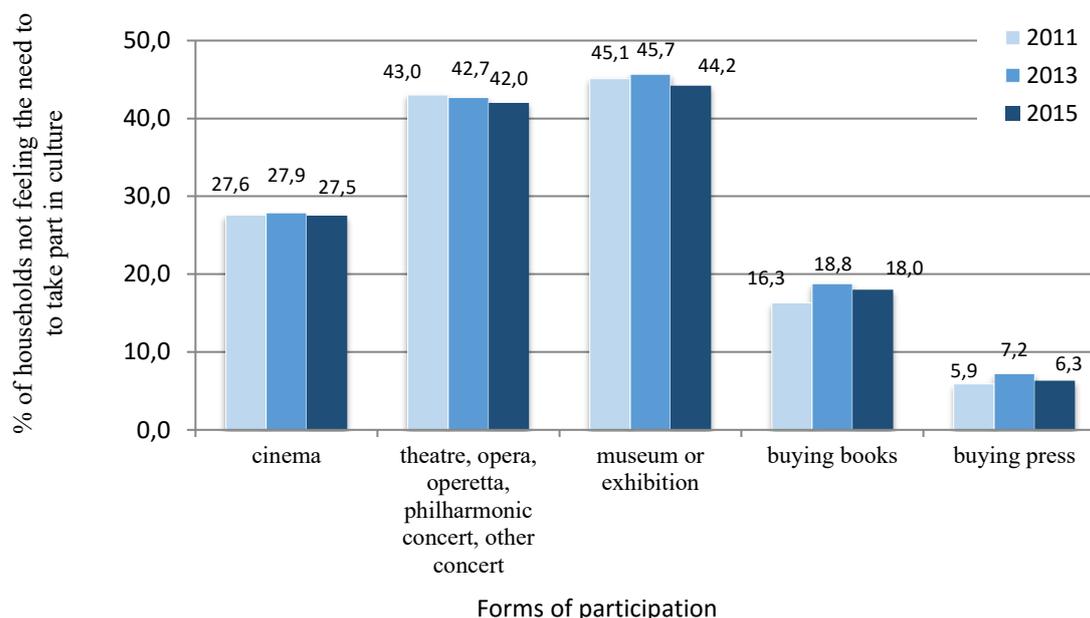


Figure 4.6.3. The lack of need in households to take part in chosen cultural events between 2011 and 2015 in the panel sample.

Considering the socio-economical groups of households, the highest percentage of those uninterested in press purchase can be found in the households living on unearned sources of income (over 12%), and the lowest – in the employees' and self - employed households (under 5%). The households that are the least interested in book purchase are the pensioners' ones and the ones living on unearned sources of income (almost 30%) and the most interested are the self - employed ones (only under 8% declare a lack of need to buy books) and employees' households (a bit over 8%).

The lack of interest in theatre, opera, operetta, philharmonic or a concert is expressed the most often in the pensioners and retirees households: almost 58% for and over 52% respectively. It is the least frequent in the self -

employed households (around 21%) and employees' ones (around 30%). The lack of need to visit a museum, exhibition or cinema was also the most often in pensioners' households (over 60%) and the least frequent in the self - employed and employees' households (over 26% and almost 32% respectively). The households with unemployed members expressed a lack of interest in theatre, opera, operetta, philharmonic, concert, exhibitions or museum significantly more often than the ones without unemployed.

Considering the type of household, the lack of need for cultural participation was the most often in the non-family single-person households (from almost 43% for Cinema to over 51% for museum or exhibition) and the rarest for couples with two children (from around 10% for Cinema to over 33% for museum or exhibition).

The lack of cultural needs increases, as the size of place of residence decreases. The press and books are an exception – here, the lack of interest is the most pronounced for small towns. Considering the voivodships, the variability of cultural needs was minor in 2015. The lowest interest in cultural participation was observed in the eastern voivodships and in Świętokrzyskie.

The cultural participation of households can be implicitly measured by their volume of book collection and the book purchases. The volume of book collection stays on a stable level since 2007 (Table 4.6.1.). There are more households that do not have any books and less of those that own more than 100 volumes.

The same stable level of volume of book collections can be also seen in the panel sample from the 2011-2015 period (Figure 4.6.4.). The number of households with the biggest book collections (over 500 volumes) has slightly (by 1p.p.) decreased.

Table 4.6.1. Number of households with a specific volume of book collection between 2007-2015

Number of volumes	2015	2013	2011	2009	2007
0	11.7	13.2	12.5	12.8	10.1
Up to 25	22.8	21.9	21.9	22.3	23.1
26-50	22.6	22.9	22.1	21.6	21.5
51-100	20.9	20.4	21.2	20.7	20.6
101-500	16.7	16.5	16.9	17.2	19.8
over 500	5.4	5.0	5.4	5.5	5.9

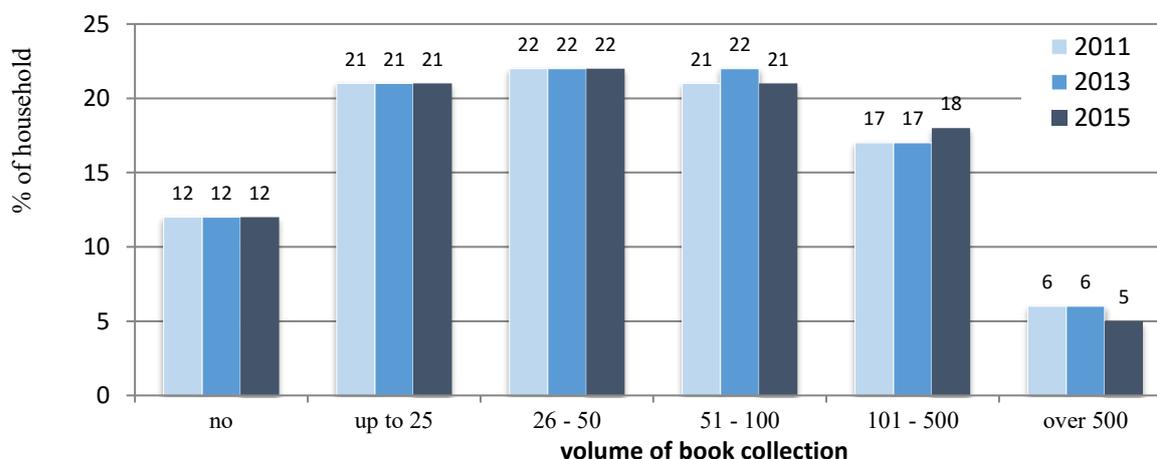


Figure 4.6.4. Volumes of book collections in 2015

In March/June 2015, the lack of a book collection was most often reported by the households living on unearned sources of income and pensioner households at more than 27% and over 29% respectively. The largest collections of more than 500 volumes were reported by the households of the self - employed at over 10%. In no groups has the percentage of households declaring no book collection changed significantly in the last two years.

Differences between households with and without unemployed members in terms of book collections were significant at almost 16% and over 11% without collections respectively. The share without book collections increased in the group with unemployed members by almost 3p.p.

Among the household types analysed within the study, in March/June 2015 book collections were absent the most often from non-family multi-person and one-person households at over 20% and over 21%. The largest book collections (more than 500 volumes) were the most common among households of married couples without children at almost 8%. In the last four years a marked rise in the households with book collections occurred only among couples without children (by around 3p.p.) and a significant decrease in multi-person non-family households (by around 5p.p.).

Households in rural areas do not have book collections much more often than those in urban areas at more than 19% of households in rural areas compared to less than 5% in the largest cities. Households with the largest

book collections lived most often in the largest cities at more than 14% from that group. In the last four years, a rise in the percentage of households without book collections occurred only in rural areas. Households that were least likely to have a book collection in March/June 2015 were most frequent in Świętokrzyskie at nearly 21%.

Just over 52% purchased books other than student's books and instructions in the last year (Table 4.6.2.) - a little bit more than in 2012 (47.6%). The biggest percentage bought not more than 3 books.

Table 4.6.2. Percentage of households that purchased books, whether paper or electronic versions, other than student's books or instructions in the last year

Year	Purchased any books	Bought a specific amount of books				
		1-3	4-6	7-10	11-20	Over 20
2013	47.6	30.2	28.1	21.8	12.3	7.6
2015	52.2	33.9	26.1	20.7	11.5	7.7

Households of pensioners and households living on unearned sources of income bought no books at over 69% and over 64% respectively, while those without unemployed members bought books relatively more often at over 53% than those with the unemployed at nearly 41%. Among the most rarely purchasing books in the last year were multi-person non-family households at only just below 38%. In the last year urban households purchased books far more often than their rural counterparts at over 74% in the largest towns and over 36% in rural areas. Households in Warmińsko-Mazurskie bought books the least often in the last year at below 40% of the total.

Households most often reported that the degree of their cultural need satisfaction had not changed over the last two years at over 83%. By contrast, nearly 11% think that the situation had deteriorated and only 6% reported an improvement. The percentage that negatively evaluates the degree of their cultural need satisfaction decreased significantly by over 6p.p. since March 2013.

As of March/June 2013, households living on unearned sources of income were the most pessimistic in evaluating changes in the degree of their cultural needs satisfaction (approx. 30% reported a decrease in this respect). In terms of household types, incomplete families and couples with 3 or more children are the most likely to formulate negative opinions about the changes at nearly 24%. In the group with the unemployed members, around 29% provided negative answers, while in the group without this ratio only amounted to nearly 16%. Negative opinions on changes in degree of cultural need satisfaction were the most frequent among households in the largest cities at over 24%. The greatest percentage of pessimistic evaluations of the change in degree of cultural need satisfaction was reported in Łódzkie and Pomorskie Voivodships at nearly 24% and more than 20% respectively.

The size of the book collection, as well as the forms of cultural participation discussed above, is related to material well-being (income and household equipment) and is also strongly correlated to civilisation level (the number of modern communication devices). Since both material well-being and civilisation level depend on educational attainment, one may expect that many forms of cultural participation will correlate with the educational attainment of household members, which is indeed the case (Tables 4.6.3. and 4.6.4.). Nearly all households with heads with a higher education have a book collection of some sort, most often (32%) comprising of 100 to 500 volumes, and the lack of interest in buying newspapers, books, going to exhibitions, the theatre and the cinema is the least frequent here.

In the last four years, interest in buying newspapers fell in all households selected by household head's educational attainment with the exception of those with secondary education; in those with basic vocational education, the interest in buying books also decreased. The interest in cinema, theatre and exhibitions did not change or rose in all households selected by household head's educational attainment (Table 4.6.4.).

Table 4.6.3. Percentage of households with book collections by household head's level of education

Household head's educational attainment	Volume					
	no	up to 25 items	26-50 items	51-100 items	101-500 items	Over 500 items
Primary or lower education	33.7	35.2	17.7	8.8	4.0	0.6
Basic vocational	14.0	30.2	27.4	18.6	8.7	1.2
Secondary	6.2	19.7	26.4	25.3	18.6	3.9
Higher or post-secondary	1.5	9.8	15.6	26.1	31.9	15.1

Chi-square = 3443, df = 15, p < 0.000.

Table 4.6.4. Percentage of households that were not interested in various forms of cultural participation by the household head's level of education in 2011 and 2015.

Household head's educational attainment	No interest in									
	cinema		theatre		exhibitions		buying books		buying press	
	2015	2011	2015	2011	2015	2011	2015	2011	2015	2011
Primary or lower education	53.8	59.8	67.4	71.6	68.4	72.9	41.0	43.3	14.3	15.8
Basic vocational	25.9	27.4	47.7	48.0	50.5	51.5	19.5	17.9	6.3	5.9
Secondary	19.7	20.3	34.5	36.3	37.1	38.4	9.7	10.0	4.2	4.2
Higher or post-secondary	8.9	8.9	17.5	20.5	18.0	21.9	4.2	4.0	4.1	2.9

In general, financial restraints on cultural participation, lack of need to participate in culture, the assessment of the extent to which one's cultural expectations are met and the size of book collection largely depend on the financial situation, educational attainment and civilisation level. Only television and - increasingly - the internet are commonly available as carriers of cultural content, with the TV more in use among those who do not have other cultural needs (see section 5.11 for a discussion of the role of television).

#### 4.6.2. Recreation

The percentage of households forced to cancel recreational holiday travel plans for financial reasons in 2015 was below 35% in the case of family trips (adults with underage children) and almost 40% for adults<sup>32</sup>. However, we have observed a marked improvement from 2011 and 2013<sup>33</sup> (Figure 4.6.5.). The fall in this kind of cancellation was nearly 7p.p. for adults, almost 8p.p. for family trips and 6p.p. for children. The decrease was especially high in the last two years.

By far the most frequent cancellations took place among households living on unearned sources and pensioners at 72% for adults to 73% for children in the first group and from over 57% for adults to over 67% for children in the case of the second group, and the least frequent - among households of the self - employed (from almost 19% for family trips to nearly 21% for adults). The rise in cancellations was marked in 2015 compared to 2013 in case of adults among households living on unearned sources at over 7p.p.

By far the most frequent cancellations took place among households living on unearned sources and pensioners at 72% for adults to 73% for children in the first group and from over 57% for adults to over 67% for children in the case of the second group, and the least frequent - among households of the self - employed (from almost 19% for family trips to nearly 21% for adults). The rise in cancellations was marked in 2015 compared to 2013 in case of adults among households living on unearned sources at over 7p.p.

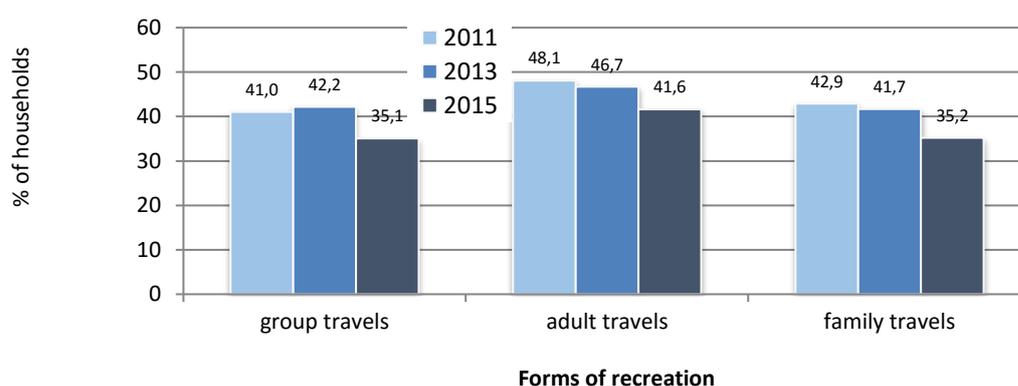


Figure 4.6.5. Percentage of households forced to forgo selected forms of recreation of those interested in those forms of recreation in the 2011-2015 panel sample

In 2015, households most frequently forced to cancel their holidays for financial reasons were those of incomplete families and multi-children couples (from nearly 50% for family trips to over 58% for adults in the first group and nearly 46% for children to nearly 53% for adults in the second group). In the last two years the frequency of holiday cancellations for financial reasons increased significantly only in case of adults among couples with one child at almost 6p.p.

<sup>32</sup> The data refer to the subpopulation of households that are interested in this type of recreation.

<sup>33</sup> All the changes in the scope of households' participation in recreation in the 2011-2015 period pertain to the panel sample from those years, i.e. the households that were examined in 2011, 2013 and 2015.

The frequency of financially motivated holiday cancellations in 2015 was significantly higher among the households with unemployed members than it was in the group without at over 54% and over 31% for family trips to nearly 62% and over 37% for adults. Between 2013 and 2015, in the households with and without unemployed members, the frequency of cancellations decreased for all types of vacations; it decreased more for those with unemployed members.

In 2015 definitely the largest share of households forced to cancel their holidays of the selected kinds for financial reasons resided in rural areas. In the case of adults, this was true for over 48% of households, and for children and families almost 40%. The worst situation for family holidays was in Świętokrzyskie and Podkarpackie with over 48% and almost 45% reporting cancellations respectively, and for adults in Łódzkie and Świętokrzyskie at nearly 56% and around 51% respectively. Children's holidays were most often cancelled in Świętokrzyskie and Podkarpackie at almost 46% and over 41% respectively.

In the last two years, we observed clearly the largest growth of financially motivated holiday cancellations in the 100-200k inhabitants' towns and only for children at 11p.p.

In the last two years, the most marked growth in holiday cancellations took place in Świętokrzyskie by over 5p.p. for adults, 7p.p. for family trips and almost 4p.p. for children.

Apart from household financially motivated cancellations of the selected forms of holiday, we also studied their lack of noticing a need for holiday. In March/June 2015, households did not feel the need for adult holidays the most rarely at nearly 26% and most often – for children's holidays at nearly 61%. In the last four years there has been a marked growth in the lack of noticed need for family holidays by over 2p.p. and for children by over 1p.p. (Figure 4.6.5.). Also, in the last two years we noticed a similar growth trend, with a lack of interest in those forms of holiday, except for family trips.

In February/March 2013, the households of pensioners and retirees declared a lack of interest in the analysed forms of holiday the most often at over 40% for adults to 90% for children and least frequently - those of the entrepreneurs from nearly 23% in the case of adults' holidays to nearly 64% for children.

Multi-person households and those of incomplete families reported a lack of need for children's holidays most frequently at nearly 95% and nearly 74% respectively and in the case of adults' holidays - non-family households at nearly 39%. For family holidays the largest shares were among non-family multi-person and incomplete family households at nearly 92% and almost 65% respectively.

Differences in the frequency of lack of interest in the selected holiday types according to place of residence were not especially great in 2013. Households that most often lacked interest in children's and family holidays were those in the largest towns at nearly 83% and almost 69% of households. For adults, mostly rural households showed a lack of interest at around 42%. Also, territorial variation in a lack of interest in holidays was insignificant, with households in Lubelskie and Podkarpackie only showing a marked lack of interest in group holidays for adults at over 43% and over 41% respectively.

In 2013, nearly 72% of households stated that their holiday needs satisfaction had not changed compared to two years before. At the same time, nearly 26% indicated a worsening of the situation and only nearly 3% an improvement. In relation to the assessment of changes in 2011, there was a rise in negative change ratings by over 3p.p. The most pessimistic households were those living on unearned sources at nearly 38% and couples with many children and incomplete families at nearly 37% and almost 32% respectively. Among the households with unemployed members, the negative assessment was much more frequent than among the ones without unemployed members (almost 40% and over 23% respectively). Negative ratings were most often reported in the largest towns at nearly 33% and in Dolnośląskie (around 32%) and Warmińsko-Mazurskie (nearly 32%).

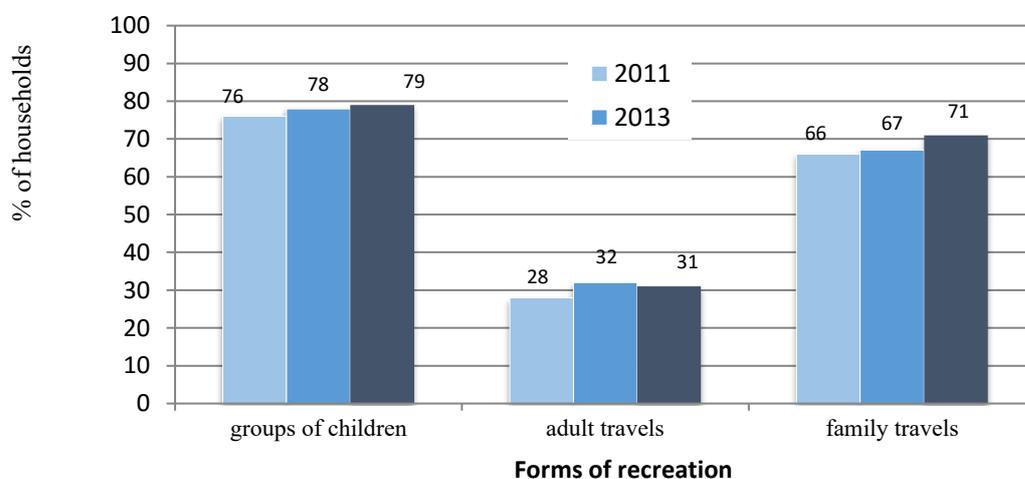


Figure 4.6.5. Households' lack of need to take selected forms of recreation in the 2011-2015 panel sample

## 4.7. Health care

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### Abstract

According to declarations of households in 2015, over 93% of them used services of health care institutions funded with public funds, but at the same time, almost 54% of them used services of institutions which required them to pay and only almost 7% used services of institutions which were paid up by their employer who purchased subscription or insurance. During the year prior to the study, households which had to buy medicines or health care services usually resigned from sanatorium stays, obtaining dentures or rehabilitation services due to lack of money. In the last four years, the percentage of households which had to make such sacrifices declined significantly in relation to all health care services, except for rehabilitation treatments. Almost half of households spend some money on health services. On average, the most expensive were treatments and ambulatory tests (PLN 591), then medicines and other pharmaceutical products (PLN 376), the so-called “proofs of gratitude”, a form of “bribe”, by which respondents tried to achieve faster or better care (e.g. more interest in the patient’s state, the choice of operating doctor or the doctor taking care of the patient, faster services etc.) cost on average PLN 377. The average fee in a public hospital amounted to PLN 293 and the amount of a real “thank you” gift amounted to PLN 148. During the last for years the percentage of households paying for bribes increased significantly as well as the real value of the bribes (by 16.6%).

### 4.7.1. Use of the healthcare system

As reported by households in 2013, more than 92% used healthcare facilities funded by the National Health Fund (Narodowy Fundusz Zdrowia, NFZ), but also over half took advantage of services provided by establishments for which they paid themselves, and 7% took advantage of the services paid for by employers who purchased subscription or insurance. The percentage of households that took advantage of medical services paid from all three sources increased significantly compared to previous years (Table 4.7.1.).

Table 4.7.1. Percentage of households that use healthcare facilities by the source of funding

Year of study	Public funding	Private funding	Subscriptions
2000	86.4	38.6	4.9
2003	89.6	35.6	4.5
2005	91.2	37.4	4.3
2007	92.4	44.0	5.0
2009	92.0	49.0	5.1
2011	91.3	49.2	6.5
2013	92.4	50.6	7.0
2015	93.4	53.9	6.9

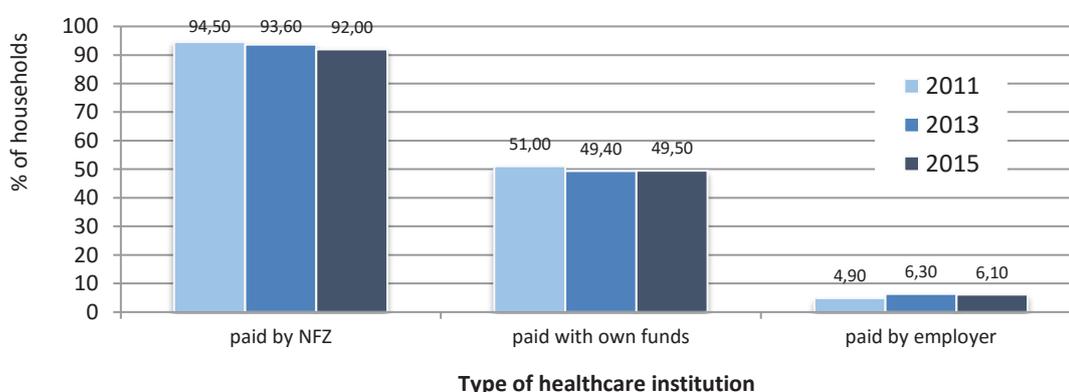


Figure 4.7.1. The extent of healthcare service use in the 2011-2015 panel sample

Between 2009 and 2013<sup>34</sup> the percentage of households that used services paid by employers that had bought a subscription increased very slightly within the margin of statistical error (by 1p.p., Figure 4.7.1.). In the last two

<sup>34</sup> All the changes in health care in the 2011-2015 period pertain to the panel sample from those years, i.e. the households that were examined in 2011, 2013 and 2015.

years, the utilization frequency by households from the selected kinds of health service centres did not change significantly.

Table 4.7.2. Percentage of households that use healthcare facilities in the last year

Socio-demographic group	Paid by NFZ		Paid with own funds		Paid by the employer	
	2015	2011	2015	2011	2015	2011
Socio-economic group						
Employees	92.0	90.6	59.7	55.5	11.9	11.1
Farmers	92.0	90.0	51.8	48.7	.*	-
Self - employed	91.2	88.5	79.2	71.0	6.8	5.9
Retirees	96.3	93.8	46.1	41.9	0.8	1.4
Pensioners	97.7	94.4	37.3	28.3	-	-
Living on unearned sources of income	88.2	82.5	28.7	29.4	-	-
Type of household						
Single family:						
Married with no children	94.2	92.5	59.5	52.2	6.5	6.4
Married with 1 child	96.0	93.5	64.2	60.5	11.3	9.5
Married with 2 children	94.8	93.7	64.7	59.6	9.9	9.6
Married with 3+ children	96.4	95.3	57.6	51.5	7.6	6.3
Incomplete families	94.8	91.7	43.7	41.4	5.2	4.8
Multi-families	98.2	95.3	63.3	53.7	5.1	5.9
Non-family:						
Single person	87.6	84.9	37.0	34.1	3.3	3.5
Many person	84.7	89.3	37.4	40.4	5.7	1.0
Class of place of residence						
Towns of over 500k	88.9	89.8	65.1	60.3	15.7	17.3
200-500k	93.6	90.7	57.2	55.4	11.9	9.3
100-200k	95.9	92.2	54.4	46.6	8.9	7.1
20-100k	94.3	92.1	53.5	49.3	5.5	4.5
less than 20k	93.3	91.1	51.9	44.2	3.8	4.2
Rural areas	94.1	91.5	48.8	44.7	2.8	2.7
Voivodship						
Dolnośląskie	91.2	91.6	59.4	53.0	8.3	8.0
Kujawsko-pomorskie	95.2	90.9	49.2	43.3	4.5	2.8
Lubelskie	96.4	92.9	52.3	48.4	6.2	5.2
Lubuskie	96.7	94.2	58.3	56.4	8.1	5.8
Łódzkie	94.5	92.7	53.0	50.2	5.0	2.9
Małopolskie	94.9	92.5	55.0	54.4	4.9	6.3
Mazowieckie	89.4	88.5	59.4	52.6	13.2	13.5
Opolskie	97.0	88.9	54.6	39.7	2.3	2.8
Podkarpackie	94.5	95.1	55.4	56.9	3.3	2.6
Podlaskie	92.7	93.3	43.3	49.5	1.5	2.7
Pomorskie	93.4	91.3	55.2	52.2	15.8	9.9
Śląskie	93.6	91.6	53.5	46.4	6.8	5.7
Świętokrzyskie	92.5	88.9	53.2	47.1	2.5	3.1
Warmińsko-mazurskie	93.3	89.6	30.6	27.0	1.1	1.9
Wielkopolskie	96.5	91.8	59.2	50.2	4.2	6.7
Zachodniopomorskie	89.0	89.8	45.6	42.8	5.1	5.0
Income per person						
Lower quartile	93.5	91.8	33.2	29.7	1.8	1.3
Middle 50%	95.3	94.0	55.3	48.9	4.9	4.6
Upper quartile	89.9	89.1	71.7	68.1	15.8	14.5

\* - number of cases too low.

The most prosperous households used health services payable on the spot relatively most often in the last year (over 70%), couples with 1 or 2 children (over 60%) and those residing in the largest cities (nearly 60%). Households without unemployed members used paid health services significantly more often than those with the unemployed at over 52% and not quite 42% respectively, as did urban households compared to those in rural areas at nearly 60% of those in the largest cities and only 45% in rural areas. This kind of health service was clearly used the most rarely by households in Warmińsko-Mazurskie Voivodship (only not quite 27%). In the last 2 years, we observed a rise in the share of households using paid health services among pensioners (nearly 2p.p.), childless couples (nearly 2p.p.) and those residing in the smallest towns (over 2p.p.).

Members of households stayed in hospital for reasons other than pregnancy in over 23% of households during the past year. The frequency of hospital attendance does not have a marked variability among the selected household groups and did not change much over the last four and two years (Table 4.7.3.).

Table 4.7.3. Percentage of households in which a member was in the hospital between 2011 and 2015

Group	2015	2013	2011
Socio-economic group			
Employees	20.3	20.7	22.5
Farmers	22.5	21.7	25.9
Self - employed	20.1	18.2	23.3
Retirees	27.8	27.8	27.6
Pensioners	30.3	27.9	31.1
Living on unearned sources of income	23.4	16.0	22.0
Type of household			
Single family:			
Married with no children	25.3	25.4	28.6
Married with 1 child	24.2	22.0	24.5
Married with 2 children	22.5	23.5	24.8
Married with 3+ children	25.4	26.8	28.7
Incomplete families	24.3	20.4	28.6
Multi-families	33.0	33.1	24.5
Non-family:			
Single-person	18.0	17.8	24.8
Multi-person	20.3	21.3	28.7
Class of place of residence			
Towns of over 500k	20.9	23.8	23.7
200-500k	24.3	20.2	23.9
100-200k	21.3	22.1	24.6
20-100k	24.7	25.4	24.9
less than 20k	23.2	23.0	26.5
Rural areas	23.8	21.9	24.8
Voivodship			
Dolnośląskie	26.0	24.1	29.1
Kujawsko-pomorskie	22.9	22.3	26.7
Lubelskie	25.4	24.0	26.7
Lubuskie	25.5	21.7	25.2
Łódzkie	26.9	27.3	28.1
Małopolskie	17.9	21.0	22.8
Mazowieckie	23.7	25.0	23.4
Opolskie	29.1	21.8	25.5
Podkarpackie	28.0	27.4	26.1
Podlaskie	26.8	20.9	29.0
Pomorskie	22.6	21.1	19.7
Śląskie	22.6	20.8	23.7
Świętokrzyskie	29.3	27.6	28.5
Warmińsko-mazurskie	15.5	18.8	18.0
Wielkopolskie	21.3	21.2	26.0
Zachodniopomorskie	17.8	19.4	20.3
Total	23.4	22.9	24.8

#### 4.7.2. Withdrawal from healthcare

A lack of funds forced the largest group of households to forgo purchasing medicines, dental care and doctor's care (Figure 4.7.3.). As far as the needy were concerned, the most financially motivated withdrawals concerned trips to sanatoria at nearly 29% of households, purchase of dental prosthetics (over 24%) and dental treatment (over 22%). In the last four years, (Figure 4.7.2.), the percentage of households forced to abstain from medical service did not rise significantly for any type of medical service. However, a significant decrease in those resignations has occurred in case of medicine purchase, trips to sanatoria and denture purchase (over 4, almost 4 and over 3p.p. respectively).

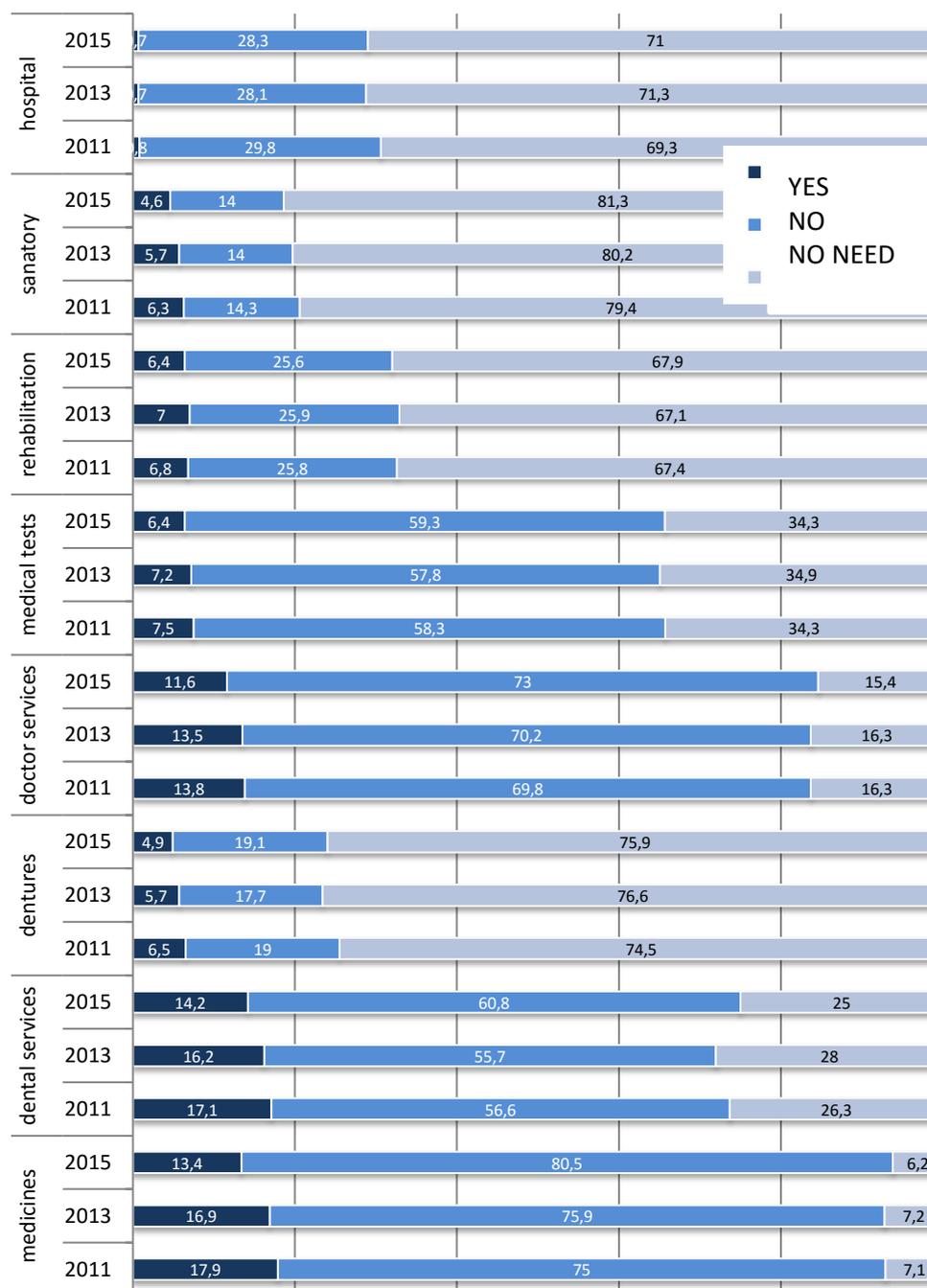


Figure 4.7.2. Percentage of households that did not use selected healthcare services due to financial difficulties between 2011 and 2015 in whole samples

The households living on unearned sources of income and those of pensioners' had to abstain the most often from buying medicine or medical services for financial reasons in the last year (12% and 5% for hospital treatment, over 51% and 41% for denture purchase, and 53% and almost 45% for dental treatment respectively) (Table 4.7.4.).

The frequency of such resignations was much higher in households with unemployed members than without, with the highest difference in resignations from dental treatment (almost 39% and over 19% of resignations reported respectively) and denture purchases (over 40% and over 21% of resignations reported respectively). Considering the type of household, the necessity to abstain from medicine purchase or medical treatment for financial reasons was reported most often by incomplete family and multi-children family households (almost 4% and 3% for hospital treatment, almost 25% and almost 25% for purchase of prescription or recommended medicine, and 33% and over 31% for dental treatment respectively).

Table 4.7.4. Percentage of households that did not use needed selected healthcare services due to financial difficulties

Group	Percentage of household which resigned from:							
	medicines	dental services	dentures	medical services	tests	rehabilitation	sanatorium	hospital
<b>Socio-economic group</b>								
Employees	10.2	18.0	17.3	10.6	7.5	18.3	19.9	2.0
Farmers	10.9	16.0	20.0	10.8	9.3	12.5	22.7	0.6
Self - employed	3.3	6.9	10.9	4.1	3.7	7.1	10.0	1.2
Retirees	16.8	16.3	17.5	15.6	10.2	19.1	23.6	2.0
Pensioners	33.3	40.4	39.9	30.1	20.7	37.0	49.5	2.8
Living on unearned sources of income	40.7	48.8	62.1	34.7	29.5	41.4	53.0	10.1
<b>Type of household</b>								
Single family:								
Married with no children	9.9	13.0	14.5	10.5	6.5	13.2	18.3	1.9
Married with 1 child	9.9	16.9	19.0	10.6	6.4	15.9	17.6	2.1
Married with 2 children	9.3	16.8	19.3	9.0	6.2	17.3	18.1	0.9
Married with 3+ children	17.7	23.5	18.8	17.0	11.5	25.0	27.4	2.3
Incomplete families	23.9	30.5	30.2	20.0	18.1	34.3	38.3	2.4
Multi-families	11.6	17.9	19.0	12.6	8.7	18.6	32.9	2.2
Non-family:								
Single person	20.1	20.7	24.1	18.6	13.3	24.0	28.8	3.6
Many person	22.7	32.9	28.6	22.3	22.9	40.6	25.0	0.0
<b>Class of place of residence</b>								
Towns of over 500k	10.9	15.8	16.6	11.8	9.7	19.0	18.2	3.8
200-500k	13.0	17.3	23.2	13.4	8.3	19.3	17.4	1.5
100-200k	11.5	14.7	12.0	11.2	9.0	16.2	20.9	2.0
20-100k	15.5	21.4	21.7	15.2	12.1	22.7	31.1	3.3
less than 20k	13.7	17.6	20.3	13.4	6.8	20.0	25.1	2.5
Rural areas	16.4	21.1	22.4	14.5	9.9	20.0	27.9	1.2
<b>Voivodship</b>								
Dolnośląskie	15.8	23.1	25.5	17.9	12.3	23.8	26.0	5.2
Kujawsko-pomorskie	17.0	22.1	18.3	13.7	10.5	20.9	16.8	.5
Lubelskie	16.6	21.5	21.9	15.8	11.6	12.8	20.0	.5
Lubuskie	13.7	20.0	19.8	12.4	8.2	13.2	25.4	4.1
Łódzkie	18.2	19.2	19.2	19.0	12.7	24.2	29.4	.4
Małopolskie	13.0	14.1	13.7	11.3	6.8	15.6	20.7	3.3
Mazowieckie	13.3	18.3	23.9	11.9	8.7	20.1	23.3	4.5
Opolskie	10.6	17.2	10.1	9.2	7.9	15.1	15.2	0.0
Podkarpackie	16.7	21.9	30.0	16.9	12.3	21.3	31.9	1.7
Podlaskie	13.7	19.7	21.5	11.5	8.9	23.4	31.6	.8
Pomorskie	11.6	20.9	21.1	10.7	7.6	14.2	22.7	2.6
Śląskie	13.4	16.7	14.1	12.4	8.8	24.1	25.5	1.5
Świętokrzyskie	14.2	18.8	24.0	13.7	8.1	17.1	30.4	2.3
Warmińsko-mazurskie	16.0	26.3	36.7	17.0	11.3	20.4	48.3	2.9
Wielkopolskie	13.0	14.8	15.3	12.3	11.3	21.9	27.6	1.1
Zachodniopomorskie	12.7	19.5	21.8	14.9	9.0	25.0	24.7	0.0
<b>Income per person</b>								
Lower quartile	34.6	45.2	46.3	31.0	24.2	39.4	48.6	5.0
Second quartile	14.7	19.7	19.4	15.4	10.7	25.3	28.4	2.1
Third quartile	7.6	12.0	12.6	8.0	4.9	13.4	18.6	1.1
Upper quartile	2.4	4.5	4.6	2.9	2.5	6.7	6.1	.6
Total 2015	14.3	18.9	20.5	13.7	9.7	20.1	24.9	2.2
Total 2013	18.2	22.6	24.2	16.1	11.1	21.3	29.1	2.4

The households in rural areas were forced to abstain from those purchases or services significantly more often than the urban ones. The highest percentages of households forced into those resignations were reported in Warmińsko-Mazurskie Voivodship.

Over the last four years (Figure 4.7.3.), the share of households forced into this kind of withdrawal did not rise significantly for any health service treatments. However, there was a marked fall in the case of medicine purchase, trips to sanatoria and dental prosthetics (over 4p.p., nearly 4p.p. and over 3p.p. respectively). In 2011-2013, the share of households forced into financially motivated withdrawals fell significantly. In the case of trips to sanatoria, prescription realization and purchase of medicine the falls amounted to nearly 3p.p. and almost 2p.p. respectively. Over the same period there was no rise in the share of households forced into financially motivated withdrawals from the remaining health service treatments. However, there was a strong rise in withdrawals for dental

prosthetics reported among households living on unearned sources, employees and farmers at almost 8p.p. and nearly 6p.p. respectively, those of couples with one child and couples with many children at nearly 9p.p. and around 7p.p. respectively) and those residing in the smallest towns and largest cities (over 8p.p. and almost 6p.p. respectively). It is also worth noting, that a growing number of households living on unearned sources of income had to forego a hospital treatment because of financial reasons.

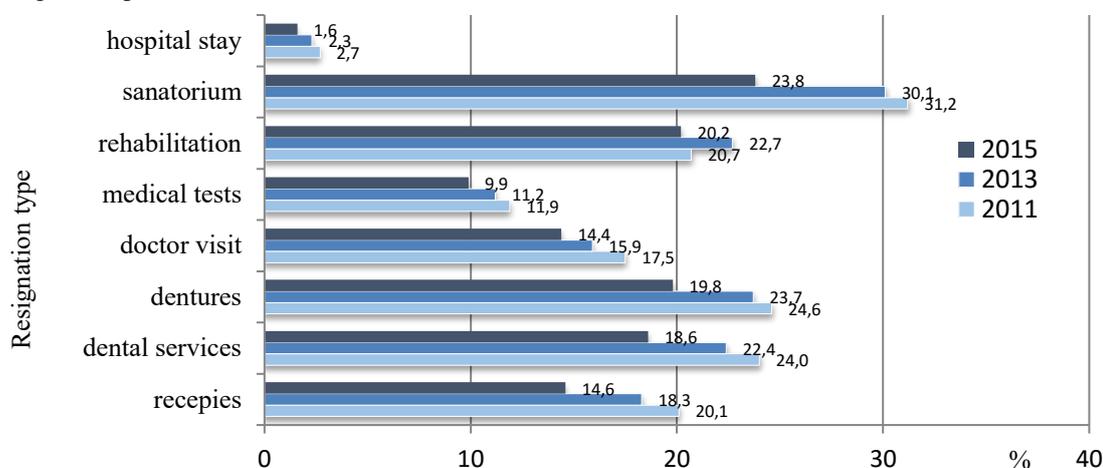


Figure 4.7.3. Percentage of households which for financial reasons had to forgo medical services and abstain from medicine purchase, despite the need for those, between 2011 and 2015 in the panel sample

### 4.7.3. Household expenditure on healthcare services

We have already mentioned that nearly half of households pay for some healthcare services out of their own resources. Let us see now what this money was spent on during just one quarter prior to the study, and in what amounts (Table 4.7.5.).

Table 4.7.5. Percentage of households that paid for healthcare in one quarter and average expenditure between 2011-2015 in whole samples

	Medicines and pharmaceuticals			Purchase of outpatient healthcare services			Informal payments. "expressions of gratitude" (bribes)			Gifts as expressions of true gratitude			Payments in public hospitals		
	2015	2013	2011	2015	2013	2011	2015	2013	2011	2015	2013	2011	2015	2013	2011
Percentage of households incurring such expenditures	98	91	87	44	39	39	2.2	1.4	1.7	2.3	1.9	1.6	2.2	1.8	2.1
Average value of expenditures	376	412	366	591	596	555	377	273	309	148	128	142	293	261	290

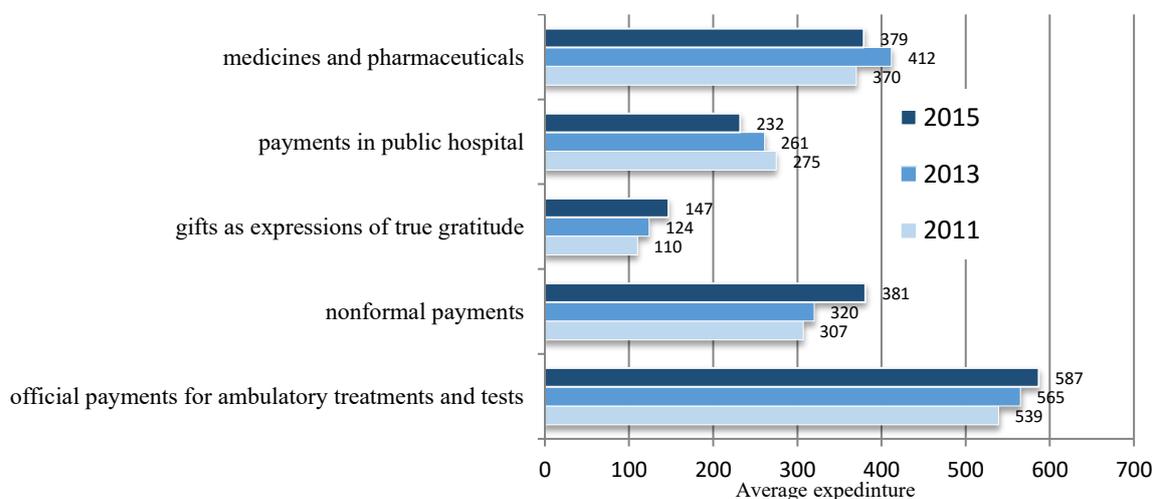


Figure 4.7.4. Household spending on healthcare in the last three months in the 2011-2013 and 2015 panel sample

Table 4.7.6. Households' spending on treatment, diagnosis, medicine and other pharmaceutical products by socio-economic group. Household type, class of place of residence, voivodship and PLN income in whole samples for 2013 and 2015 in household groups bearing selected cost categories (data for three months)

Group	Expenditure in PLN			
	Treatment and tests		Medicines and similar	
	2015	2013	2015	2013
Socio-economic group				
Employees	626	621	333	374
Farmers	454	629	387	430
Self-employed	758	622	411	427
Retirees	518	537	448	477
Pensioners	378	428	384	429
Living on unearned sources of income	474	498	279	297
Type of household				
Single family:				
Married with no children	633	628	451	474
Married with 1 child	597	625	380	408
Married with 2 children	602	657	338	402
Married with 3+ children	700	657	370	379
Incomplete families	648	576	341	367
Multi-families	491	598	456	548
Non-family:				
Single person	504	447	326	358
Many person	414	436	309	352
Class of place of residence				
Towns of over 500k	837	701	401	445
200-500k	592	497	373	390
100-200k	594	604	371	388
20-100k	536	628	368	408
less than 20k	518	629	384	400
Rural areas	505	538	369	416
Voivodship				
Dolnośląskie	752	663	378	428
Kujawsko-pomorskie	450	600	366	383
Lubelskie	465	466	372	373
Lubuskie	759	554	386	433
Łódzkie	445	438	336	392
Małopolskie	623	519	401	418
Mazowieckie	794	801	417	467
Opolskie	578	602	377	514
Podkarpackie	358	587	360	448
Podlaskie	531	540	352	366
Pomorskie	613	738	369	449
Śląskie	595	495	389	375
Świętokrzyskie	450	523	374	346
Warmińsko-mazurskie	314	312	263	269
Wielkopolskie	504	624	392	444
Zachodniopomorskie	535	591	347	389
Household equivalent income				
1 <sup>st</sup> quartile	453	405	342	350
2 <sup>nd</sup> quartile	461	495	378	415
3 <sup>rd</sup> quartile	552	606	377	428
4 <sup>th</sup> quartile	783	715	411	449

In the last four years, the real rise in whole samples has occurred in the expenditure of households for the non-formal payments, „bribes” (by 16.6%) and ambulatory services (by 1.1%).

On average, the households that reported this particular type of expenditure spent the most on ambulatory treatment and tests (PLN 591), then on medicine and pharmaceutical products purchase (PLN 376); the so-called „expressions of gratitude” (i.e. bribes) by which respondents tried to achieve faster or better care (e.g. more interest in the patient's state, the choice of operating doctor or the doctor taking care of the patient, faster services etc.) cost on average PLN 377. The average payment in public hospital was PLN 293, and the cost of a real expression of gratitude for the care that already took place was (on average) PLN 148.

In the three months preceding the last study, the households of farmers, self - employed and employees spent the most on treatment and diagnosis at PLN 629, PLN 622 and PLN 620 respectively. Couples with 2 or more

children spent on average PLN 657, those in the largest and smallest towns on average PLN 699 and PLN 633 respectively and in Mazowieckie on average PLN 801 (Table 4.7.6.). In the households without unemployed members, expenditure was significantly higher than in those with unemployed members. The most prosperous households spent the most on treatment and outpatient test. In terms of regional division, Mazowieckie (highest spending at PLN 801) and Warmińsko-Mazurskie (lowest spending at PLN 312) stand out.

In the last two years, expenditure on treatment and tests rose significantly among households of farmers, retirees and incomplete families and fell among that of self - employed.

Households of retirees, i.e. those with the eldest members, spent relatively the most on medicines and other pharmaceuticals among the households with expenditure of this kind at PLN 477 on average. With regard to household types, incomplete families spent the most at PLN 474 on average. The highest household expenditure on medicines and other pharmaceuticals was noted in the largest towns and the lowest in middle-sized towns (100-200k inhabitants) at PLN 445 and PLN 386 respectively.

#### 4.7.4. Readiness to purchase additional health insurance

In the last two editions of the *Diagnosis* we asked household representatives about their readiness to purchase additional health insurance if that guaranteed improved access to medical treatment and better quality of it. We offered the choice of two variants, one below and one above PLN 100. In both editions, interest in additional health insurance was not large and falling (Figure 4.7.5.). This year,  $\frac{3}{4}$  of households refused the opportunity to purchase insurance of this kind and no more than 3% was prepared to pay more than PLN 100 per month for additional health insurance. This fall in interest in additional insurance is surprising, since the spending on outpatient treatment rose significantly in that period. While wealth does have an influence on declared interest in additional insurance, even in the top 1/5 of the most affluent households, half say „no”, and only 11% are ready to spend more than PLN 100 (Figure 4.7.6.). Education also differentiates interest in additional insurance, though in this case over half of households with higher education also refuse this option (Figure 4.7.7.). Other variables such as socio-economic group, household type and place of residence class have a minor effect on readiness to purchase additional health insurance (Figures 4.7.8-4.7.10.).

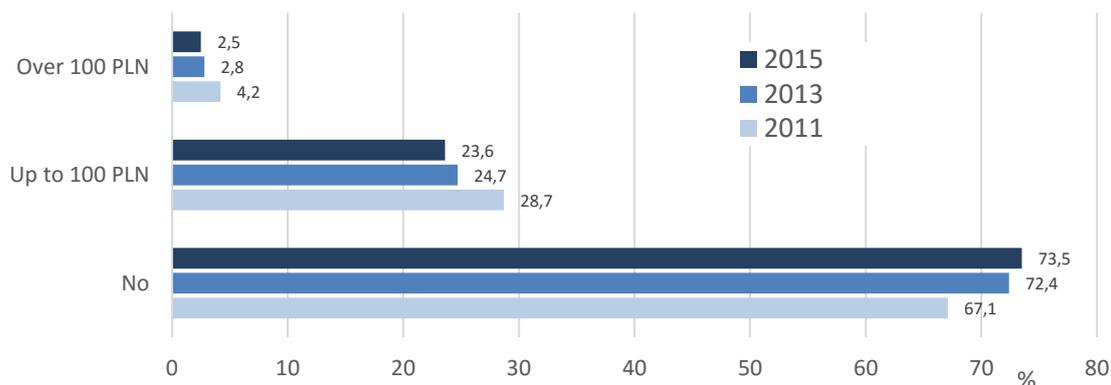


Figure 4.7.5. Percentage of households interested and not interested in purchase of additional health insurance for up to PLN 100 and over PLN 100 per month in the 2011-2013 and 2015 panel sample

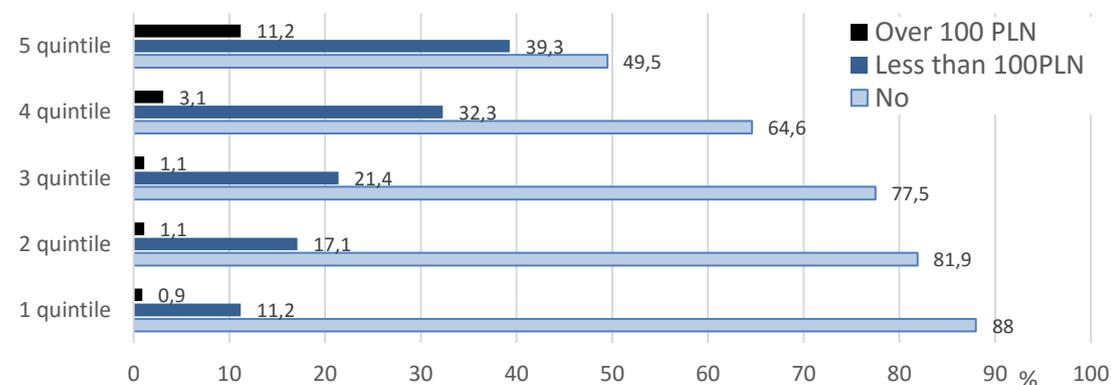


Figure 4.7.6. Percentage of households interested and not interested in purchase of additional health insurance for up to PLN 100 and over PLN 100 per month in 2015 by level of equivalent income

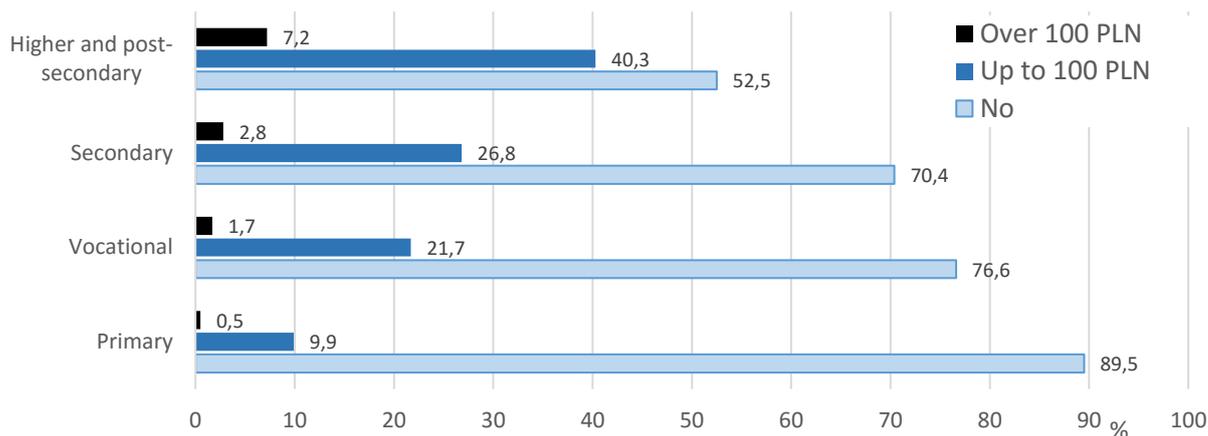


Figure 4.7.7. Percentage of households interested and not interested in purchase of additional health insurance for up to PLN 100 and over PLN 100 per month in 2015 by level of household head's level of education (the respondent)

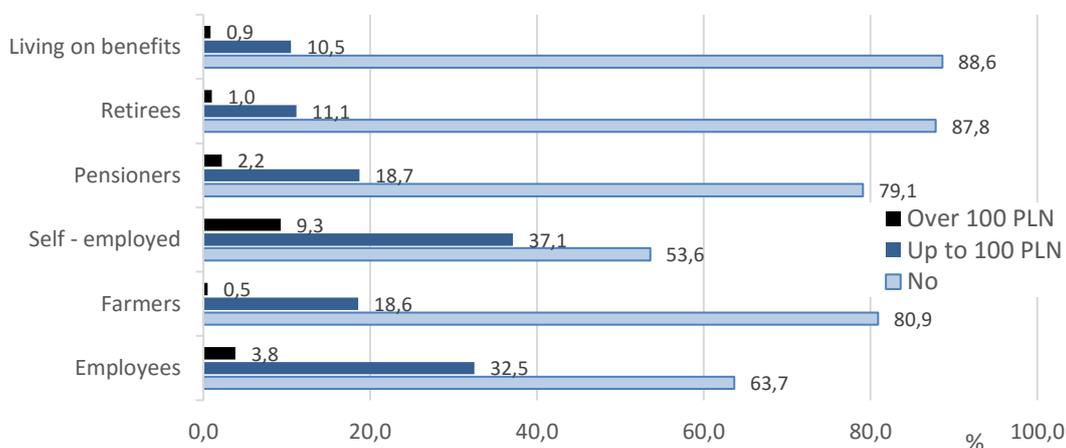


Figure 4.7.8. Percentage of households interested and not interested in purchase of additional health insurance for up to PLN 100 and over PLN 100 per month in 2015 by socio-economic group

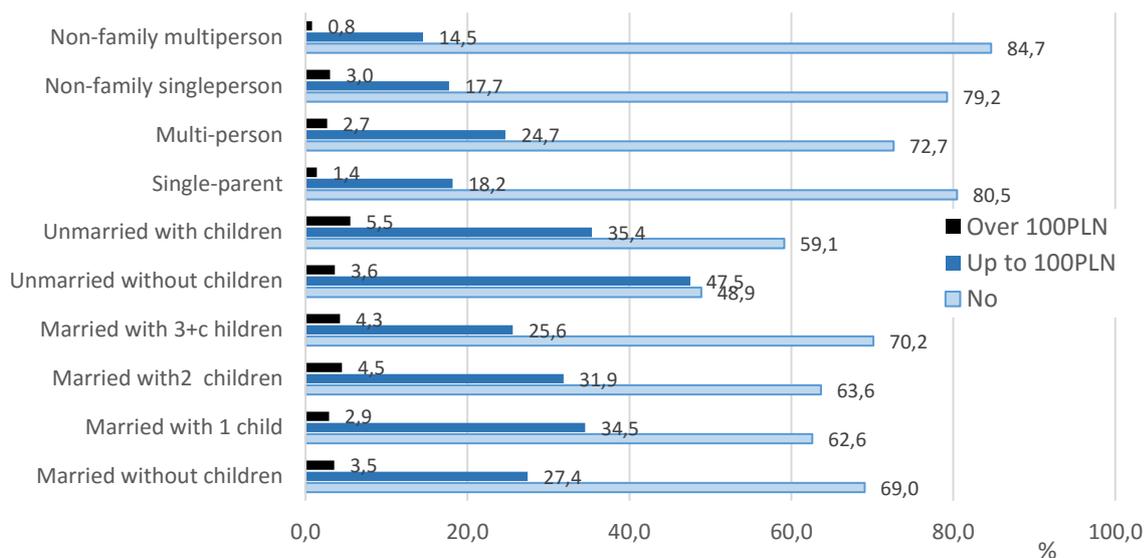
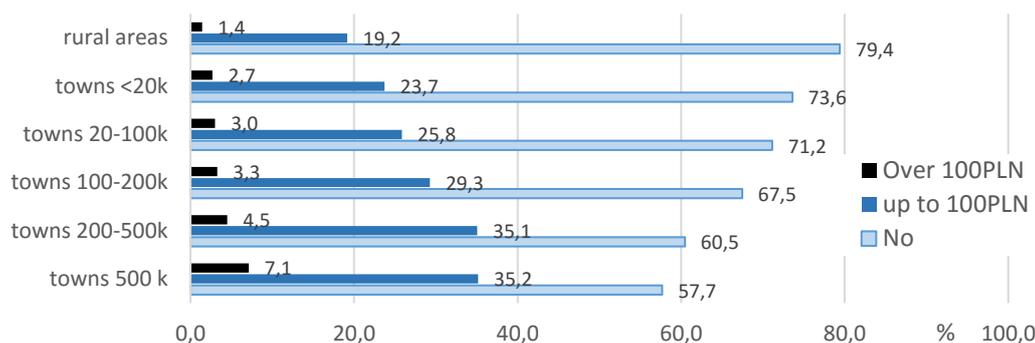


Figure 4.7.9. Percentage of households interested and not interested in purchase of additional health insurance for up to PLN 100 and over PLN 100 per month in 2015 by type of household



Figures 4.7.10. Percentage of households interested and not interested in purchase of additional health insurance for up to PLN 100 and over PLN 100 per month in 2015 by class of place of residence

#### 4.7.5. Assessment of changes in degree of healthcare need satisfaction

Despite continuing public criticism of the healthcare system, the percentage of negative retrospective evaluations of change in degree of healthcare need satisfaction fell systematically from 41% in 2000 to 25% in 2009, though in the last four years there has been a rise, admittedly small, in negative ratings (Table 4.7.7.). However, the unusually low percentage of positive opinions is not rising.

In comparison with 2011, in the group of households with the unemployed there were significantly more negative opinions about changes in healthcare need satisfaction than in those without such members at over 36% and over 26% respectively reporting negative opinions. In terms of the household types adopted here, negative opinions were formulated most often in the households of single-parent families and in non-family multi-person households at over 35% and nearly 30% respectively. The households that negatively evaluated changes in degree of healthcare need satisfaction lived mostly in largest cities and small towns of 20-100k at over 29% from these groups, and in Łódzkie, Warmińsko-Mazurskie and Dolnośląskie Voivodships at nearly 35% in the first and more than 33% in the second and the third of them.

Table 4.7.7. Assessment of change in degree of healthcare need satisfaction in recent years (since the last wave) in subsequent waves (%)

Healthcare need satisfaction	2000	2003	2005	2007	2009	2011	2013	2015
Worsened	41	38	38	27	25	26	28	20
Improved	3	4	3	4	3	2	2	3
Did not change	57	58	59	69	72	72	70	77

Please use the following citation when referring to this chapter: Panek, T. (2015). Household living conditions. Analysis of households' living conditions by Voivodship. Social Diagnosis 2015, The Objective and Subjective Quality Of Life In Poland. *Contemporary Economics*, 9/4, 119-122. DOI:10.5709/ce.1897-9254.186

## 4.8. Analysis of households' living conditions by Voivodship

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### Abstract

*Comparison of conditions of life in households according to the voivodship was done on the basis of a taxonomic measure of conditions of life. Living conditions in households were measured in terms of financial possibilities of satisfying their needs. Five groups of voivodships were indicated.*

### 4.8.1. Comparison of households' living conditions

Households' living condition levels by voivodship were compared on the basis of a taxonomic measure of living conditions<sup>35</sup>. The living conditions of the households were measured in terms of financial possibilities of satisfying their needs.

The taxonomic measure of living conditions is a composite indicator being the product of the influence of all the variables (indicators) describing the financial need-fulfilment capacity for all living condition types selected in the research and arranged according to voivodship.

Household living conditions in each Voivodship are estimated by comparing selected variable values for each Voivodship with values of these variables for a hypothetical model voivodship.

The variables used in the construction of taxonomic measure of living condition are different in nature, namely:

- Stimulant – variables, for which the rising value indicates improvement in household living conditions in a Voivodship.
- Destimulant – variables, for which the rising value indicates deterioration in household living conditions in a Voivodship.

The starting point for building up a taxonomic measure of living conditions is selecting variable values for the model voivodship. These are the optimal values of each variable describing household's living conditions in the voivodships - with the stimulant variables at maximum observed values and the destimulants at minimum observed values from all compared Voivodships. When the comparative analysis refers to a number of periods at the same time, optimal values are set as the maximum or minimum among all compared Voivodships in all analysed periods. The model voivodship therefore is an ideal model against which each voivodships is compared. In formal terms, compared voivodships and the model voivodship are represented by points in the space of variables that describe them. The number of dimensions of this space (the number of axes defining the dimension) is equal to the number of variables describing living conditions in the voivodships.

The next step of the procedure is to standardise the values of the selected variables. This makes it possible to both eliminate the units of measurement and the prevalence in share of high-value variables in the living condition numerical values.

Values of synthetic measure of living conditions (like group measures of living conditions in each of their categories) are obtained by calculating the distance between individual points representing voivodships in relation to the point representing the model voivodship. The better the households' living conditions in a given Voivodship the smaller the distance between its point and that of the model. Thanks to appropriate normalisation, both group measures of living conditions in each of their categories and the synthetic measure of living conditions always appear as values from interval [0; 1]. The better the living conditions, the closer the appropriate measure of living conditions is to 0; the worse the conditions, the higher the value (i.e. closer to 1).

The comparative analysis of living conditions by voivodships was conducted, as already mentioned, from the point of view of households' financial means of fulfilling needs in selected areas. This means that on assessment of the level of certain needs' fulfilment, especially in terms of culture and recreation may also affect a lack of feeling these needs, which then causes a lack of financial problems in this respect.

Małopolskie, Opolskie, Lubuskie and Wielkopolskie Voivodships reported the highest quality of living conditions (column 10 in Table 4.8.1.) in 2015 with the lowest recorded for Warmińsko-Mazurskie, Lubelskie, Łódzkie and Kujawsko-Pomorskie.

The hierarchy of Voivodships was varied in terms of needs fulfilment levels in each area of living conditions. In the case of income, the best situation was noted in Mazowieckie, Pomorskie and Dolnośląskie and the worst in Podkarpackie, Lubelskie and Kujawsko-Pomorskie.

As far as nutrition was concerned, the highest needs fulfilment was recorded in Wielkopolskie, Małopolskie and Opolskie and the lowest in Warmińsko-Mazurskie, Podkarpackie and Kujawsko-Pomorskie.

Needs in terms of material affluence were most fulfilled in Podlaskie, Opolskie and Małopolskie, and least in Warmińsko-Mazurskie and Kujawsko-Pomorskie.

In terms of housing conditions, the highest level of need fulfilment was recorded in Śląskie, Małopolskie and Podkarpackie, and the lowest in Lubelskie, Łódzkie and Warmińsko-Mazurskie.

<sup>35</sup> The algorithm for estimation of taxonomic measure of living conditions is a modified taxonomic measure of development (*vide e.g.* Hellwig, 1968; Panek 2009).

In terms of children's education, the situation was the best in Lubuskie, Świętokrzyskie and Opolskie and the worst in Warmińsko-Mazurskie and Lubelskie.

The healthcare needs were fulfilled the most in Opolskie and Małopolskie, and the least in Dolnośląskie, Podkarpackie and Warmińsko-Mazurskie.

The highest level of need fulfilment in terms of participation in culture was reported in Opolskie, Wielkopolskie and Lubuskie, while the lowest – in Dolnośląskie, Łódzkie and Śląskie. In terms of recreation, the best situation was observed in Mazowieckie, Wielkopolskie and Lubuskie, while it was the worst in Podkarpackie and Świętokrzyskie.

Table 4.8.1. Household living conditions by voivodship in 2015 from best to worst in the last column

Voivodship	Living condition dimensions								
	income	nutrition	material affluence	housing conditions	children's education	healthcare	participation in culture	recreation	total
Małopolskie	0.374	0.193	0.477	0.332	0.337	0.257	0.268	0.200	0.248
Opolskie	0.571	0.275	0.430	0.567	0.271	0.234	0.213	0.201	0.364
Lubuskie	0.363	0.385	0.696	0.501	0.239	0.418	0.245	0.195	0.375
Wielkopolskie	0.473	0.075	0.591	0.611	0.445	0.460	0.234	0.179	0.396
Mazowieckie	0.000	0.421	0.618	0.343	0.645	0.576	0.257	0.145	0.420
Pomorskie	0.313	0.474	0.668	0.388	0.502	0.375	0.291	0.525	0.467
Śląskie	0.383	0.355	0.713	0.304	0.570	0.493	0.668	0.588	0.585
Podlaskie	0.563	0.408	0.297	0.639	0.327	0.652	0.598	0.625	0.593
Zachodniopomorskie	0.425	0.458	0.502	0.401	0.654	0.649	0.560	0.431	0.608
Dolnośląskie	0.361	0.628	0.653	0.433	0.622	0.728	0.684	0.201	0.640
Podkarpackie	0.747	0.667	0.494	0.332	0.319	0.723	0.317	0.649	0.641
Świętokrzyskie	0.607	0.429	0.469	0.701	0.251	0.636	0.655	0.648	0.642
Kujawsko-pomorskie	0.653	0.658	0.819	0.705	0.436	0.458	0.586	0.244	0.699
Łódzkie	0.538	0.364	0.625	0.720	0.713	0.678	0.678	0.632	0.718
Lubelskie	0.660	0.605	0.524	0.724	0.704	0.439	0.567	0.578	0.727
Warmińsko-mazurskie	0.582	0.809	0.819	0.716	0.715	0.712	0.274	0.505	0.743

The underlying aim of grouping voivodships was to define most homogenous groups in terms of living conditions' structure as described by variables representing assessment of need fulfilment levels in certain areas of living conditions gained from the taxonomic measure of living conditions (Table 4.8.1.). The Voivodships were grouped using the k-means method<sup>36</sup> (Panek, 2009), which maximises inter-group variation and minimises variation inside the groups.

The starting point of the k-means method is a decision on the number by which to divide the population of Voivodships. In this research, we decided to divide the Voivodships into four groups. The groups of Voivodships with a similar structure of living conditions as of 2015 were as follows:

- Group 1: Dolnośląskie, Mazowieckie, Pomorskie, Śląskie and Zachodniopomorskie,
- Group 2: Kujawsko-Pomorskie, Lubelskie, Łódzkie and Warmińsko-Mazurskie,
- Group 3: Podkarpackie, Podlaskie and Świętokrzyskie,
- Group 4: Lubuskie, Małopolskie, Opolskie and Wielkopolskie.

<sup>36</sup> The k-means method is described in Annex 3.2

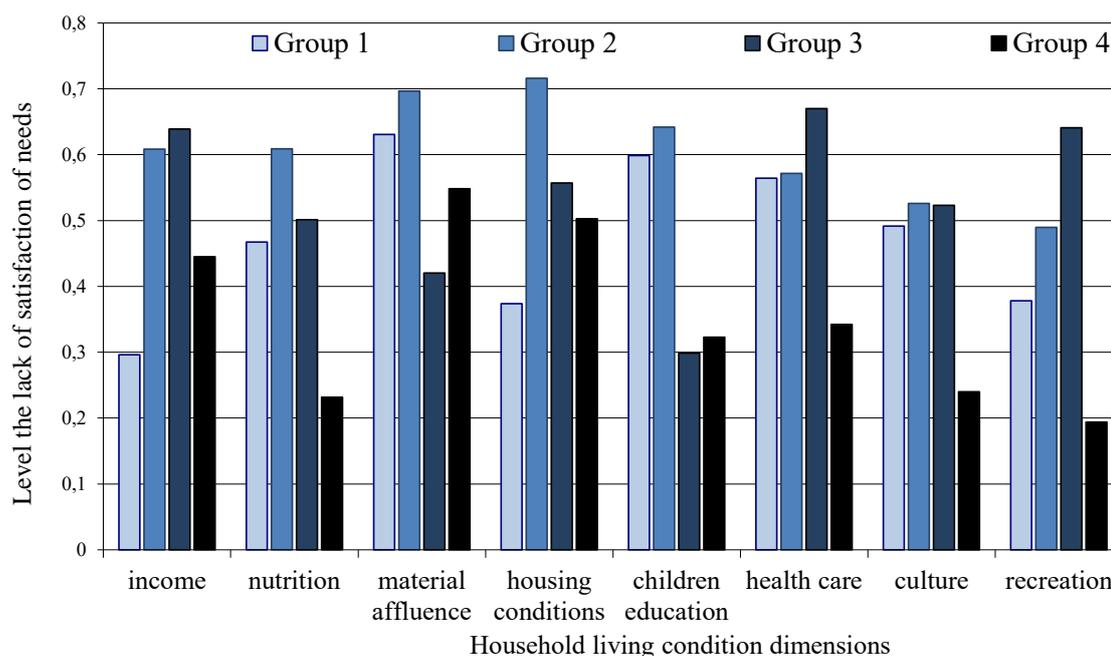


Figure 4.8.1. Household living conditions by voivodship groups in 2015.

Group 1 is characterised by relatively the highest average need fulfilment level in terms of income and housing conditions. The fulfilment of needs in all the other groups is on average level.

In Group 2, we observe the lowest average need fulfilment level in terms of nutrition, housing, children's education and cultural participation. In the remaining living condition areas the average need fulfilment is also relatively low.

Group 3 was, in 2015, relatively the weakest at fulfilling needs in the areas of income, healthcare, and recreation, while they were the strongest on average in comparison to other Voivodships in terms of material affluence and children's education.

Finally, in Group 4, need fulfilment was relatively the strongest in terms of nutrition, healthcare, culture participation and recreation.

Table 4.8.2. Results of one-way analysis of variance.

Dimension	BSS	df1	WSS	df2	F
Income	0.315	3	0.173	12	7.277
Nutrition	0.301	3	0.236	12	5.095
Material affluence	0.147	3	0.156	12	3.773
Housing conditions	0.266	3	0.134	12	7.940
Children education	0.372	3	0.101	12	14.772
Health care	0.213	3	0.179	12	4.749
Culture	0.223	3	0.327	12	2.741
Recreation	0.376	3	0.243	12	6.217

In order to evaluate the discriminatory power of specific areas of living conditions in groups (their significance in grouping voivodships), one-way variable analyses were conducted (Panek, 2009). On the basis of the value of statistic F, the ratio of inter-group diversity (BSS) to intra-group diversity (WSS) was established, weighted with appropriate degrees of freedom (*df1* and *df2*). Dimensions can be grouped due to their importance in voivodship grouping. The higher the value, the bigger the discriminatory power of that particular area of living conditions. The highest discriminatory power in the grouping was that of children education and income<sup>37</sup>.

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<sup>37</sup> These findings relate to the results of one-dimensional analysis of discriminatory power of areas of living conditions and do not take into account the multidimensional effects (Panek i Zwierzchowski, 2013, 339-344).

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## 4.9. Labour Market

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### Abstract

*Between 2013 and 2015, the situation on the Polish labour market improved significantly. The unemployment rate fell below 8% and economic activity increased, which balanced out the negative trend of shrinking working age population. Nonetheless, the percentage of people working on fixed-term contracts was still at the highest level in the EU. Persons employed on that basis constituted almost 30% of all the employed population. Market segmentation (dual labour market) consists in a division of the labour market into a better and a worse part, which refers to persons working constantly on unstable and poorly paid contacts. This division was fairly limited in 2011, because young people working in such a way found better jobs later. In the last 4 years, we could have notice symptoms of increased segmentation. Consecutive generations of graduates spent on average longer time waiting to be employed on indefinite-term contracts are waiting. The improvement on the labour market decreased the risk of losing a job for people working on contracts based on the Labour Code. The chance of transferring from a fixed-term contract to an indefinite-term contract decreased in 2013 and did not increase along with the improvement recorded on the labour market. Even though less than 1.5% of people aged above 30 works on civil-law agreements constantly, about 14% of those are persons who were unemployed for some periods of time or worked on short-term and civil-law contracts for some time. The percentage of people with experience of economic migration during the last two years before the study in 2015 was quite stable and low. Between 2013 and 2015 it varied around 2%, while it was consistently over two times higher in case of men. Migration experience characterised mainly persons with secondary and basic vocational education, while persons with primary education, the youngest respondents and residents of the smallest towns had the least migration experience. During the last four years of studies, the percentage of persons declaring their intention to migrate for financial reasons in the next 2 years was between 6 and 8% and amounted to 7% in 2015. Working abroad seems to be the most attractive alternative for the unemployed.*

### 4.9.1 The labour market in Poland - towards recovery or segmentation

Improvement of the situation on the labour market in 2014 and at the beginning of 2015 (Cichocki et al. 2015) affected the results of the study *Social Diagnosis* in 2015. The situation on the labour market was clearly better not only in comparison with observations dating back two years; the number of employed in the economy according to the main source of regular data about the labour market - Labour Force Survey (LFS) was the highest in history, and the unemployment rate moved closer to the historic minimum of 2008.

Trends indicated by the LFS statistics were in line with the changes observed in subsequent waves of the Social Diagnosis (Table 4.9.1.). In 2015, the unemployment rate calculated according to the International Labour Organisation methodology was at the lowest in the history of measurement by the *Social Diagnosis* survey. Since 2007, the labour force participation rate (LFPR), which also increases the labour supply in the economy, has also risen. The employment rate has reached the highest level since the start of the study in 2000, after a slight decline in 2013. The basic indicators of the labour market show a level of prosperity rarely seen before. Moreover, the improvement in the labour market was clearly noticed by the households (Table 4.9.1.). Households without the unemployed and with employed persons comprised the largest percentage of respondents in the history of the Social Diagnosis research (approximately 70%). The amount of households in the worst situation (i.e. without employed people, with the unemployed) was also the lowest in history of this research. The share of households with employed persons but also with unemployed was also close to its lowest level in 2009. Prosperity in the labour market encouraged the labour market activity of households earning their living from sources other than work. The share of households with no employed people or unemployed people decreased despite the aging of the Polish population demonstrated in the increasing the proportion of persons in retirement age.

Table 4.9.1. Basic labour market indicators (%) in Social Diagnosis surveys between 2000 and 2015

Labour market indicators	2000	2003	2005	2007	2009	2011	2013	2015
Unemployment rate	17.6	18.6	13.4	10.6	8.8	9.7	11.2	7.7
Labour force participation rate	61.3	56.8	56.8	56.3	56.3	58.3	58.4	58.9
Employment rate	50.5	46.2	49.3	50.4	51.3	52.6	51.9	54.3

\*Labour market indicators from the Social Diagnosis are calculated in a way comparable to the LFS; the unemployment rate is calculated for a group of people aged 15 and above, based on the definition of the International Labour Organisation, sources: Social Diagnosis, own calculations

Table 4.9.1. The share of individuals from households classified by members' economic activity between 2003 and 2015\*

Household groups	2003	2005	2007	2009	2011	2013	2015
Without unemployed or employed members	15.6	19.9	17.3	19.3	17.8	18.2	17.9
With unemployed. without employed members	6.9	5.4	3.3	3.2	2.9	3.6	2.4
Without unemployed. with employed members	57.7	60.4	67.7	68.1	67.3	65.3	69.8
With unemployed and with employed members	19.7	14.2	11.7	9.4	12.0	12.9	9.9

An important feature of the Polish labour market is a high proportion of temporary contracts (fixed-term contracts and civil-law contracts), which do not guarantee stability of employment. Such organisation of the labour market, on the one hand, reduces potential costs of employee turnover on the side of the employers, but on the other hand, may have a number of negative consequences. Low employee turnover costs allow for easier decisions about job creation, giving employment opportunities to persons who otherwise would have to remain longer in unemployment. On the other hand, however, it impacts on the patterns of short-term hiring of employees without investment in their training. If staff is largely seen as employed on a temporary basis, the training of these persons is unprofitable. In addition, instability of income from fix-term contracts makes it difficult for people to plan in the long term (for example: establishing families), impedes access to credit (lower consumption of households) and decreases opportunity for life-long learning. It is crucial from the point of view of the evaluation of the potential adverse effects of unstable contracts to assess, to what degree they relate to the same persons, creating a trap that makes it difficult to obtain more stable work, and whether they can be seen as an essential element that allows them to increase their chance of obtaining a more stable employment. It is also important to recognize that work is carried out in Poland on the basis of many different types of short-term contracts that are very different from each other in terms of protection of the rights of employees, but also in terms of labour costs.

The *Social Diagnosis* is a unique data source that contains: detailed information about the type of the contract, on the basis of which the work is provided. It also provides an information on the past contracts and the labour market status of the same persons. It is therefore a valuable resource for learning whether employment based on short-term agreements is a permanent phenomenon in the employment careers. In the remainder of the chapter, data will be presented on the changing structure of contracts and structural changes on the labour market, which may affect the proliferation of short-term contracts. Then the available data will be presented along with analysis methods for the type of employment structures and their long-term consequences. The next section contains the results of static and dynamic analysis, and the last point – the conclusions of the analysis verifying research hypotheses.

#### 4.9.1.1. Change in the structure of employment contracts and structural changes on the labour market

Poland stands out among the EU countries, because of a large share of fixed-term contracts. In addition, discussions on the functioning of the Polish labour market increasingly mention the issue of other forms of work organization such as civil-law contracts or self-employment. Another important topic is work in the grey market (without formal agreement).

The results of the Social Diagnosis 2015 indicate that, regardless of the high share of flexible forms of employment, contracts for an indefinite period are the dominant form of employment in the Polish economy (Table 4.9.2.). About 55% of all working people have contracts for an indefinite period. If the comparison excludes self-employed people and those owning a farm, it makes around 70%. The percentage of people with this kind of a stable agreement depends on the situation on the labour market – in 2013, when the situation on the labour market was a bit worse, it was lower. These data are similar to observations in LFS. The second most common type of work is a fixed-term contract. LFS data show that their popularity increased significantly in 2000-2006. Data from the *Social Diagnosis 2015* indicate that in 2007-2015 the share of these contracts increased very slowly. The third most common type of work in the Polish economy is farm employment (as the owner or the person that helps in it). Less than 10% of all working people in the economy are employed that way; this proportion did not change significantly in 2011-2015. In 2013, because of lower labour demand for other employment, its share temporarily slightly increased. The non-standard forms of employment include self-employment and civil-law contracts. Until 2015, both types of employment offered specific benefits because of lower taxes and contributions. It should be noted that the civil-law contracts were relatively rarely a main source of income for people. The share of respondents saying that the majority of their income comes from this source never exceeded 3%. Self-employment was much more popular. It covered 6-7% of the working population, excluding people owning farms and employers, i.e. those employing others. Work carried out based on contracts other than indefinite-term contract (temporary jobs, trial periods, etc.) was similarly unstable. About 2-3% of people worked without a formal employment contract; this can be interpreted as earning mostly from working in the grey market.

Data from the latest *Social Diagnosis* shows that the improvement of the situation on the labour market and announced reduction of benefits from alternative employment influenced a reduction of percentage of people mainly earning from self-employment and civil-law contracts.

Table 4.9.2. The employment structure in the Polish economy by main type of contract under which the work is performed in the year of the survey.

	2007	2009	2011	2013	2015
Indefinite	54.2	55.4	55.7	54.1	55.3
Fixed-term	16.8	16.8	18.1	18.6	18.8
Self-employment	6.7	6.7	6.7	6.7	6.2
Farmers (owners or helping family members)	7.8	8.4	9.4	9.9	9.6
Civil-law contract	2.2	1.9	1.8	2.2	1.5
No official contract	2.3	1.6	2.8	2.4	2.6
Other short-term	2.7	2.8	2.4	3.2	3.5
Own company	3.2	2.8	3.1	3.0	2.5

The results of the analyses based on data from the *Social Diagnosis 2015* indicate that both the intensity of job search and the share of less stable forms of employment are correlated with age (Figure 4.9.1.). The younger the person, the more common fixed-term employment is; at the same time, a higher percentage of people working in that manner actively look for another job. The data from the years 2011-2015 shows that shares of persons, who work on indefinite-time contracts in the Polish economy remains fairly stable. This means that although unstable forms of employment are frequent among the younger generation, with age, they should be replaced with the more stable forms of employment. Over the past four years there has been no major change to the age profiles of fix-term contracts, which may indicate that the chances of achieving more stable employment forms for next generations do not change very rapidly. Especially in case of men, the share of persons employed on fixed-term contracts varies only slightly. Among women, it was possible to observe a slight increase in the frequency of fixed-term contracts.

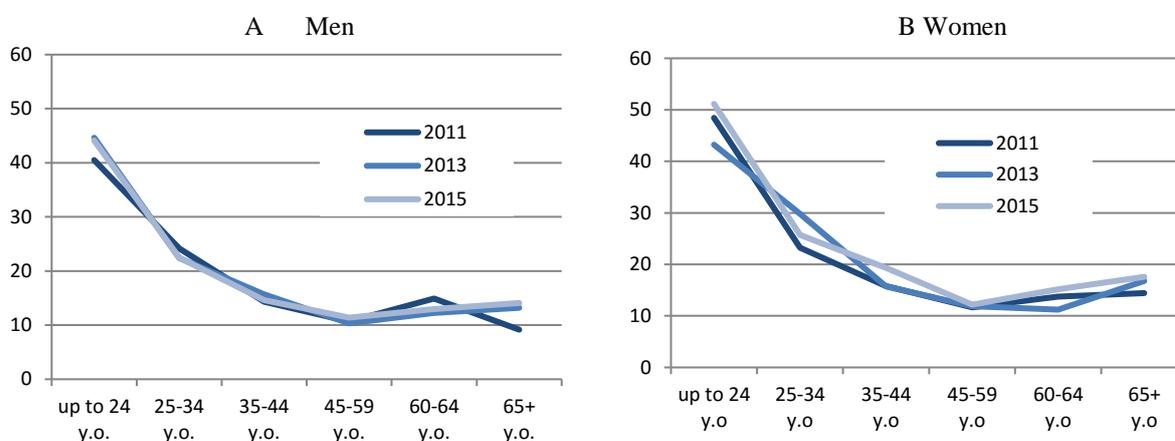


Figure 4.9.1. The share of fixed-term contracts among working age men (panel A) and women (panel B)

Changes in types of work contracts are worth confronting with the way the unemployed conduct their job search. Improvement on the labour market in 2015 led to a situation where only about 58% of the people registered in the employment offices (Urząd Pracy, UP) actually meet the definition of unemployed persons of the International Labour Organization. The percentage of people that are registered but do not look for work has clearly increased. This phenomenon is fairly typical for periods of increased demand for work, when people that are more interested in getting a job are more likely to find it and leave the register of unemployed persons. Despite the good situation on the labour market, about 11% of the people still declare that they are registered as unemployed in UP and at the same time they work. During the previous economic upturn, the percentage of such people clearly decreased. More and more people look for work on their own - without registering in the UP. This trend usually intensifies along with the improvement of the situation on the labour market.

Table 4.9.3. Unemployment and registration in employment offices in 2003-2015 (unemployed registered total in a given year = 100)

Groups of persons compliant with the definition of an unemployed person	2003	2005	2007	2009	2011	2013	2015
Registered and compliant with the definition of LFS*	69.9	56.6	60.6	62.0	61.9	63.1	58.4
Registered but not looking for a job	21.3	31.9	38.6	30.1	23.7	25.6	30.1
Registered but working	8.8	11.5	0.8	7.9	14.4	11.3	11.5
Non-registered but compliant with the definition by LFS*	17.0	24.6	27.6	29.1	21.7	20.2	24.7

\*the definition of unemployed LFS does not depend on registration and includes persons without work, looking for work, and ready to start work in the week following the survey. Source: Social Diagnosis, own calculations

Not only the unemployed look for jobs, so do the employed. Satisfaction with various forms of work can be measured by the rise in search for other work by persons working based on a specific type of contract. On average, a bit less than 5.5% of all workers were looking for another job (Figure 4.9.2.). People working on indefinite-term contracts sought work on a lower-than-average rate, while the frequency of job searches in 2015 has increased, which can be linked to the improvement of the situation on the labour market, which stimulates the search on the labour market. Persons employed on fixed-term contracts were about twice as likely to search for work, while the self-employed were just a bit more likely to seek another job than persons employed on permanent contracts. By far, short-term contracts and working without a formal contract were evaluated worst. It can, however, be noted that in 2015, the frequency of searching for work by these people clearly slowed down. The stability of employment is also correlated with education (Figure 4.9.3.). Relatively, the largest share of people with higher education has appeared among those working indefinite-time employment contracts and the self-employed. A higher percentage of people with a lower education performed work based on fixed-term contracts, even those with even lower education – on short-term contracts. On average, the lowest education was observed for people working without a formal contract and as assisting family members.

In conclusion, the share of the various forms of employment in the 2007-2015 did not change significantly when it comes to aggregated data; however, one can observe an increase in the share of fixed-term employment contracts for women and a rise in this percentage for men up to 24 years old. Improvement of the situation on the labour market has led to a moderate increase in the number of contracts for an indefinite period at the expense of share in the number of self-employed workers and those employed on civil-law contracts. However, the number of fixed-term contracts, short-term contracts and informal employment has not decreased. Better situation on the labour market encouraged the employees who already worked on stable contracts to look for a better paid job, but paradoxically it has also influenced a decrease in other job search by persons employed on less stable contracts.

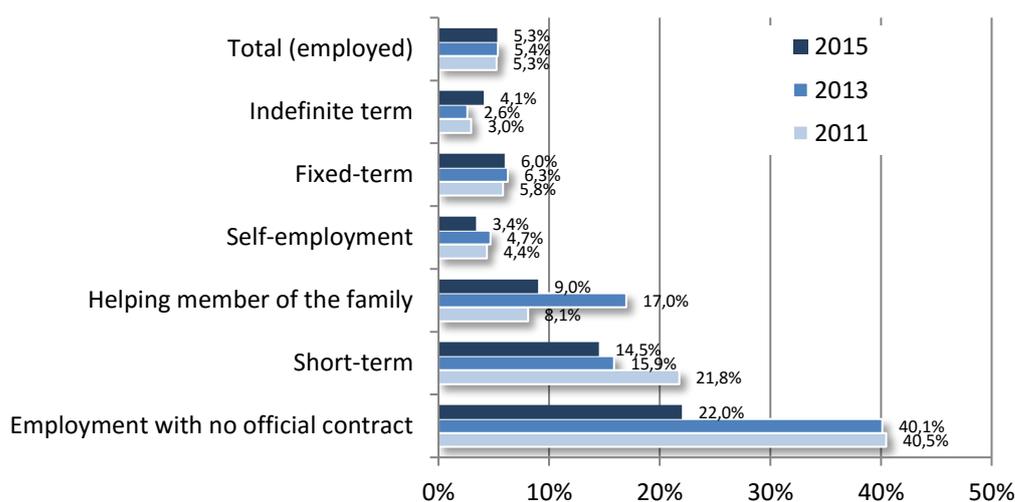


Figure 4.9.2. Share of job seekers among workers according to types of employment contracts

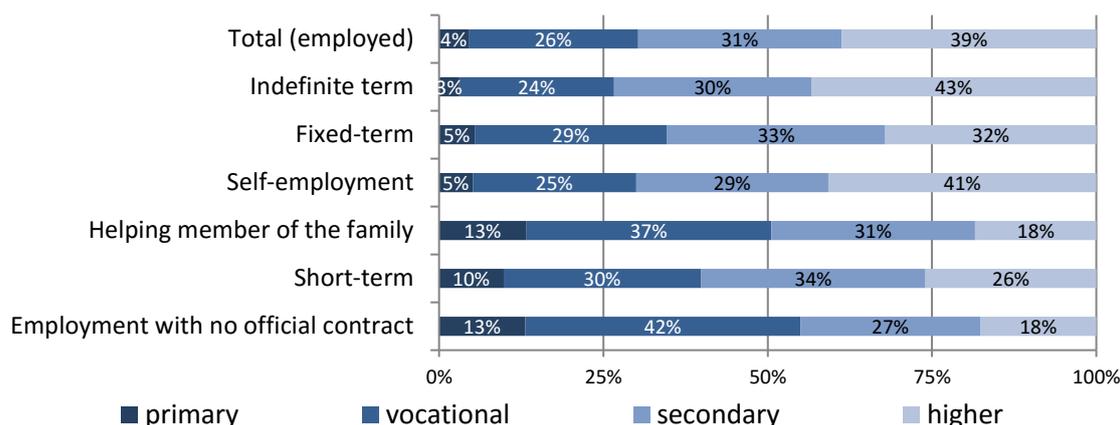


Figure 4.9.3. The share of people with varying education level among people working on various types of employment contracts

#### 4.9.1.2 Methods of analysis of the degree of segmentation of the Polish labour market

The data about the shares of persons working in the economy on specific types of employment contracts allow for an assessment of the importance of various types of employment across the economy. However, it is difficult to convincingly evaluate the degree of segmentation of the labour market in Poland, as well as changes in this phenomenon in the last years. The answer to this question requires using methods exceeding a simple description of the changes in the shares of persons working on the different types of contracts using the panel sample data from the *Social Diagnosis*. Below, three methods are discussed in order to answer more detailed questions about the possible spread of unstable forms of employment and the consequences of this phenomenon.

The first method estimates probabilities of the changes of labour market status in each period for the same respondents. In particular, the probability of finding stable work has been calculated depending on the status on the labour market of the same persons two years earlier. It was compared with the probabilities of transitions to job loss and to unemployed depending on the type of contract under which the work was provided. The goal of this approach is to assess the extent to which employment on less stable contracts limits the possibility of changing jobs within two years.

The second method is the cohort approach - observing changes occurring among people of the same generation (cohort) in subsequent studies. This approach allows for assessment of how the types of employment contracts change between successive generations.

The third method is sequence analysis (Brzinsky-Fay, Kohler, and Luniak, 2006) of statuses on the labour market, which uses a unique and relatively large collection of data about the same people collected in the period 2009-2015. The goal of this approach is to define the most frequent career paths to check directly how frequently does the effects of the labour market segmentation occurred. The segmentation in this context would mean that the labour market is divided between people working on stable contracts who also have no problem finding other stable employment, and people who cannot get a better job despite their best efforts.

#### 4.9.1.3 The results of the dynamic analysis

Dynamic analysis provides an answer to the question, what are the chances of people in the labour market to obtain more stable contracts after two years and how those chances change over time (Table 4.9.4.). A similar analysis was performed in the previous edition of the *Diagnosis* (Strzelecki et al. 2013); it indicated that the persons working on fixed-term contract were most likely to find more stable employment (contracts for an indefinite period). In comparison with the period of 2009-2011, in next periods (2011-2013 and 2013-2015), chances of this transition decreased (36-37% of working on fix-term contacts found more stable employment), which indicates that period of fixed-term employment prior to being hired for an indefinite period increased. On the other hand, the nature of work based on non-standard contracts (short-term and civil-law contracts) has changed as well. The chances of finding a better job over the next two years for people working this way decreased (from 23% of respondents in 2009-2011 to 17% in 2011-2013 and 9% in 2013-2015). A decrease in the probability of a transition to an indefinite-term job also affected people working without a formal contract (probably in the grey market). While in the 2009-2011 period more than 10% of people could count on improvement of conditions of employment in the next two years, then in subsequent periods, this share decreased to less than 5%. It appears that the unemployed had a better chance of finding a better job - more than 10% of them found an indefinite-term job within the next two years. A novelty on the labour market

in the 2013-2015 period is a marked increase (from 5-7% to almost 12%) in percentage of people who have been self-employed and later found a job for an indefinite period. As in case of the unemployed, the proportion of economically inactive people who later found a job proved to be quite stable over time and accounted for about 2%.

*Table 4.9.4. Initial labour-market status and chances for indefinite-term employment contracts after two years in 2009-2011, 2011-2013 and 2013-2015\**

Initial status	2009-2011	2011-2013	2013-2015
Indefinite-term (permanent) employment	79.9	78.7	76.3
Fixed-term (temporary) employment	42.7	36.1	37.2
Self-employment (non-agricultural)	6.9	4.8	11.6
Helping member of the family	2.2	3.4	4.9
Short-term, civil-law or trial-period agreements	23.1	16.8	9.3
Employment with no formal contract	10.7	4.3	4.5
Unemployed	11.6	10.8	11.3
Inactive	2.6	1.9	1.9

\*In % of persons in a particular labour market status in the two years previously

Stability of employment under various contracts can be explored empirically by calculating the probability of job loss and becoming unemployed within two years (Table 4.9.5.). This probability can be compared to the probabilities of staying unemployed and transferring from inactivity to unemployment. The results indicate that the best protection against unemployment is provided by agreements for an indefinite period. The probability of a transition to unemployment within two years was below 0.028 in 2009-2011 and the 2011-2013 periods and slipped to 0.014 in the 2013-2015 period. Company owners and the self-employed also rarely became unemployed; however, in this case, the impact of the business cycle was clearly visible. The likelihood of that varied from 0.031 to 0.055; the higher value was observed during the period of unemployment rise in 2011-2013. Employment for a specified period was similarly sensitive to market conditions. The risk of unemployment in the period of economic upswing in 2013-2015 was about 0.041, while during the recession period of 2011-2013 it rose to 0.092. These findings are compliant with the observations for the enterprises, where the fixed-term contract is a relatively cheap and often used way of reducing labour costs in a period of weaker demand for work (Tyrowicz et al., 2012). Along with the improvement of the situation on the labour market in 2013-2015, the probability of transferring to unemployment after two years of work on short-term and civil-law contracts decreased; the same can be observed about grey-market jobs. Still, the risk of unemployment among persons working on these agreements is 4-5 times higher than among persons employed on indefinite-term contracts.

*Table 4.9.5. The initial status on the labour market and the risk of unemployment within two years for the periods: 2009-2011, 2011-2013 and 2013-2015.*

Initial status	2009-2011	2011-2013	2013-2015
Indefinite-term (permanent) employment	0.028	0.028	0.014
Fixed-term (temporary) employment	0.069	0.092	0.041
Self-employment (non-agricultural)	0.035	0.055	0.031
Helping member of the family	0.022	0.034	0.019
Short-term, civil-law or trial-period agreements	0.111	0.106	0.070
Employment with no formal contract	0.146	0.157	0.089

#### 4.9.1.4 Cohort analysis results

Important structural changes are often disclosed by tracking changes in the behaviour of generations, rather than observing cross-sectional indicators. Observations of cohorts (generations) allow to avoid breaking links between the same groups of people, but with time observed in different ages. This means that searching for potentially adverse changes to the stability of the labour market position of workers one should use an approach of monitoring the further performance of the chosen generations.

The availability of appropriate questions in the *Social Diagnosis* research makes it possible to observe changes in the structure of employment contracts in 2007-2015. Hence, by observing the generation of people who were 25-26 years old in 2007, one can trace the fate of people who should enter the labour market regardless of the educational path that they have chosen. The results of this analysis (Table 4.9.6.) indicate that, while the share of fixed-term contracts among the graduates was only about 27%, it increased to about 40% after two years and later expanded to about 45% in the next 6 years. The share of fixed-term contracts decreased relatively slowly. A faster decline in temporary contracts was visible in the 2007-2009 and 2013-2015 periods, which were characterised by an improvement of the situation on the labour market. Along with the acquisition of experience in the labour market, the share of self-employed people (excluding agriculture) initially grew, but at the age of about 32-35 it stabilised. The gradual taking over of farms and lack of outflow from agriculture to other sectors caused an increase in the share of

persons engaged in agriculture in the cohort. The role of work on non-standard contracts (other than regular employment contract) was relatively small. Most contracts of this type constitute the main source of income right after completion of education. It is worth noting that the civil-law contracts constituted the main source of income for not more than 2% of people within cohorts, i.e., depending on the year, no more than 3% of the total working population among the observed generation.

Table 4.9.6. The percentage of people of different status on the labour market in the graduates' cohort (those aged 25-26 years in 2007) in the following years

Status on the labour market	year	2007	2009	2011	2013	2015
	Age of cohort	25-26	27-29	30-31	32-33	33-35
Work for indefinite period		26.9	40.3	41.8	42.5	44.6
Work for fixed-term		23.1	20.5	20.8	19.5	14.6
Entrepreneur		1.0	1.4	1.4	0.8	1.5
Self-employed		1.0	3.1	4.2	4.4	3.8
Farmers		1.2	1.9	3.6	4.0	4.4
Work for short-term contracts		2.6	2.1	0.9	2.0	2.8
Work for civil law contracts		1.4	1.7	0.7	2.0	0.7
Work with no official contract or family		4.5	2.7	2.2	3.8	2.8
Unemployed		7.8	10.6	9.4	9.0	6.2
Inactive		30.5	15.8	14.9	12.2	18.6

The analysis above involved a single cohort observed over time. The question remains, however, whether the situation of particular generations on the labour market does not deteriorate over time?

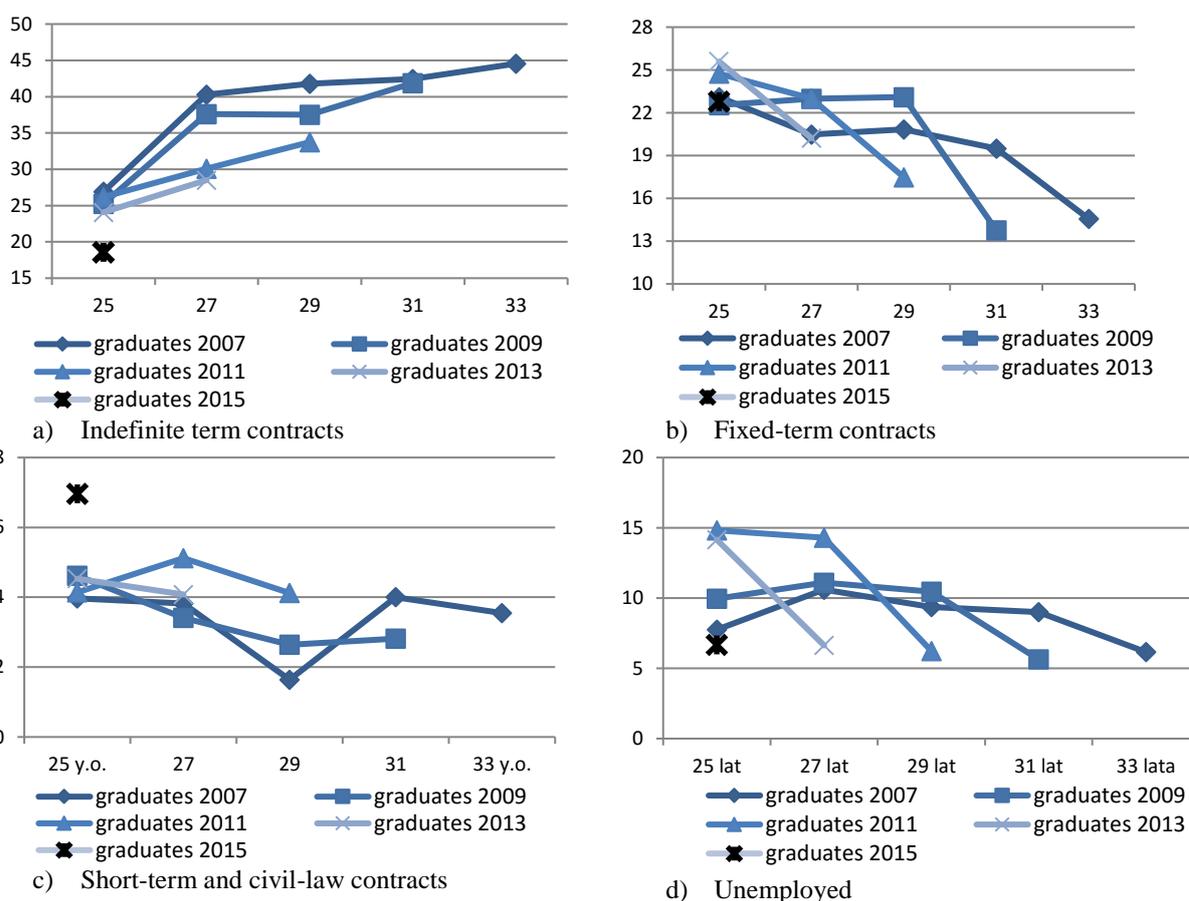


Figure 4.9.4. The shares of people with different statuses on the labour market in subsequent graduate cohorts, observed in subsequent years of life of that generation

Data for the cohort of graduates in 2007 can be compared with people of 25-26 years of age (graduates) from other years. This type of analysis (Figure 4.9.4.) was limited by the data available. Each subsequent generation of graduates was observed for a period that was two years shorter. The results indicate that, indeed, for the next generations entering the job market in 2007-2015, it was more difficult to achieve the percentage of people working under indefinite-period

contracts within the same time as the older generation of graduates. The crisis of 2009 and an increase in unemployment at the beginning of the careers probably had an impact on the employment instability of people who entered the labour market in 2011 and 2013. In 2015, a higher percentage of jobs on non-standard contracts (other than regular employment contract) had a clear negative impact on the employment stability of graduates. The changes in shares of people working under fixed-term contracts were relatively small in the cohorts.

The question about the proliferation of unstable forms of employment can also be asked with regard to people approaching retirement age. In their case, such contracts can be used both to increase the flexibility of employment and to eliminate the restrictions on employers resulting from regulations on firing persons 4 years prior to their retirement. Analysis of the structure of the labour market status of cohorts that were 10 years before the official retirement age (women - 50 years of age, men - 55 years) in 2007 indicates that, with the gradual withdrawal of persons from the labour market, the share of persons working on the basis of the different types of contracts reduces (Figure 4.9.5). It can, however, be noted that in case of women, the share of people working on stable forms of employment was from the beginning clearly higher and declining slower than among men.

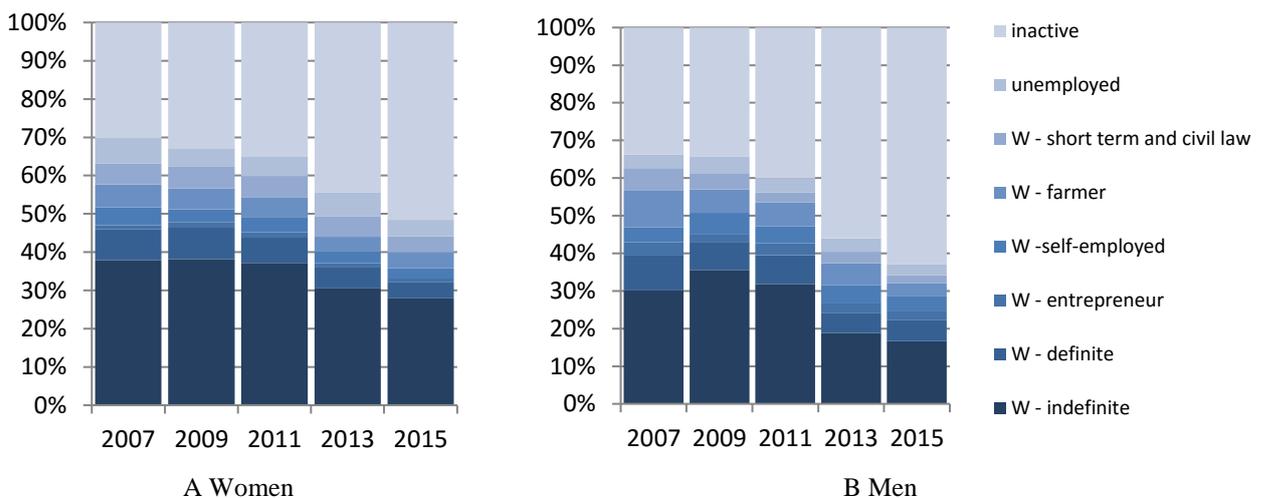


Figure 4.9.5. Change of status of all persons' in the labour market that were 10 years before retirement (50 year-old women (Panel A) and 55 year-old men (Panel B)) in 2007(the tone of colour reflects the stability of connection with the labour market)

However, comparison of results for subsequent cohorts (Figure 4.9.6.) indicates that while in case of women the share of persons working on indefinite-term contracts fluctuated around 75%, the share among men was below 70% up to the age of 59-60 and fell to about 60% and was clearly lower in subsequent cohorts.

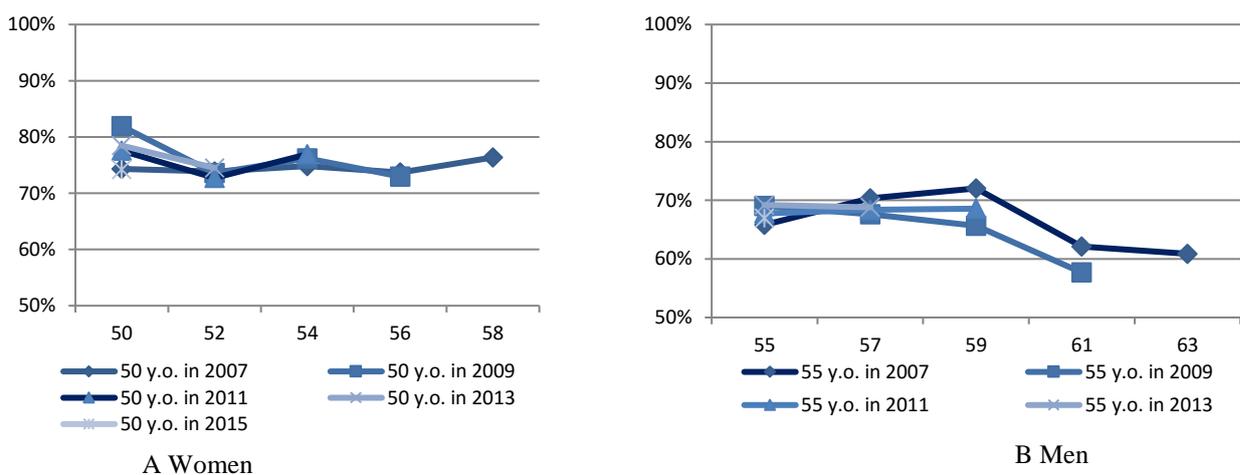


Figure 4.9.6. The share of persons employed for an indefinite period among all employees and the self-employed outside the agricultural sector among women (panel A) and men (panel B))

#### 4.9.1.5 The results of the event sequence analysis

The purpose of the event sequence analysis is to identify the most popular career patterns of the people interviewed in subsequent rounds of *Social Diagnosis* in years 2009-2015. In particular, this method makes it possible to analyse the patterns of labour market careers. Through this approach it is possible to determine the extent to which the more and less stable forms of employment observed in the aggregated data apply only to specific people (market segmentation), and to what extent they are characteristic for the Polish labour market in general.

In order to keep relatively numerous and representative sample the sequence analysis has been carried out only for the years 2009-2014. Out of the approximately 30 thousand people surveyed in 2009, for more than 11 thousand (37%) it was possible to recover their status on the labour market in 2011, 2013 and 2015. It should be taken into account that due to the loss of a relatively large part of the observations and lack of weights application, the results based on this panel may not match exactly the results based on aggregated data.

The analysis includes the following definitions of the status of individuals on the labour market (the numbers in parentheses are used later in the text): outside the labour market (economically inactive - 0), unemployment (9), working on indefinite-term contract (1), working on fixed-term contracts (2), owning a company with employees (3), self-employment outside of agriculture (4), work in agriculture (5), work under short-term contracts, e.g. internships, civil-law contracts, oral contract (7). The stability of contracts depends on age; therefore, the analysis included the six-year career development of people who, in 2009, were aged: 15-19, 25-29, 35-39 and 45-49.

The results (Table 4.9.7.) indicate that among people aged 15-19 in 2009, who at the end of the observation period were 21-25 years old, the most numerous (36%) were those who remained outside the labour market for the whole 6 years (sequence 0 > 0 > 0 > 0 > 0). This large percentage can be associated with a high share of young people studying in public higher education. The other most popular observation sequences were shown mostly in shifting within 2-4 years from 2009 to unemployment or work on a short-term contract (2 and 7). Among the 10 most popular career paths, only one ended up in getting an indefinite-term job (0 > 0 > 0 > 1) and it pertained to around 2% of the respondents.

Table 4.9.7. The most common sequences\* of the status on the labour market observed in 2009, 2011, 2013 and 2015 for the same persons according to their age in 2009

rank	Age in 2009							
	15-19		25-29		30-34		45-49	
	Sequence	Frequency (%)	Sequence	Frequency (%)	Sequence	Frequency (%)	Sequence	Frequency (%)
1	0>0>0>0	36.2	1>1>1>1	13.8	1>1>1>1	26.2	1>1>1>1	27.8
2	0>0>0>2	5.9	0>0>0>0	6.4	0>0>0>0	7.2	0>0>0>0	10.0
3	0>0>0>9	3.9	2>1>1>1	5.0	5>5>5>5	6.3	5>5>5>5	8.4
4	0>0>9>0	3.2	5>5>5>5	3.7	2>1>1>1	3.1	1>1>1>2	2.6
5	0>0>2>0	3.0	2>2>2>1	2.5	1>1>1>2	2.8	2>1>1>1	2.3
6	0>0>2>2	2.7	1>2>1>2	2.2	1>2>1>1	2.4	1>2>1>1	2.1
7	0>0>0>7	2.6	1>1>1>2	2.2	1>2>2>1	2.4	1>2>2>1	1.5
8	0>0>0>1	2.3	2>2>1>2	1.9	1>1>1>0	1.3	1>1>1>0	1.5
9	0>0>9>9	2.2	1>2>2>1	1.6	7>7>7>7	1.3	7>7>7>7	1.4
10	0>0>9>2	2.1	0>1>1>1	1.5	1>2>2>2	1.2	4>4>4>4	1.0
	remaining	35.8	remaining	59.2	remaining	45.8	remaining	41.4

\*Due to space-saving, the status on the labour market has been marked by numbers: 0 -- inactive, 1 – employment contract for an indefinite period, 2 - fixed-term contract, 3 - entrepreneur employing people, 4 - self-employment outside of agriculture, 5 - work in agriculture (the owner or the person that helps on the farm), 7 - a short-term agreement other than a typical contract of employment (includes civil-law and oral contracts) 9- unemployment. Character > separates the status indication in subsequent observations.

In case of other age groups analysed in 2009, the most popular status changes sequences on the labour market were similar. The path that occurred most frequently was working for the whole analysed period under a contract of indefinite duration (1 > 1 > 1 > 1), the inactivity on the labour market (0 > 0 > 0 > 0) and stable employment in agriculture (5 > 5 > 5 > 5). For individuals aged 25-29 in 2009, work on an indefinite-term contract for 6 years occurred for 14% of people; for those who were 30-34 and 45-49 in 2009, it was 26% and 28%. The share of people who remain permanently outside the labour market also increased with age, which can be explained by the increasing likelihood of disability or the organisation of responsibilities within the household with only one breadwinner. Similarly, in the older age groups, the percentage of people permanently working in agriculture was also higher. This effect was due to both the generation factor – work in agriculture was more popular among the older generation, as well as the

generational shift – the higher the age, the higher the probability that the observed person took over a farm and did not have to work in other sectors of the economy.

The other most popular sequences on the labour market were different combinations of work on the indefinite- and definite-term employment contracts. Among people aged 25-29 in 2009, only those placed as the most popular accounted for about 16% of all sequences. They can be associated with the exchange of personnel between employers. In the event of change of work, employees are usually initially hired on a fixed-term contract and then they are offered a more stable contract. The sequences associated with exchanges of personnel become less common among older people. Among the generation that was 30-34 in 2009, they constituted 13.2%, and in the one that was 45-49 - about 10%. The presence of a group of people constantly employed on short-term contracts (7 > 7 > 7 > 7) or constantly self-employed (4 > 4 > 4 > 4) is a sign of labour market segmentation. This kind of phenomenon was frequent enough to be ranked only among people over 30 years old; moreover, in case of short-term contracts, the rate does not exceed 1.5% of the people and in case of self-employment, it amounted to about 1% of people who were 45-49 in 2009.

In conclusion, it is worth noting that with age, the incidence of most popular career sequences increases, which means that careers stabilize around certain patterns. The period after graduation from higher education is the one in which a large part of the possible careers is not described by the most common sequences. Almost 60% of those aged 25-29 in 2009 experienced within the next 6 years paths that do not fall within the description made by using the 10 most common sequences. For the remaining age groups, the percentage was clearly lower.

An analysis of the most popular state sequences on the labour market does not describe all potential careers (professional biographies). In order to present the results more representative for the whole dataset the possible careers have to be classified in some patterns. It is easy to calculate that the number of possible combinations of 8 possible states on the labour market in 4 periods of observation is 4096. In order to limit the number of possible sequences, they were classified in the form of 8 categories of rating careers of individuals from the point of view of the income and professional stability (Table 4.9.8.). The type of contract under which an employee performs his work constitutes the stability measurement<sup>38</sup>.

First, a category of people who remained employed for an indefinite term throughout the study period (I) was established. This class corresponds to the sequence 1 > 1 > 1 > 1 (cf. Table 4.9.7.). The second category (II) consisted of sequences that lead to a more stable employment within 6 years (finding a job or getting a better employment contract). The next category (III) consists of persons who worked on proper employment contracts throughout the period, but at the end of the observation in 2015 did not work under a contract for an indefinite period. These people, before 2015, might have been periodically unemployed or inactive.

A separate category (IV) consists of persons who, in 2015, also did not have a contract for an indefinite period, and have, additionally, experienced at least one episode of work based on short-term contracts or self-employment. All the above categories assume that the person was employed or periodically inactive in 2015. The people put into category V were unemployed in 2015, but had at least an episode of employment before the year 2015. A separate category (VI) was dedicated to people who worked or began to work in agriculture. The last two categories consist of people who did not work throughout the observation period. Category VII comprised people who at least periodically sought work, and category VIII - those who have been inactive throughout the observation (cf. Table 4.9.7, the sequence 0 > 0 > 0 > 0).

Table 4.9.8. Professional biographies of respondents in 2009-2015 according to their age in 2009\*

Types of careers	Age in 2009			
	15-19	25-29	35-39	45-49
I. Employment for indefinite time	0.1	13.8	26.2	27.8
II. Career leading to improvement of stable employment and income	10.9	28.7	20.1	14.7
III. Employment contract, but no stabilisation	22.6	19.4	14.0	12.8
IV. Working episodes, no stabilisation	14.3	18.2	15.6	13.9
V. Various contracts – unemployment is still a problem	2.2	3.0	2.7	2.8
VI. Work or shift to work in agriculture	2.0	6.4	9.5	12.9
VII. Unsuccessful in finding employment	11.5	2.8	3.9	4.1
VIII. Inactive all the time	36.2	6.4	7.2	10.0

\*the numbers in the columns add up to 100%.

The classification discussed above makes it visible that, while staying employed on indefinite term throughout the study period is indeed the sequence that occurs the most frequently on the job market for people over 25, this scenario was not the case for a majority in any age groups in 2009.

In case of persons who were 25-29 in 2009, it was more likely that they would gradually improve their situation on the labour market (28% of cases), that they will experience fixed-term employment contracts (19%) or experience a greater or lesser degree of non-standard short-term contracts or self-employment (18%). Among those who were 35-

<sup>38</sup> The adopted method of stability assessment presumed that the most stable working conditions (beside agriculture) are connected to indefinite-term employment contracts. Ownership of a company and self-employment were classified as less stable indefinite-term contracts, but more stable than others. The author is fully aware that those presumptions are arbitrary. He adopted them for the sake of simplicity.

39 years or 45-49 in 2009, in the following years the group of people who improve their situation in the labour market was getting smaller, but also the shares of persons whose employment does not guarantee a long-term stability of income is clearly lower in the population. However, even in case of those who were 45-49 in 2009, about 14% belonged to category IV - they have not improved their position on the labour market in the last 6 years and have experienced at least one episode of work on contracts other than proper employment contracts. More often, however, were the cases of people who did not work on contracts other than employment contracts, but a source of instability in their case was the temporary character of their employment (category III).

Compared to the instability associated with the employment contracts, the percentage of people who experienced unemployment in the final stage of the observation period was relatively small (it was 2-3% in each of the analysed groups). Considering the issue of unemployment, a bigger problem can be associated with people that frequently transited between other labour market statuses and unemployment (category VII). These people, despite periodic efforts, failed to find a stable job within 6 years. This group, naturally, comprised for the most part of the youngest generation who entered the labour market. However, this situation also affected employed people – they formed about 3-4%. The group of people outside the labour market throughout the study (cf. Table 4.9.7, the sequence  $0 > 0 > 0 > 0$ ) increased with the initial age during the first observation, but it can be seen that it is a relatively small group compared to the category of people who at least temporarily were active and worked in the economy.

#### 4.9.1.6 Summary

This part of the *Social Diagnosis* report used the panel data to determine, how much the changing the situation on the labour market affects the improvement of stability of the conditions of work in the Polish economy. It shows that the main source of instability of work in the Polish economy are not the civil-law contracts (agreements often used to escape the Labour Code regulations), popularly known as “junk contracts”. These agreements are indeed unstable, and approximately 1.4% of persons over the age of 35 have been working constantly on their basis, but according to data from the *Social Diagnosis*, they are the main source of income only for not more than 2.2% of all persons working in the economy.

The share of self-employed workers remained stable at around 7% and decreased in 2013-2015. Here also the provisions of the Labour Code do not apply and the stability of work and income is not guaranteed. However this type of work cannot be considered as unstable. According to the *Social Diagnosis* data self-employed persons relatively rarely search other jobs on the labour market (the share of such persons is similar to those employed for an indefinite period and smaller than among persons employed on a temporary basis). In addition, the probability of the transition from self-employment to unemployment within 2 years is also close to for the most stable - indefinite-term contracts.

Most of the people working on unstable contracts are persons employed on a fixed-term employment contracts. In the Polish economy, almost one fifth of the employees works in this way; this share rose a bit in 2007-2015. That type of employment is not as attractive and stable as employment on indefinite contracts (more frequent job searches, a greater probability of a transition to unemployment), but it provides the best chance (almost 40% in 2 years) of finding more stable employment in comparison to other types of unstable jobs. In this context, a significant decrease in the likelihood of the transition from fixed-term contracts to indefinite contracts in 2013-2015 should be treated as some warning signals.

The sequence analysis indicates that, while the share of persons employed on a temporary basis is quite stable, the persons who work on these contracts are frequently fired. Despite the instability of temporary employment, the majority of persons who lost their fixed-term jobs find another fairly quickly. Thus the fix-term contracts appeared as an initial type of employment and stepping-stones to more stable job agreements. The careers leading through fixed-term contracts into contracts of indefinite duration are relatively frequent. The problem of employment instability related to the periodic unemployment, civil-law contracts and other types of short-term employment affected the relatively small share of the total population. Career paths of individuals stabilise with age, which means that in the future the problem of segmentation of the labour market can build up if careers of people who often work on unstable contracts do not begin to stabilise. The sequence analysis indicates that an alternative way to stabilize the work conditions for a relatively large share of people is the farm employment. It is often a result of the inheriting a farm from parents, thus limiting the ability to change jobs in the future.

Moreover, the analysis of cohorts of graduates who entered the job market every two years over 2007-2015 indicates that the path leading to achieve an indefinite-term contract becomes longer for the younger generations of graduates in relation to previous generations. On the one hand, it may be the also a result of a labour market downturn in 2009-2013, but observations from 2015 indicate that graduates were employed to a greater extent on short-term contracts such as internships or trial periods.

To sum up, the situation on the labour market clearly improved in 2013-2015. It was evident that it was demonstrated not only by declining unemployment but also by the improvement of the household income situation. The improved labour market situation could also have encouraged some people to move from self-employment to work on indefinite-term contracts. The percentage of people whose main source of income was work on civil-law contracts has also decreased. The analyses performed on the basis of panel data confirmed that despite the improved

situation on the labour market, the transition from temporary contracts to employment for an indefinite period was still relatively difficult. It is an important finding as this type of the labour market transitions is a key improvement mechanism for the stability of employment and prevention from segmentation of the labour market (into groups with better and worse working conditions). Instability of employment is also observed among graduates, whose path to indefinite-term employment significantly extended in the last 8 years. In the context of stabilisation of professional careers among the baby-boomer generation it is important to notice that different types of unstable career paths covered 14-18% of the total population aged 25-49 years.

Hence, coming back to the opening questions about the labour market segmentation in Poland and changes which have occurred in the last years, it should be noted that the main source of instability of contracts in Poland are not the contracts commonly referred to as “junk contracts”, but the fixed-term contracts. At the same time, the experience of previous years indicates that this type of employment gives a relatively good chance of gaining a stable, indefinite-time contract, but it requires on average long time. Fixed-term contracts (for relatively long terms) are also quite common in case of the employer’s change, which may explain their continually large share on the labour market. In 2013-2015, the upswing on the labour market has brought, on the one hand, a reduction in the number of people living off mainly self-employment or civil-law contracts, which are identified with segmentation of the labour market. On the other hand, however, prospects for professional stabilisation of people employed under fixed-term contracts have worsened.

#### 4.9.4 Combining family and employment - opinions about some of the social policy measures

In the *Social Diagnosis 2013* there was a change in questions about policy measures that would facilitate combining professional career and family responsibilities, including specifically parental obligations. Therefore, it is not possible to directly compare the results of two recent editions to the previous ones. In addition, the multiple-choice answers: “longer maternity leave” and “shift work” were removed; instead the “possibility of sharing parental leave with the father” was added in 2015. Due to changes in multiple-choice sets of the possible answers, the answers cannot be compared to the previous edition of the Diagnosis. One can only compare the popularity ranks of individual answers in subsequent rounds, and, more comprehensively, analyse the responses in the Social Diagnosis 2015 according to different characteristics of the respondents.

The results of ranking of the answers indicated by the respondents in the study from 2013 and 2015 (Table 4.9.10.) illustrate that the rank of the most popular solutions indicated by respondents did not change. In 2015, the answers most frequently indicated as the best solution, for both women and men, were as follows:

- Flexible working time was indicated by more than 61% of men and nearly 59% of women,
- Better away-from-home care opportunities for children up to 7 years old – chosen by almost 27% of men and 31% of women,
- Higher benefits – indicated by 25% of men and 24% of women,
- Opportunity to perform part of the job from home – 23% of men and 28% of women.

Table 4.9.10. Preferred ways of combining employment and parental duties

Ways of managing employment and bringing up children.	2013		2015	
	Percentage that indicated the answer as one of three most important		Percentage that indicated the answer as one of three most important	
	Men	Women	Men	Women
Part-time work	15.7	19.0	16.4	23.4
Shift work	14.0	13.9	x	x
Flexible working hours	<b>55.1</b>	<b>56.9</b>	<b>60.7</b>	<b>58.7</b>
Possibility of working from home	19.6	<b>24.1</b>	23.0	<b>28.5</b>
More free days in the week	10.8	11.1	20.1	18.5
Longer maternity leave	18.8	24.0	x	x
Longer paid paternity leave	17.2	18.4	21.4	27.1
Higher benefits (paternal, per child)	<b>24.2</b>	22.4	<b>25.5</b>	24.3
Better institutional child care (under 7 years of age)	<b>32.9</b>	<b>37.1</b>	<b>27.1</b>	<b>31.0</b>
Better institutional child care (7-12 years of age)	14.1	15.5	13.3	14.6

\*grey colour indicates three answers with the highest indications for each group of respondents concerned

As in the previous waves, it can be noted that, although the questions were formulated in the same way for women and for men, there have been more indications of women. This probably stems from the fairly common traditional division of responsibilities in the household, which makes the issue of managing work and family responsibilities more relevant to women.

In spite of the changed question, as in previous editions of the *Social Diagnosis*, preferences for the policy solutions that would facilitate combining work and parental responsibilities depend on the type of household (Figure

4.9.8.). These differences, however, do not change the ranking order of the three most popular answers. The main differences lie in the presence of children in the households (especially when compared to the single-person households), in the sex of the respondent and, in the case of certain solutions, in the number of children in households.

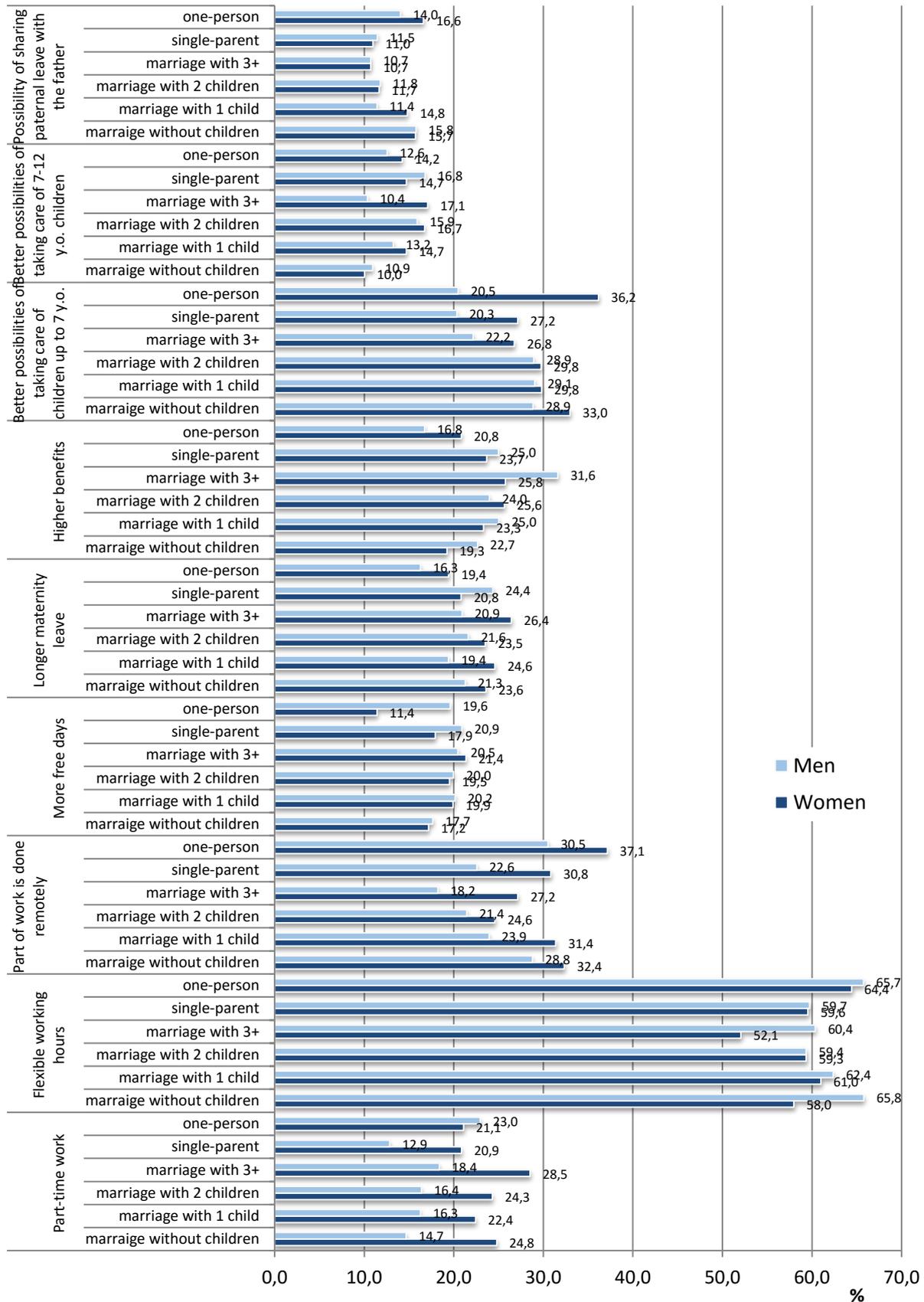


Figure 4.9.8. The percentages of persons indicating a particular solution by gender and selected types of households

The analysis of the results reveals a significant difference between the answers indicated by persons in family households and those in single-person households. The answers chosen by people constituting the single-person households (especially women) differ significantly from others with almost all solutions; nonetheless, the ranking of solutions they find the best does not change. This may be due to the fact that people in single-person households form their opinion on combining work and family responsibilities based on certain misconceptions or stereotypes, rather than actual contact with a problem. That might be the reason why their answers are more focused on the three most popular solutions. A greater variety of responses among households with children is probably caused by the diversity of situations and problems faced by these households when they manage daily responsibilities. The indications of married couples without children deviate less from the average. This may be due to the fact that couples without children happen to be “empty nest” households (after the children formed their own households) more frequently than the single-person households.

In case of some of the solutions, there is a clear difference in preference of men and women, regardless of the type of household. For example, a better away-from-home care for children, especially for those below 7, is ranked higher by women in almost all types of households with children. This probably stems from the fact that it's mostly women who are responsible for providing care to children in the household (regardless of type). Similarly, women rank the ability to work at home, part-time work, or more free days higher than men; that allows them to better organise and combine different types of responsibilities. Men considered higher children-related benefits to be more important, which may stem from the fact that providing income for the household is mainly their task. That might also explain why they chose less working hours or more free days less often than women – those solutions would reduce their income.

It is important for the interpretation of the results that the questions concerning three most important solutions that facilitate combining work and parental responsibilities was asked exclusively of employed individuals, i.e. only those, who succeeded in managing both these activities. If the opinions of the unemployed and inactive were also taken into account, the ranking of the chosen solutions could change drastically. In the Social Diagnosis 2015, just as two years earlier, every second woman aged 25-44 point to the taking care of the child as the main reason for economic inactivity.

#### ***4.9.5. Emigration – the situation after coming back to the country***

Labour emigration has become a permanent part of the Polish labour market. It can be assumed that in the time that has passed since Polish accession to the European Union, the effects of the opening up of labour markets in the EU Member States have revealed fully, and the periodic variations in the scale of emigration can be associated with changes in the situation on the labour market in the country and the markets of potential destination countries. The possibility of working legally abroad is seen by many as a fully legitimate alternative to employment in the country. Staying abroad for longer periods and, in particular, moving to destination countries by some of the migrants, permanently reduces the labour force in Poland. It deepens the significant decrease of the working age population in Poland, estimated both in the Central Statistics Office (Główny Urząd Statystyczny, GUS) forecasts and in Eurostat population projections (GUS, 2014; The 2015 Ageing Report).

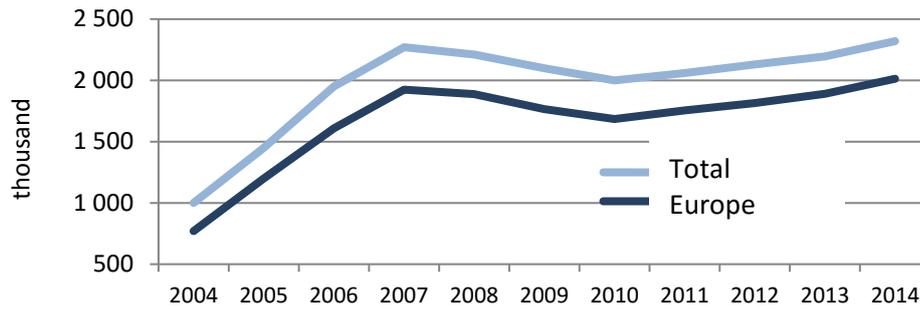
The Social Diagnosis makes it possible to partially assess the impact of emigration on the labour market in Poland. Below, after a brief discussion of the data obtained from the survey, the behaviour of people with the migration experience on the labour market will be analysed in relation to the whole population, along with characteristics of potential emigrants.

##### ***4.9.5.1. Data on migration in the Social Diagnosis***

According to official estimates by GUS, the number of people residing temporarily abroad did not increase significantly in the last period. GUS (2015) stated that at the end of 2014, the number of persons residing abroad for 3 months or longer was 2.32 million (Figure 4.9.10.). Most of these people can be treated as economic migrants - the results of the 2011 Census indicate that at the end of March 2011, they constituted 73% of migrants (GUS, 2013). Between 2013 and 2014, the number of temporarily absent people increased by 124 thousand and only in 2014 has it surpassed previous maximum from 2007. Almost 80% of the annual increase in the number of temporarily absent in the country contributed to increased outflow to Germany and the United Kingdom.

The *Social Diagnosis* makes it possible to obtain information about the people who, at the time of the survey, were present in Poland. It is therefore only a very specific part of the emigrant population - these are the people who were present in the household at the very time of the survey, even though normally they stay abroad; they returned to Poland to make some arrangements or they cyclically travel to work abroad. In addition, there are also persons who have finished their migration episode, which means they are de facto not emigrants anymore. It is difficult to assess the size of emigrant population or its characteristics based on this data. However, it is possible to evaluate the nature

of the return migration, and, partially, the effects of this type of migration on the Polish labour market. Possible characteristics and limitations of the data will be shown in more detail below, when relevant issues are discussed.



Source: GUS (2015), own calculations

Figures 4.9.10. Estimates of the number of Polish inhabitants residing temporarily abroad in 2004-2014 (State at the end of the year; data in thousands)

#### 4.9.5.2. Migration experience

After Poland accessed the EU, the migration and integration processes made the experience of economic migration abroad a part of a biography for a significant number of Poles. On average, about 2 million people remain abroad. Some of the migrants were still abroad at the time of the survey; hence, the analysed data show only a part of the phenomenon. They can, however, be a valuable source of information on the impact of emigration on the Polish labour market – one can analyse the impact of migration experience on behaviour of people who returned compared to the whole population. The nature of the data should be kept in mind when analysing the results - higher percentages of people with migration experience in a group can mean both greater mobility of the group, or its inferior accommodation on the labour market in the destination countries i.e. they might be back due to lack of prospects for fulfilling the objectives of migration.

Since 2007, the *Social Diagnosis* respondents had been asked about the experience of economic emigration during the 4 years preceding the survey. Since 2013, the period has been changed to two years. The change, meant to equate the retrospective and prospective periods in the study, has caused a discontinuity in the data, which makes it impossible to carry out a coherent analysis of the entire period after Polish accession to the European Union and the opening of member-states' labour market to Polish workers. Regardless of the methods of research used in both periods, the percentage of people with experience of economic emigration among the respondents was quite stable and low (Figure 4.9.11.). It was around 3.5% for the 4-year period (2007-2011) and about 2% for the two-year period (2013-2015).

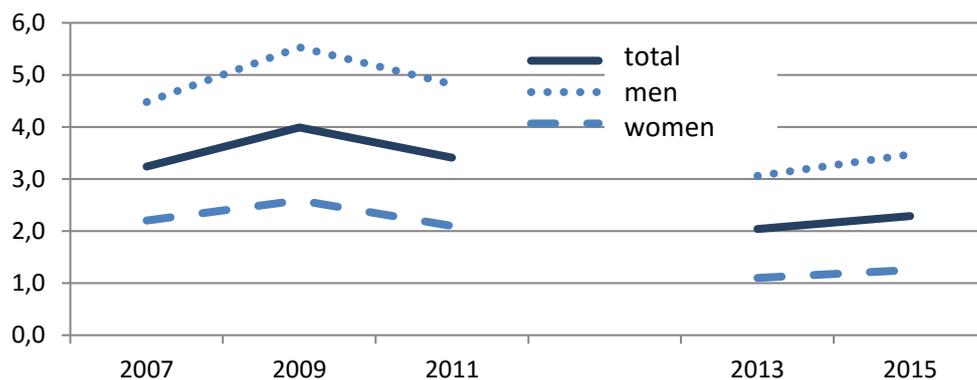


Figure 4.9.11. The percentage of people with experience of migration by gender, 2007-2015

The percentage of people with migration experience has risen slightly in the two years since 2013. Hence, there was also a rise of the share of such people in every category. There are, however, some patterns that can be observed.

The highest percentage of people with a migration episode can be observed among men – in all the rounds the percentage of economic migrants was over twice as high for men as for women. It applies to both the percentage of people with a migration episode in 2013-2015, and to those who migrated again after 2011-2013 (Table 4.9.11.). The migration experience was most common among respondents with secondary and basic vocational education and the least common among those with primary education. In 2015, an increase in percentage of former migrants was observed in all educational groups except the secondary education; the group with higher education noted more than proportional increase.

The more than proportional increase was also observed in the youngest age group, where the percentages of people with migration experience are highest<sup>39</sup>. Probably, some young people entering the labour market perceive economic migration as an equivalent to employment in Poland. They are tempted to migrate with the higher salaries abroad and come back to Poland having verified their expectations of work abroad and decide to get employed here. Such a scenario can be suggested by a low rate of people who migrate again in this age group. High migration rates were observed in the periods of post-accession euphoria and a better situation on destination countries' labour markets.

In the older groups, a fairly stable rate of people with migration episodes can be explained with more stable patterns of work abroad. This can be suggested by a high rate of perpetual migration in the next research periods, especially in the groups of 35-44 and 45-59 year olds.

A systematically higher-than-average percentage of people with migration experience can be found in smaller towns and rural areas. It can be due to the difficult situation on the local labour market and lower labour demand in their places of residence, which makes migration a more attractive alternative compared to local employment possibilities.

Table 4.9.11. The shares of the population in 2015 people with migratory experience in 2005-2009, 2007-2011, 2011-2013 and 2013-2015

Migrants' characteristics	Experiences in 2005-2009	Experiences in 2007-2011	Experiences in 2011-2013	Experiences in 2013-2015	People repeating emigration after 2011-2013
<b>gender</b>					
Men	5.5	4.8	3.1	3.5	50.7
Women	2.6	2.1	1.1	1.3	28.0
<b>education</b>					
Primary	1.7	1.2	0.9	1.1	43.5
Vocational	4.3	4.2	2.4	2.9	57.8
Secondary	4.9	3.8	2.7	2.5	43.5
Higher	4.0	3.3	1.4	2.0	33.6
<b>age</b>					
Less than 24 y.o.	4.0	4.8	1.9	2.4	0.0
25-34 y.o.	8.1	6.0	3.3	4.2	31.4
35-44 y.o.	6.2	5.3	3.5	3.0	53.2
45-59 y.o.	2.8	2.8	2.0	2.5	58.8
60-65 y.o.	0.8	0.3	0.6	0.9	18.8
<b>residence</b>					
City over 500k	4.2	2.8	0.8	1.5	24.6
Town 200-500k	4.1	3.4	3.1	2.6	40.8
Town 100-200k	3.5	2.5	1.6	2.6	23.9
Town 20-100k	3.3	3.0	1.9	1.7	38.4
Town with less than 20k	5.3	3.9	2.4	2.5	52.4
Rural areas	3.9	3.9	2.2	2.6	47.9

The sample size allows for an analysis of persons with migration experience by various characteristics; it does not allow, however, for combining these characteristics with the reasons of migration.

Information from people who have returned indicates a declining importance of the adverse economic factors for the return in 2013-2015. Compared to the previous wave of *Social Diagnosis*, the percentage of people declaring that they have returned due to various problems with employment abroad decreased by almost 10 p.p. (Table 4.9.12.). The share of people declaring that they have returned because they had lost their job or their job had terminated decreased to the greatest extent - it was indicated by almost ¼ of the returned migrants in the *Social Diagnosis 2015*. In the last edition of the survey there were no people returning due to difficulties with finding work; the returns were not caused by the adverse changes in the wages relations between country of origin and country of destination either. It can therefore be assumed that the share of people whose return was rather forced than voluntary has decreased.

The returns declared as a part of the migration plan can also be considered economically motivated. In such a case, the episodes of economic migration can be regarded as successful - those leaving achieved their purpose and have returned to Poland according to the plan. The percentage of those in the last round of the survey has barely changed and amounted to nearly 24%.

Since 2009, the percentage of people who returned to the country temporarily to make some arrangements has been growing steadily. This may indicate a change in the nature of the phenomenon. In the first period after the opening of labour markets in the EU, migration of Polish workers was more short-term and/or cyclical. Emigration

<sup>39</sup>While analysing the data for this group, it is worth noting that over 25% of those people still fall into compulsory education and over 60% are still enrolled in the full-time study programmes of various types.

was one of the new alternatives to employment in the country, which was even more attractive since the period was also a time of economic boom in the destination countries with a high labour demand and relatively high wages. A favourable exchange rate to PLN at that time made the migration even more attractive. Therefore, the first years after EU accession were characterised by the biggest outflow of Polish migrant workers. In the following years, some of the immigrants having verified their expectations of the labour markets in destination countries returned home discouraged by low standard of living and jobs below their qualifications (e.g. Currie 2007, Grabowska-Lusińska, Okólski 2009, Okólski, Salt 2014, Nowicka 2014). The decline in the labour demand and lower wages abroad due to the financial crisis also contributed to the reduction of the stream of migration in the following years.

Table 4.9.12. Respondents by reasons of return from economic migration in 2009-2015 (in %)

Reasons for return	2009	2011	2013	2015
<b>Economic reasons</b>				
Termination/loss of employment	31.9	23.3	31.3	23.4
Decrease of the income compared to country of origin	4.8	2.5	1.8	0.2
Could not find a job abroad	1.6	1.3	3	0
<b>Other reasons</b>				
That was the plan	28.5	33.5	23.3	23.8
Family reasons	17.3	14.6	13.9	14.7
Health reasons	3.2	3.6	1.2	2.2
Only temporary to make arrangements	3.8	9	13.6	16.5
Other reasons/hard to say/ completed education	7.9	11.5	11.8	19.2

Previous experience of migration is correlated with the labour market status of. It can be invariably observed in subsequent rounds that people with migration experience are more active on the labour market in Poland (Table 4.9.13.). Without detailed analysis, however, it is difficult to talk about cause-and-effect relationships - higher activity may be caused by both the impact of migration on the labour market behaviour, as well as by the selection for migration and then return of people who have a predisposition to be more active in the labour market and if they had not left, they would have raised the general economic activity in Poland.

Table 4.9.13. Migration experience of people in the working-age population and their labour market status in 2009, 2011, 2013 and 2015

Labour market status	Persons with migration experience				Percentage of persons in working age in 2015
	During the last 4 years		During the last 2 years		
	2009	2011	2013	2015	
<b>Men</b>					
Employed	75.5	79.5	78.7	80.3	71.6
Including self-employed	14.5	14.9	14.9	13.7	13.6
Unemployed	16.5	15.3	15.7	10.4	5.4
Inactive	8.1	5.2	5.6	9.3	23.0
<b>Women</b>					
Employed	55.7	54.1	59.1	55.4	59.7
Including self employed	7.6	5.2	3.8	3.2	7.6
Unemployed	16.6	23.3	14.5	15.7	5.2
Inactive	27.8	22.7	26.4	29.0	35.1

The comparison of data for people with migration experience within 4 years prior to the survey in 2009, 2011 and within 2 years prior to the survey in 2013 and 2015 leads to the conclusion that, for both approaches, one can see a clear difference between men and women. In addition, the results are similar to previous rounds of the survey, with minor variations in case of women. Among men, the previous experience of migration was related to the higher than average rates of unemployment (almost twice), but also with more opportunities of employment and higher than the average percentage of self-employed. Women with the experience of economic migration also exhibited higher than average activity, but it did not result in the higher employment rates, as it did for men. The percentage of working women with migration experience was, as in previous rounds, still lower than the observed in the general population. The rate of self-employment decreased, even though it was already low in the previous round of the survey. The decline in economic activity in this group of women in 2015, compared to the previous round, is due to the decrease in the percentage of employed women, which is not compensated by the increase in (already high) percentage of women seeking work. The share of economically inactive women increases. In 2015, the share of unemployed women among all women with migration experience was more than three times higher than in the general population of women; a similar relationship was observed in 2011.

#### 4.9.5.3. Migration plans

Since *Social Diagnosis 2007*, respondents have been asked about plans to emigrate. Although there are no studies which would reliably predict migration on the basis of the declared intentions, the statements alone can be a clue when trying to assess the potential of migration. They can also provide valuable knowledge of how the respondents perceive their career prospects in Poland and how they evaluate the domestic labour market in particular in the context of the situation on the labour markets in the potential destination countries.

The situation on the labour markets in most EU countries has been steadily improving since the second half of 2013; labour demand is growing while the unemployment rate is declining slowly but consistently (Cichocki et al. 2015). The relatively low rates of unemployment, especially in comparison to the countries of the region, and the lack of barriers to access to labour markets in the main destination countries of Polish emigration, i.e. in Germany and the UK, may be an incentive after a period of the slack labour markets during the financial crisis. Since some people have already verified their not always realistic perception of work abroad and can more soberly assess the potential benefits and costs, the prospect of migration for work is not as tempting as it might have seemed during the post-accession boom. However, the wage differences persist (especially when the cost of living are taken into account) and they make migration a still attractive alternative, especially for people who have difficulties with finding work in the country.

In the last four rounds, the percentage of people declaring a will to migrate within the next 2 years for financial reasons ranged between 6% and 8%. In *Social Diagnosis 2015*, it fell to 7% compared to 8% observed two years earlier (chart 4.9.12.). Compared to data from 2007, when 11% of respondents declared the desire to emigrate, intentions to leave are less frequent. One may also notice a difference in the declarations between men and women. Since 2009, which can be regarded as the end of the post-accession boom, around 5%, women declared willingness to migrate, while for men the percentage fluctuated around 8-10%, with the similar dynamics though was. It seems that the indicators reached some stable level that accounts for a possibility of a legal work abroad, while the slight increases and decreases of the declared willingness of migration can see a response to changes in the situation on the Polish labour market rather than expectations of stellar perspectives in work abroad.

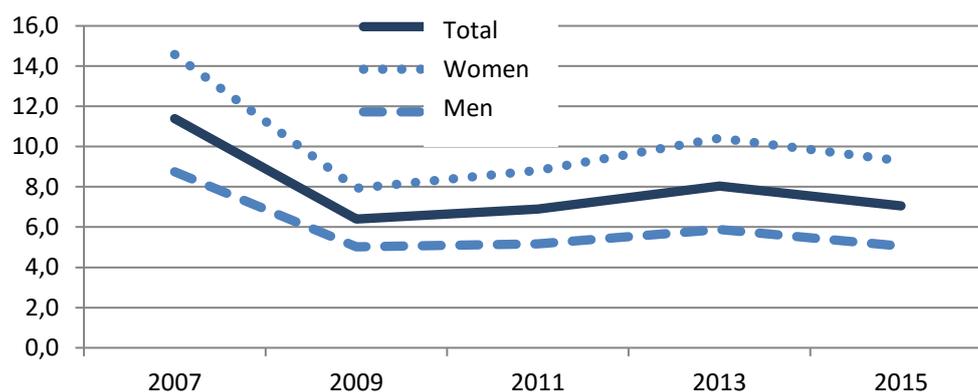


Figure 4.9.12. Respondents declaring the will to emigrate by gender in 2007-2015

The structure of people who want to leave, according to their labour market status is not the same as the general population. They are much more often economically active although not necessarily working (Figure 4.9.13.). Among those declaring the intention to migrate, the percentage of the employed is almost the same as in general population, but the share of the unemployed is almost three times as high. Most likely, the latter have difficulties finding a job in the country; similarly to the economically inactive, who might not be looking for a job in Poland but consider economic migration.

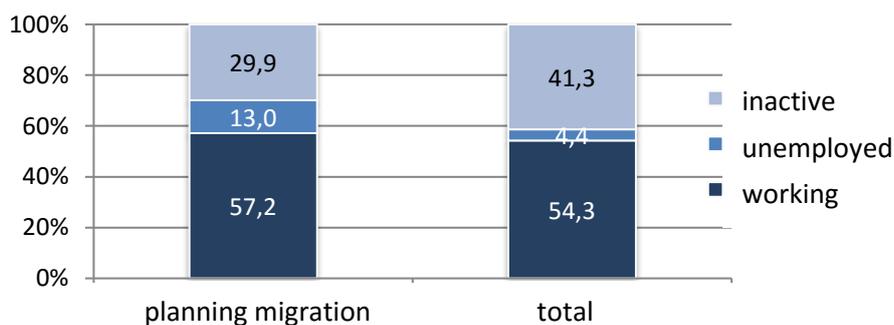


Figure 4.9.13. Respondents declaring the intention of economic emigration by status on the labour market

Propensity (declared) to migrate varies among the groups of persons according to sex, labour market status and education.

Consistently, working abroad seems to be the most attractive alternative for the unemployed – in every round of the Social Diagnosis, the unemployed were almost 3 times more likely to declare willingness to migrate than those working and nearly four times more likely than inactive population (Table 4.9.14.). This may confirm the thesis that the main cause of intention to emigrate is trouble with finding work in the country. In the *Social Diagnosis 2015*, every fifth unemployed person declared intention to migrate, compared to almost every thirteenth employed person and every twentieth economically inactive respondent.

Compared to 2013, the percentage of people planning to work abroad among the working population has declined, especially among those with secondary and the lowest level of education, and among the unemployed, especially those with higher and basic vocational education. Among the economically inactive a slight decline in the willingness to migrate was reported, with small shifts between educational groups.

Table 4.9.14. The percentage of people planning to emigrate by labour market status in the labour market and education in 2007-2015

Education	2007	2009	2011	2013	2015	2015	
						Men	Women
Employed						Men	Women
Higher	8.3	4.1	5.1	7.1	6.7	8.4	5.5
Secondary	13.0	6.4	8.9	9.3	7.5	10.0	4.7
Vocational	14.3	7.6	10.4	8.7	8.9	10.9	4.7
Primary and lower	8.1	6.3	8.0	7.1	4.2	5.2	2.7
Total	11.7	6.1	8.1	8.3	7.4	9.6	5.0
Unemployed						Men	Women
Higher	19.3	16.8	15.4	24.2	19.8	35.0	11.1
Secondary	31.9	23.8	15.8	27.3	27.0	40.2	17.7
Vocational	23.0	17.7	17.0	21.2	16.7	18.7	12.9
Primary and lower	21.5	15.1	10.7	15.4	15.4	13.5	17.3
Total	25.4	19.2	15.5	22.9	20.7	26.5	15.0
Inactive						Men	Women
Higher	14.0	4.41	2.7	5.4	5.5	6.1	5.2
Secondary	18.2	6.6	5.6	7.1	7.3	9.6	6.2
Vocational	15.5	7.53	5.4	7.2	6.3	7.4	5.2
Primary and lower	3.8	1.24	1.1	0.7	0.9	1.0	0.9
Total	14.5	5.19	3.9	5.3	5.1	6.5	4.3

Generally, men declare a higher propensity to migrate, regardless of their status in the labour market. In 2015, every tenth man among working people declared willingness to migrate; the same was true for every twentieth woman. Among the unemployed, almost every fourth man intends to migrate; in the same group only 15% of women want to migrate. Among those inactive, differences in intention to migrate by gender are not so significant; economically inactive women declare intention to migrate almost as often as the working ones.

Education affects plans to migrate slightly differently in the groups of respondents according to sex and labour market status. Unemployed men with at least secondary education are the most eager to migrate for financial reasons (over 35% of respondents), while among unemployed women – those with secondary or lower education. Among working men, those with the secondary and basic vocational education are most willing to migrate; among working women, only those with the lowest education were twice less likely to declare a migration intention than others. Similar patterns of declaration according to education have been reported among those economically inactive.

The relatively high declared willingness to migrate among people with secondary and basic vocational education may result from the fact that the perceived benefits of economic migration are higher for respondents in these groups than in others. Most of the emigrants from the post-accession wave are employed below their qualifications, often at jobs that are incompatible with their education or profession (e.g. Currie 2007, Grabowska-Lusińska, Okólski 2009, Okólski, Salt 2014). Probably, the gap between their qualifications and the vacancies available is relatively small, and the benefits (taking into account the differences in wages and cost of living) are relatively large, especially compared to the situation of people with higher education. The latter are more likely to find jobs in Poland, particularly jobs that meet their qualifications. In case of emigration, the chance to work in accordance with qualifications is probably lower; therefore, perceived lost opportunities related to work that does not match education can be bigger, even if the pay would be higher in absolute terms. People with primary education declare a relatively low willingness to migrate; this may be due to their poor adaptation skills to the needs of the labour market in general, both at home and abroad. In this case, however, it might not have so much to do with education, but might, at least partially, be a result of prior selection – the low declared intention to work abroad does not derive only from the low level of education (though the expected benefits may be relatively small in this group), but it is also due to the fact that basic and lower education is achieved by persons who, for various reasons, are not too well prepared, able or ready to work at all. This affects their willingness to work both in the country and - even more - abroad.

Since 2013, the Social Diagnosis respondents have been asked to justify their declared willingness to migrate. In 2015, as two years earlier, most popular reasons were economic in nature (Table 4.9.15.).

Table 4.9.15. Declared reasons for willingness to migrate by gender, 2015

Declared reason for emigration*	Men	Women	Total
I lost hope for finding any job in the country	16.94	20.62	18.34
I lost hope for finding a job which suits my qualifications in the country	9.59	9.94	9.72
Hope for higher income	<b>75.95</b>	<b>63.88</b>	<b>71.36</b>
I don't have a chance to develop professionally in the country	11.50	10.79	11.23
I am fed up with the atmosphere in the country	<b>25.25</b>	<b>25.85</b>	<b>25.48</b>
In Poland everything depends on connections, not competence	<b>30.36</b>	<b>30.14</b>	<b>30.28</b>
I hope there are better social benefits abroad	7.23	6.64	7.01
It will be easier to become independent	10.84	13.57	11.88
I want to reunite with my family/partner abroad	2.19	9.00	4.79
People abroad are nicer and more helpful	9.73	6.84	8.63
It is easier to start and develop a company	6.87	2.29	5.13
My employer sends me	2.53	1.45	2.12
I want to prove myself	9.45	14.07	11.23
To earn money to establish a company in the country	4.42	4.13	4.31
To earn money for the needs in the country (support the family, pay the loans, buy/build house/flat, buy land, buy tools etc.)	<b>25.79</b>	<b>24.06</b>	<b>25.13</b>
Other reason	7.57	9.54	8.32

\* max. 3 answers could be indicated

Evaluation of the significance of the subsequent reasons depends on gender, but the order of the most commonly selected reasons partly coincides for both men and women. By far, the most common reason for departure is expectation of much higher earnings abroad than in the country - this reason was indicated by two thirds of all those declaring willingness to migrate; it was also chosen by men much more often. The second most important reason for leaving is that in Poland everything depends on the personal connections, not competence – it was indicated by every third respondent, no significant difference by gender was observed; the third reason among men (fourth among women) was the desire to earn money for the needs in the country (including support for the family, the repayment of loans, purchase/construction of a house/apartment, purchase of land, work tools etc.); and general fatigue with atmosphere in the country was third in case of women (fourth most important reason among men). Losing hope of finding any work in Poland has also been pointed to relatively often.

The percentages of the people indicating the individual reasons were similar in most cases. The exceptions are: the desire to connect with the family – women point to it over four times more often, the desire to develop own business - more than twice more popular among men, and the willingness to prove oneself - more than 50% more popular among women.

In conclusion, negative assessment of the situation on the labour market in Poland and the difficulties in earning adequate income to meet the needs of one's family in the country dominate among the causes of intended migration. The reasons such as: professional development, becoming independent or trying to prove oneself were indicated, but were not the most important. Migration seems to be rather forced by the need to improve the financial situation, by the wage differences between Poland and destination of migration, but also by a negative opinion about an appreciation for competence in the country, rather than a consciously selected stage of professional development or career formation.

As in previous editions of the Diagnosis, the state of the economy of each destination country had a large impact on the migration declarations. In 2015, among the persons who pointed out a direction of their possible departure, Germany was the most common choice (4.9.16.) and Great Britain was second. The opening of labour markets in Germany and Austria can additionally make those destinations desirable. The results of econometric analyses show that the main factor affecting the emigration rates from Poland to the EU in the perspective of several years are the differences in unemployment rates between countries, and increased migration waves due to new opening labour markets in subsequent countries in Western Europe were generally low after 2005 (Strzelecki & Wyszynski, 2011).

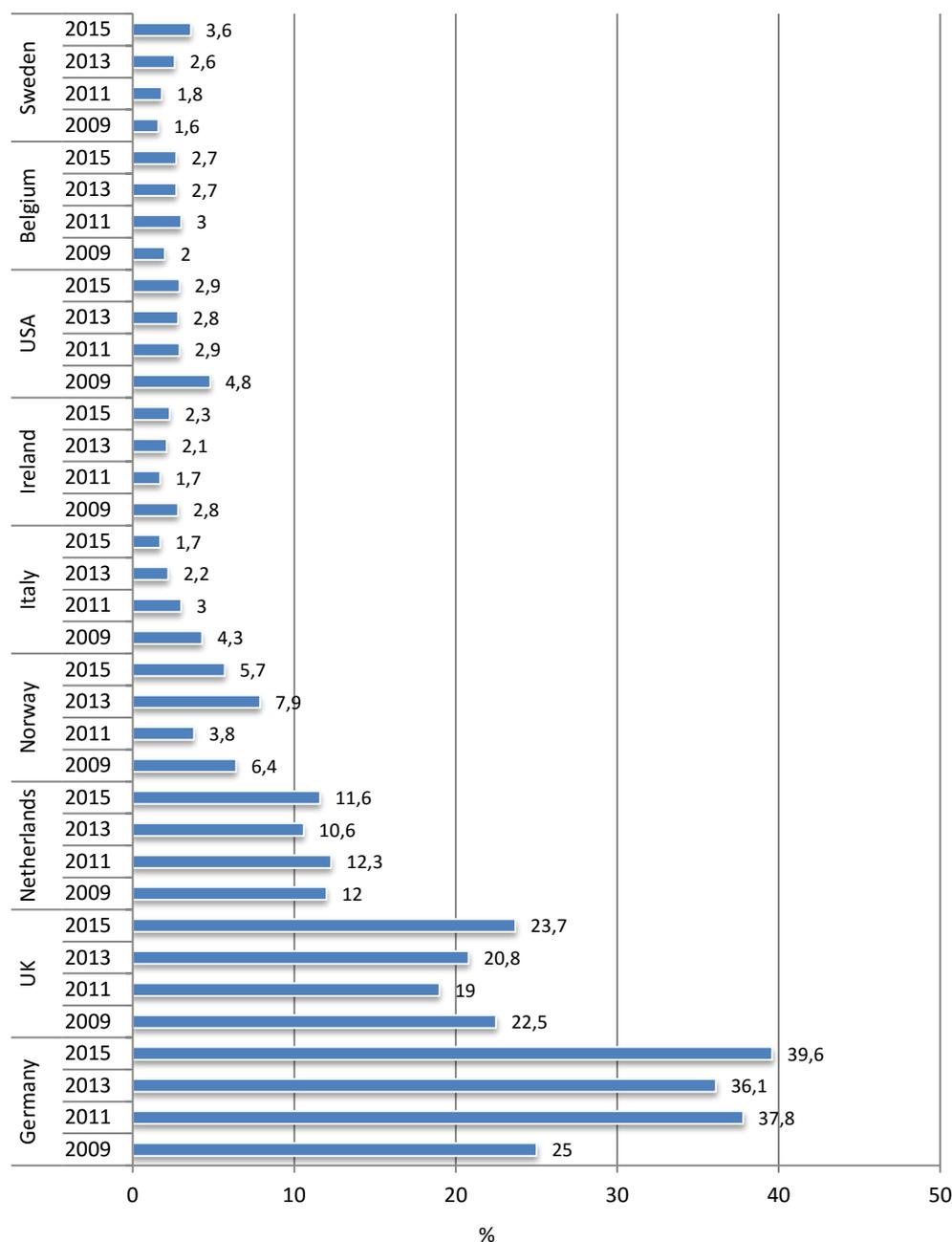


Figure 4.9.16. The most popular destinations of the intended economic emigration in 2009-2015

The relatively low unemployment rates in major destination countries of Polish economic migration made the two thirds of people (both men and women) intend to go to Germany and the United Kingdom. For men, the main destination country was Germany, indicated by almost every other man declaring an intention to migrate; compared to the previous edition of the survey, the percentage indicating Great Britain also increased (every fifth potential migrant). Among women, compared to 2013, the importance of Germany slightly declined (to 34% of indications), while the popularity of the United Kingdom increased (to 27%) (Figure 4.9.17).

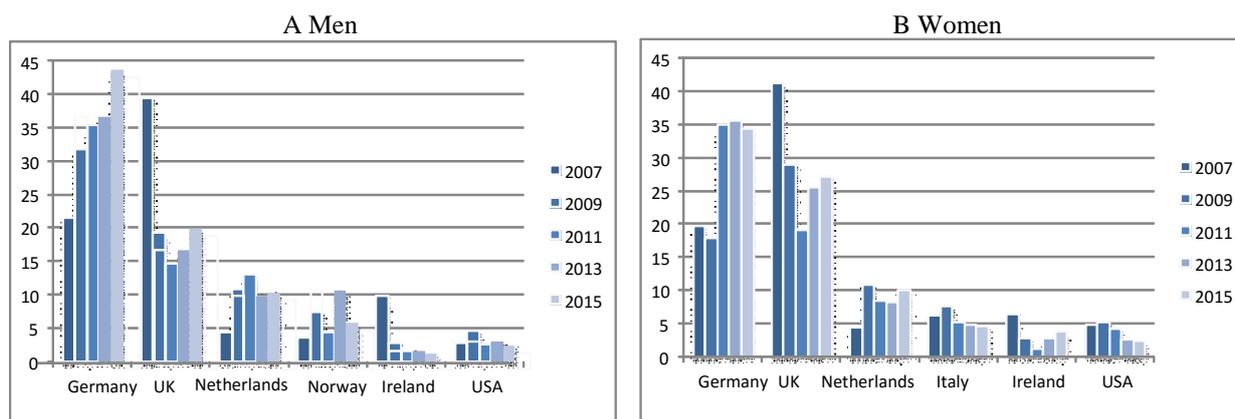


Figure 4.9.17. The most popular destinations of the intended economic migration in the 2007-2015 for men (panel A) and women (panel B) (% declaring intention to migrate)

The difficult economic situation at the time of the financial crisis and the slow process of recovery reduced popularity of Ireland as a destination, although the proportion of women intending to go there slightly increased; it is still the fifth most popular destination country of migration for Polish women. Norway and the Netherlands are also quite popular among men, probably due to the consistently relatively low level of unemployment in these countries. Among women, Italy was also popular. The percentage of people intending to go to the US is at a stable level of a few percent.

#### 4.9.5.4. Summary

The data on (economic) migration according to the Central Statistical Office suggests some stabilisation. The data from the Social Diagnosis indicates a similar stabilisation; however, because of the way the study is conducted, it relates to other aspects of the migration process. The Social Diagnosis makes it possible to obtain information about people who were in Poland at the time of the survey. It is, therefore, only a part of the population of migrants; one cannot estimate the size or characteristics of the present emigrant population based on that data. One can, however, evaluate the nature of returns from migration and, at least partially, the effects it has on the Polish labour market.

The percentage of people with experience of economic migration during the two years preceding the survey of 2015 was quite stable and low. In 2013-2015 it was around 2% and, systematically in each round, it was more than twice higher among men than among women. The migration experience varies with age, education and place of residence.

Migration experience is also correlated with the status on the labour market. Invariably, in subsequent rounds of the Social Diagnosis, it is observed that people with migration experience are more active on the labour market; however, in case of women, this does not result in higher employment rates. The information from people who have returned suggests a decline of the negative impact of economic factors on the return of persons surveyed in 2015.

In the last four rounds, the percentage of people who declared intentions to migrate within the next 2 years ranged between 6% and 8%; in 2015 it was 7%. Invariably, working abroad seems to be the most attractive alternative for the unemployed.

#### 4.9.6. Professional training and situation on the labour market

In view of the projected changes in the age structure of the population of Poland, which involve acceleration of the ageing process of the population occurring along with a significant decline in the potential work resources (e.g. Kotowska, Józwiak 2012) of particular importance is the issue of engaging in lifelong professional activity. At the same time fast changes in the economy and its external links require active and long-term measures that will enable to prepare for new challenges, especially in terms of human capital adapted to the needs of the labour market. To be able to design appropriate measures both at the public as at the workplace level, increasing educational activity of adults, it is necessary to know reasons for undertaking vocational training.

The level of human capital, which may be expressed by level of education, as well as participation in training and the level of general (civilisation) competence, is recognized as one of the factors affecting professional activity of people in working age, and especially of older people (e.g. Kotowska, Szanderska, Wóycicka, 2007; The European Commission, 2012; Grabowska, 2012; Active Ageing, 2012; Lindley, 2012; Stonawski, 2014). It should also be noted that lifelong learning and, in particular, raising professional qualifications, is one of the foundations of the European

Employment Strategy (available at: <http://ec.europa.eu/social/>), and an increase in the percentage of people aged 25-64 participating in lifelong learning to at least 15% by 2020 is one of the objectives of the Europe 2020 Strategy.

In this part of the report we will discuss the impact of training on the situation of people on the labour market. In particular, we are interested in all kinds of forms of increasing qualifications upon completion of formal education and start of activity on the labour market. An extremely valuable asset of analyses carried out within the framework of the *Social Diagnosis* is their comparability over time, which allows you to identify and track changes on a biennial basis.

First we will focus on the range of training of people in the age of over 25 years old, i.e. educational activity of people considered according to different characteristics. In the next step we will present the most common forms of educational activity undertaken. In the following sections we will analyse the impact of the level of qualification on the general situation on the labour market. First we will review the reasons for not being employed, in particular with regard to the lack of necessary qualifications employers are looking for. The analysis of conditions for seeking employment will serve as a compliment to this part. The next step of the analysis is a review of the impact of training on the change of status on the labour market and the effect of training on the income received by workers. The discussion is concluded with a presentation of a model for training determinants that summarizes the results of the analyses in this section.

#### 4.9.6.1. The range of professional training

On the basis of the data from the *Social Diagnosis* it is possible to analyse each activity made by respondents concerning improvement of their professional qualifications or other skills in the periods 2005-2007, 2007-2009, 2009-2011 and 2011-2013 and 2013-2015.<sup>40</sup>

Just almost 9% of those aged 25 years and over participated in the period 2013-2015 in any activity related to improvement of their professional qualifications or other skills, so a bit less frequently than it was indicated by the results from previous years. Analysis of the structure of people who in the *Social Diagnosis* 2007, 2009, 2011, 2013 and 2015 declared such activity indicates a high and continuing selectivity of the process of training mainly due to age, level of education and place of residence (Table 4.9.16.).

Table 4.9.16. The structure of people in the age of 25 years or more participating in any activity related to the improvement of their professional qualifications or skills in the periods 2005-2007, 2007-2009, 2009-2011, 2011-2013 and 2013-2015 by gender, education, place of residence and age (%)

Socio-demographic traits	Percentage of people aged 25 years and over who are involved improving their qualifications or other skills in the periods				
	2005-2007	2007-2009	2009-2011	2011-2013	2013-2015
Total	11.7	11.9	10.7	9.6	8.7
Women	56.8	51.9	54.0	56.1	54.6
Men	43.2	48.1	46.0	43.9	45.4
Higher and post-secondary education	57.5	57.4	62.2	63.4	68.2
Secondary education	28.5	29.0	24.7	25.2	22.6
Vocational education	11.8	11.9	10.6	9.5	7.1
Basic and lower education	2.2	1.7	2.5	1.9	2.1
Towns over 500k inhabitants	23.6	24.1	25.2	27.3	25.3
Towns of 200-500k inhabitants	17.0	17.2	17.2	16.9	21.5
Towns of 100-200k inhabitants	8.4	8.0	8.0	8.4	8.5
Towns of 20-100k inhabitants	19.6	19.2	20.0	18.4	18.4
Townsof less than 20k inhabitants	11.8	10.4	10.6	10.6	9.0
Rural areas	19.6	21.0	19.0	18.4	17.4
25-29 y.o.	25.8	27.3	25.7	22.8	20.7
30-34 y.o.	20.9	18.7	19.9	19.8	17.6
35-39 y.o.	14.3	16.4	16.2	16.6	17.2
40-44 y.o.	12.8	12.0	12.6	12.7	15.2
45-49 y.o.	10.4	10.6	9.2	9.2	9.1
50-54 y.o.	9.3	8.4	8.0	8.5	8.3
55+ y.o.	6.4	6.6	8.5	10.3	12.0

Among those raising their skills in the period 2013-2015 most still were women (almost 55%) and their participation during the overall period considered consistently remained above 50%. About 68% of people training

<sup>40</sup> The results obtained in the *Social Diagnosis* 2007, 2009, 2011, 2013 and 2015 cannot be compared directly with the results of the LFS [Polish BAEL] concerning educational activity of adults. In the *Social Diagnosis* people were asked about educational activity in the past two years, while in the LFS measurement considers the last 4 weeks before the survey. Moreover, the question about the activity associated with the improvement of professional qualifications or other skills in the *Diagnosis* includes both activity in the school and outside school, while in the case of LFS both categories are considered separately. Moreover, in this part of the study the analysis of activity in the field of vocational training includes people aged 25 and more.

over the last two years had higher or post-secondary education, significantly more than in the previous rounds. Percentage of people with secondary education raising their skills decreased to 23% and was lower than the values recorded for all the earlier rounds. Participation of people with primary or basic vocational education decreased to just 7% (approximately 10-12% in the previous rounds). The least people improving their qualifications in the period 2013-2015 had basic education— invariably about 2% in all rounds of the survey. Therefore, selectivity of the process of training due to the level of education further increased.

The structure of people training according to class of the place of residence also has not undergone big changes in the period 2013-2015 compared to previous rounds. Only about 17% of people training in the period 2011-2013 have lived in rural areas compared with about 18-20% in previous rounds of the survey. Among inhabitants of the towns who were undertaking training still just over half (55%) are people from the towns over 100k inhabitants in all rounds of research, about 18% from towns of 20k to 100k inhabitants (18-20% for three previous rounds) and about 9% of towns below 20k inhabitants (10-12% for earlier rounds).

There also have been no big changes in the structure of people training as to the age in the periods concerned. People training are still mostly young people – about 38% were in the age 25-34 years old compared with about 43-47% in the previous rounds of the survey. People aged 35-44 years old make up for about 32% of the people training (in previous rounds 28-30%), and people aged 45-54 for about 17-18% in the periods 2013-2015, 2011-2013 2009-2011 and 19-21% in the periods 2005-2007 and 2007-2009. Only 12% of people aged 55 years old and over raised their skills compared with 7-10% in previous rounds of the survey. It should be noted that in the period 2013-2015 the youngest group involved (aged 25-29) still showed a downward trend, and the oldest (55 years old and more) an upward trend, which is a continuation of the changes observed in the period 2009-2013. Participation of people aged 40-44 years old also increased, which is a new phenomenon in comparison to previous rounds of the survey. The age structure of people over 25 years old also undoubtedly influenced this change.

*Table 4.9.17. Participation of people at the age of over 25 years old in any kind of activity related to improving professional qualifications or other skills over the past 2 years according to place of residence and gender in the following subperiods of the period 2005-2015 (in percent of people of a given category)*

Specificity	Towns>500 k	Towns 200-500k	Towns 100– 200k	Towns 20- 100k	Towns < 20k	Rural areas	Total
2005-2007							
Total	24.4	17.0	11.8	11.0	10.6	6.2	11.7
Women	24.7	18.0	11.3	11.5	11.0	6.6	11.9
Men	24.1	15.9	12.6	10.4	10.1	5.8	11.2
2007-2009							
Total	22.8	18.2	13.5	11.9	9.3	6.8	11.9
Women	23.5	18.6	12.1	11.3	8.7	6.0	11.6
Men	22.0	17.8	15.2	12.5	9.9	7.7	12.2
2009-2011							
Total	20.9	18.3	11.2	11.0	8.8	5.5	10.7
Women	20.7	18.0	10.4	11.3	8.6	5.2	10.8
Men	21.2	17.5	12.0	10.6	9.1	5.8	10.6
2011-2013							
Total	20.7	16.6	10.2	9.1	8.4	4.6	9.6
Women	21.1	16.8	9.8	9.8	9.6	5.0	10.2
Men	20.4	16.4	10.5	8.3	7.0	4.2	8.9
2013-2015							
Total	18.3	19.0	9.4	8.1	6.4	3.9	8.7
Women	18.5	19.8	9.3	7.7	6.3	4.3	9.0
Men	18.0	18.0	9.7	8.5	6.5	3.6	8.3

To sum up, a typical person participating in any activity related to improving their professional qualifications or other skills is still a person with a university degree, in the age of 25-34 years old, living in a big town, more often female than male.

The above Figures reflect the structure of people improving their qualifications during the period 2005-2015, which depends not only on the educational activity of certain groups of population, but also on the structure of respondents according to the characteristics considered<sup>41</sup> Referring them to appropriate subpopulation allows you to assess the intensity of the process.

The data provided in Table 4.9.17. confirm selectivity of the process of improvement of professional skills in relation to place of residence, disadvantageous especially for the inhabitants of rural areas. With the increase in the size of the place of residence activity connected with professional development is more commonly taken –

<sup>41</sup> For example, in 2007, inhabitants of the largest towns constituted 11% of all respondents aged 25 and more, and inhabitants of the smallest towns and rural areas up to 13% and 38%; in 2009 these percentages were as follows: 12.5%, 13.3% and 37%; in 2011 12.8%, 12.9% and 37%; in 2013: 12.6%, 12.1% and 38.2%; and in 2015: 11.8%, 11.9% and 39.1%.

participation of active people varies from around 9-15% for towns of less than 200k residents to 18-25% for towns of more than 500k residents for all periods analysed. Only about 4-7% of the inhabitants of rural areas participated in the improvement of their qualifications.

In the period 2013-2015 a decrease was registered in the activity of improving one's own qualifications or vocational skills for all types of class of place of residence except for residents of large towns (200-500k inhabitants) and women in towns with 20-100k inhabitants. In general, this is a continuation of the changes observed in an earlier round of the study. In the period 2009-2011 the view of training according to the category of the place of residence was more homogeneous – a small decrease considered all categories of residence, both for women and men. An increase in the educational activity of men living mainly in rural areas, as well as small and medium-sized cities observed in the period 2007-2009 was not upheld, similarly to an increase in educational activity of women in the largest and smallest towns in the 2011-2013 round. As in the 2009-2011 and the 2011-2013 rounds, also in the current round women generally took up training more often than men, though at a lower level compared to the previous round. Unlike the previous two rounds, the decrease was more significant for women, thereby reducing the gap between the genders in this respect.

Profile of participation in the improvement of professional qualifications according to the age in the period 2013-2015 did not undergo substantial change compared to the previous rounds of the study. The biggest educational activity characterizes people in the youngest of the groups analysed, the smallest – the oldest people. Educational activity decreases gradually with age from about 19-24% for those aged 25-29 years old to about 2-3% for those aged 55 years old or more. Despite general decline in the educational activity disparities in the use of training according to age for people aged 25 years old and more are still clear.

Basic patterns related to activity in the field of improving qualifications by the level of education (Table 4.9.18.) have not changed substantially. Better educated people were more likely to get involved in various forms of improving professional skills. Most often people with higher and post-secondary education took up training (about 22% in the period 2013-2015, approximately 24% in 2011-2013 and 27% in 2009-2011), more often women, for whom decrease in activity in the group of education was higher than for men, thereby reducing the gap between the genders, which appeared in the previous round of the survey. It should be noted that the downward trend from previous rounds of the survey remained, concerning training in a group of people with higher and post-secondary education. Similarly, as in the previous rounds, people with secondary education clearly improved their qualifications less (about 7% in the period 2013-2015, 8% in the period 2011-2013, 9% in the period 2009-2011 to 11-12% in the periods 2005-2007 and 2007-2009), and men still were more active at this level of education than women. A gender gap in this category of education for the benefit of men remained. While a people with basic vocational or *gimnazjum* education constantly take this type of activity over two and a half times less than those with secondary education (about 2% in the period 2013-2015, about 3% in the period 2011-2013, compared with 4-5% in the periods 2009-2011, 2007-2009 and 2005-2007). Unlike previous rounds of the study, women with basic vocational education were less active than men in improving their skills, in the current round this difference actually disappeared, largely due to a stronger decline in educational activity among men. People with at most basic education invariably do not participate in this process.

Table 4.9.18. Participation of people in the age of 25 years old and more in any kind of activity related to improving professional qualifications or other skills over the past 2 years according to education and gender in the following subperiods of the period 2005-2015 (in percent of people of a given category)

Specification	At most basic	Vocational education and <i>gimnazjum</i>	Secondary	Higher and post-secondary	Total
2005-2007					
Total	1.3	4.7	11.4	30.7	11.7
Women	0.8	3.0	10.8	31.3	11.9
Men	1.9	5.8	12.2	29.7	11.2
2007-2009					
Total	1.1	4.8	12.0	30.6	11.9
Women	0.7	2.9	10.3	30.3	11.6
Men	1.5	6.0	14.2	31.1	12.2
2009-2011					
Total	1.5	4.0	8.9	27.5	10.7
Women	1.1	3.3	7.4	27.6	10.8
Men	2.1	4.5	10.7	27.2	10.6
2011-2013					
Total	1.1	3.2	8.1	23.8	9.6
Women	0.9	2.5	7.0	24.9	10.2
Men	1.6	3.6	9.4	22.2	8.9
2013-2015					
Total	1.3	2.1	6.7	21.5	8.7
Women	0.7	2.1	5.5	21.7	9.0
Men	2.1	2.2	8.3	21.5	8.3

These results confirm a highly selective nature of the training process, as well as did the results of the Adult Education Survey (CSO [Polish GUS], 2009, 2013a)<sup>42</sup>. Despite a somewhat different definition of participation in various types of educational services in both surveys, which makes it impossible for a direct comparison of the numerical results, conclusions formulated on this basis are analogous. Mainly young people, well educated people and inhabitants of larger towns improve their qualifications. About 41% of people taking up training in the periods 2011-2013 and 2013-2015 undertook educational activity in more than one of the periods analysed as in the periods 2009-2011 and 2007-2009 compared to 44% in the period 2005-2007. This means that among people in the age of over 25 years old, a very small part (not more than about 4%) is constantly improving its qualifications.

#### 4.9.6.2. Forms of professional training

Analysis of the forms of professional training together with the analysis of those participating in continuous training allows to identify these forms which should be developed. However, it should be pointed out that *Social Diagnosis* does not contain information if training was undertaken on one's own initiative or not and moreover, the respondent could have participated in several educational forms. In addition, information about the source of financing is also inaccurate<sup>43</sup>.

The data contained in the Table 4.9.19. testify to the fact that upgrading professional qualifications or other skills by people aged 25 years old and more most often takes the form of courses financed by the employer (about 36% of indications in the period 2005-2007, and close to 40-42% in the period 2007-2015). Training, to which the person is guided by the employer, is usually most effective because of the employment prospects. About 17% of the respondents in the period 2013-2015 and around 15-16% in the periods 2009-2011 and 2011-2013 pointed to universities (excluding doctoral and postgraduate level) versus 20% in the periods 2005-2007 and 2007-2009. The decrease observed until 2013 might be linked to educational aspirations of the youth who wants to continue education immediately after graduating from secondary school and more and more people in this age have already completed higher education. In recent years, as in the case of the use of educational services, involvement of formal education institutions increased in the structure of people taking up training. In the periods 2013-2015 and 2011-2013 slightly less people than in the period 2009-2011 undertook training courses financed from their own resources (11-12% compared to 13%) while this is somewhat more than in the period 2007-2009 (10%). The percentage of people benefiting from the courses supported by the European Social Fund (ESF) amounted to 6-8% in all rounds of the survey analysed. Consistently about 7-9% of respondents pointed to undertaking educational activities related to raising other skills such as driving lessons. From the round 2013-2015 participating in the activities of the University of the Third Age may also be distinguished, but its significance is minimal – 0.6% in general population improving its qualifications and 5% for those aged 55 years old or more, who are in any way educationally active. Only about 3% in the period 2013-2015 and 4% in the period 2011-2013 of respondents were undertaking training financed from the Labour Fund (FP [Polish Fundusz Pracy]) compared with about 5-7% in the previous rounds of the study.

The scope of the use of various forms of training also indicates selectivity of this process. Most respondents benefit from the activities financed by the employer, what indicates that mainly people working improve their qualifications (more on this topic in point 4.9.4.5.).

The activities financed from the European Social Fund (ESF) are also worth attention. Although the ESF has been implemented in Poland only for several years, involvement in the activities financed from the ESF significantly exceeded involvement in training financed from the Labour Fund (FP). The biggest difference was noted in the previous round of the survey, though in the current the difference is significant and amounts for 3.8p.p. But it must be taken into account that the EFS target groups are wider than FP target groups (also include people already working), what in case of given groups of small sizes prevents detailed comparisons. In spite of the period of most intensive implementation of the ESF from the financial perspective of the period 2007-2013<sup>44</sup>, in which Poland has acquired a significant allocation from this fund, in the past six years the scope of funding from this source slightly increased, not exceeding the level of 10%, what in comparison with the scope of the courses funded by the employer constitutes a relatively small share.

<sup>42</sup>Definition of education in the Adult Education Survey also includes independent training/learning.

<sup>43</sup>Most educational activities of adult population are co-financed from two or more sources while the cafeteria of appropriate questioning of *Social Diagnosis* may suggest separation of sources of funding. If the respondent indicates that he financed educational activity, it is therefore difficult to determine whether it reflects the facts or, for example, that his contribution was to him/her more noticeable than other sources and therefore he/she omitted them.

<sup>44</sup>[www.efs.gov.pl, fundusze europejskie.gov.pl](http://www.efs.gov.pl, fundusze europejskie.gov.pl)

Table 4.9.19. People aged 25 years old and more participating in any activity related to improving professional qualifications or other skills in the following subperiods of the period 2005-2015 according to the forms of training<sup>45</sup>

Form of training	Percentage of indications to a given form of training in the years				
	2005-2007	2007-2009	2009-2011	2011-2013	2013-2015
Learning at universities except post-graduate and doctoral studies	19.9	19.1	15.3	16.0	17.4
Post-graduate and doctoral studies	7.9	10.1	8.9	7.9	6.9
Courses funded with own funds	15.1	10.0	13.3	11.1	12.01
Courses funded with EFS	7.1	6.1	7.3	8.4	7.1
Courses funded with FP	5.7	5.2	6.5	3.9	3.3
Courses funded by the employer	36.5	39.6	40.8	41.8	40.2
Since 2013-2015 round also Universities of the Third Age	7.8	7.0	7.9	8.2	9.0
	-	-	-	-	0.6

It should be noted that many educational activities are financed from various sources, or example, from employer funds and own resources. For the question asked in *Social Diagnosis* in the periods 2007, 2009, 2011, 2013 and 2015 the answer concerning co-financing was not foreseen, so the data contained in the Table 4.9.19. should be regarded as an approximation of a kind of different sources of funding.

Due to small numbers for various forms of training it is impossible to analyse forms of training according to the status of the respondent on the labour market, in particular for non-working persons.

#### 4.9.6.3. Professional qualifications and status on the labour market in the period 2000-2015

Analysis of people who did not work because of a lack of qualifications corresponding to the employers needs and people working will allow for at least partial assessment of the scale of the structural mismatches on the labour market in relation to professional qualifications held by people of working age. However, it should be noted that this is the respondents' subjective assessment, which probably differs from the assessment of employers.

Because of the way questions are put about the reasons for not pursuing one's professional activities in the questionnaire, comparison can be performed for five periods: 2000-2007, 2005-2009, 2007-2011, 2011-2013 and 2013-2015. Despite the absence of their decouplability, it can be considered that the first period covers mainly the slowdown of the Polish economy (2002-2004), the second – a period of relatively good economic times, although the effects of the economic crisis could have already been affecting the responses of the respondents, and the third and fourth period concern the period of economic slowdown caused by the crisis, while the last period 2013-2015 is already a gradual recovery from the period of economic downturn.

Among people not working professionally in the period 2013-2015, namely the unemployed and inactive, only about 3% pointed to lack of qualifications required by the employer<sup>46</sup>, of which the majority were women (about 54%) (Table 4.9.20.). In the periods 2000-2007, 2005-2009 and 2011-2013 the situation was similar (about 4-5% of respondents, including respectively 57%, 54% and 54% of women). For a change, in the period 2007-2011 about 3% found lack of qualifications as the cause of unemployment, of which 62% were women. However, regardless of the changes observed lack of qualifications required by the employer was not, in the assessment of the respondents, the main reason for lack of employment in the analysed periods. Please note that this is a subjective assessment of the respondent, so predominance of women can result from their increased criticism. This result may also be influenced by the importance of education as the determinant of employment, greater for women than for men (e.g. Sztanderska, Grotkowska, 2007).

Among the non-working population due to lack of qualifications in the period 2013-2015 20% had at most basic education, less than in the period 2011-2013 (24%), but at a level similar to that reported in the periods 2000-2007 and 2005-2009 and slightly more than in the period 2007-2011 (18%). For instance, the share of people with basic vocational or *gimnazjum* education who have not worked due to lack of appropriate qualifications considerably increased – close to 38% compared with 32% in the period 2011-2013. However, this growth was not strong enough for the share of people with this level of education returned to the level from the previous periods – 48% in the periods 2007-2011 and 40-42% in the periods 2000-2007 and 2005-2009. In total, people with at most basic vocational education accounted for most of the people not working because of lack of qualifications. Slightly less than one-third of the non-working people in the period 2013-2015 compared to around 32% in the period 2011-2013 and from 27-

<sup>45</sup> The respondent could name three activities undertaken over the last 2 years in order to improve professional qualifications or other skills. The analysis uses the form listed as the first – the most important.

<sup>46</sup> Respondents could indicate more than one reason for being unemployed or inactive, so the percentage of indications informs about the rank of a given reason.

28% in earlier periods analysed had secondary education, while those with higher education constituted the smallest group (6% in the period 2000-2007, 9% in 2005-2009, 7% in 2007-2011, 11% in 2011-2013 and 12% in 2013-2015).

*Table 4.9.20. Structure of non-working people in the period 2000-2015, for which the cause of unemployment was lack of qualifications required by the employer, by gender, education, age and place of residence in the following subperiods of the period 2000-2015 (%)*

Socio-demographic traits	Percentage of unemployed due to insufficient qualifications for the employer (respondent's subjective assessment) in the years				
	2000-2007	2005-2009	2007-2011	2011-2013	2013-2015
Total, including:	4.2	4.9	2.9	4.5	3.4
Women	57.4	54.1	61.8	54.4	54.4
Men	42.6	45.7	38.2	45.6	45.6
Higher and post-graduate	6.0	9.2	6.7	10.6	11.6
Secondary	28.6	27.0	27.1	32.5	30.7
Basic vocational and <i>gimnazjum</i>	42.0	39.8	48.2	32.4	37.7
Basic and lower	23.4	23.8	18.0	24.4	20.0
Towns over 500k inhabitants	7.2	8.3	8.4	7.9	12.0
Towns of 200-500k	14.5	9.7	8.8	10.5	5.7
Towns of 100-200k	5.6	7.6	7.7	7.6	8.1
Towns of 20-100k	22.9	20.2	20.7	17.4	22.0
Towns with less than 20k	13.6	11.5	11.2	12.5	10.1
Rural areas	36.2	42.7	43.2	44.2	42.1
up to 24 y.o.	41.8	25.8	37.7	27.0	22.4
25-29 y.o.	9.3	16.3	11.3	15.2	12.8
30-34 y.o.	7.8	9.4	9.2	11.3	6.7
35-39 y.o.	7.5	7.3	5.6	7.4	10.8
40-44 y.o.	10.0	9.5	7.4	6.8	6.3
45-49 y.o.	7.4	9.4	6.0	8.2	5.8
50-54 y.o.	9.1	11.7	7.7	8.3	8.4
55 y.o. and over	7.1	10.6	15.1	15.7	26.9

The structure of respondents with insufficient qualifications to perform professional work by place of residence is similar in the selected periods. People not working due to insufficient qualifications came mainly from rural areas (42% in the period 2013-2015 and 44% in the period 2011-2013 to 36% in the period 2000-2007) and towns of up to 100k residents (approximately 32% in the period 2013-2015 and 30% in the period 2011-2013 to 37% in the period 2000-2007). In the period 2013-2015 approximately 14% of people with insufficient qualifications came from towns of 100k to 500k residents compared to about 17-20% in other periods analysed. The percentage of people with insufficient qualifications from the largest towns increased to 12% in the period 2013-2015 compared with other periods analysed, when involvement of the inhabitants from the largest towns has not exceeded 9%.

The age structure of people unemployed due to insufficient qualifications differed mainly due to the participation of people up to 29 years old. In the period 2005-2009 share of this age group significantly decreased compared to the period 2000-2007 (from 50% to 42%) to return to a level of about 50% in the period 2007-2011. In the period 2011-2013 again there has been a decrease – the share of people of up to 29 years old in the structure of unemployed due to lack of appropriate qualifications decreased to 42%. It continued to decrease in the period 2013-2015, reaching 35%. The share of people from each five-year groups of people aged 30-54 years old was relatively stable and fluctuated between 7-12%, without exceeding the difference of about 4 pp. for all periods compared. In contrast, the share of people aged 55 years old and over was relatively stable in the period 2011-2013 compared to the period 2001-2011 (about 15-16%), but much higher than shares recorded in the period 2000-2007 and 2005-2009 (respectively 7% and 11%). In the present period there has been a significant increase in the participation of people unemployed due to insufficient qualification at the age of 55 years old and more – to the level of about 27%. The structure of people unemployed due to insufficient qualifications is also affected by the age structure of the population. However, there are two groups of people who are in a much more difficult situation due to lack of appropriate qualifications – these are young people up to 29 years old and people aged 55 years old and over.

In addition, among unemployed due to lack of appropriate qualifications in the period 2000-2007 only about 26% participated in any activity related to improving their qualifications during the last two years prior to a given round of studies (women close to 24%, 29% - men). This information is incomplete, the data about undertaking educational activity do not concern the whole period during which the respondent's qualifications were insufficient. For the periods 2005-2009 and 2007-2011 we already have full information on undertaking educational activity by people with insufficient qualifications to undertake employment. Only about 27% of unemployed due to lack of appropriate qualifications in the periods 2005-2009 and 2007-2011 were educationally active during this period. However, the biggest declines in the share of people undertaking any educational activity among unemployed due to lack of appropriate qualifications were reported during the periods 2011-2013 and 2013-2015, when it decreased to the level of 18% and 11% respectively.

In conclusion, among those unemployed due to insufficient qualifications in all selected periods a significant majority were people of at most basic vocational education living in rural areas or in small and medium towns. A significant portion of them was under 30 years old and most did not undertake any activity to reduce the deficit in human capital and raise their qualifications and professional skills.

#### 4.9.6.4. Other causes of unemployment in the period 2000-2015

Our analysis shows that respondents assess that the mismatch between qualifications and employer's requirements is generally of minor importance as a cause of unemployment. A question then arises as to the importance of other causes. A reference to the same demographic-social characteristics should provide an answer to this question. As before the analysis was undertaken during the periods 2000-2007, 2005-2009, 2007-2011, 2011-2013 and 2013-2015. It is worth noting that the respondent could point up to 3 most important reasons.

In accordance with the expectations, rank of various reasons is different for men and women and for different age groups (Table 4.9.21.).

Among primary causes of unemployment, the most important were age-related causes: education in the youngest age groups, though importance of this cause in the general structure of reasons of unemployment is steadily declining (17-27% of indications in all periods analysed) and retirement in the oldest groups (34-46%), the importance of which increases in the analysed periods except for the period 2011-2013. Invariably people relatively often pointed to health (13-16%), as well as to the difficulty in finding work, which were mentioned more often in the period 2011-2013 (18%) and less often in the most recent period 2013-2015 (13.3%). Other reasons were indicated by a few percent of respondents.

The structure of unemployed respondents due to a specific reason is strongly determined by the phase of the life course in the periods compared: among the unemployed due to learning dominate young people up to 24 years of age, and among the unemployed due to retirement clearly people over 60 years of age prevail.

Childcare, housework or caring for elderly or disabled members of the households are given as reasons for unemployment generally only by women, which confirms a still strong cultural link between work and household duties, especially caring. The structure of unemployed according to age due to difficulties in finding employment is relatively uniform with a predominance of people in the oldest age groups (especially during the period 2013-2015) and the youngest up to 24 years old, though in the last period analysed the share of this age group decreased. Among unemployed due to health problems definitely people over the age of 54 years old dominate.

In addition, the impeded influence of the received social benefits is also confirmed, particularly in the case of people aged 50-59 years old. However, it is impossible to determine the benefits respondents received and link them with the fact of remaining unemployed, because the answers were not aggregated in the cafeteria of answers. The situation among unemployed due to lack of willingness to work is analogous – also this group is dominated by women.

Respondents not working professionally in the periods 2005-2009, 2007-2011, 2011-2013 and 2013-2015 were, in addition, asked for conditions that would prompt them to take up employment in the country (Table 4.9.22.). Respondents could point to the two most important issues for them. Analysis of the conditions to take up employment by people unemployed is extremely important given relatively low rates of unemployment in Poland, especially for groups in a less favourable situation on the labour market and in particular women and elderly people.

About half of non-working ever in the periods 2005-2009, 2011-2013, almost 57% in the period 2007-2011 and 60% in the period 2013-2015 did not want to work, what is a worrying result. Consider that in all the analysed periods about 78-82% of non-working persons who do not want to take up employment is over the age of 55 years, a significant part of which is in the retirement age<sup>47</sup> (75% of men, 91% of women). Percentage of indications to other causes than those mentioned in the questionnaire varied in the range of 15-25% in the periods analysed. Among other conditions of employment opportunity of part-time employment and flexible working time were mentioned relatively frequently (11-13% and 9-14% respectively), the possibility of working at home (7-8%) less frequently.

Distribution of respondents by age who have pointed to the existence of conditions which led them to take up employment is largely determined by the life course of the individual and the division of roles in the family. Among those pointing to the opportunity to work part-time, work at home have flexible working time, count on more help of family members in the household or have the possibility to obtain care for children or sick clearly women from younger and older age groups dominate. Younger women take care of children and bring them up; older women take care of the elderly or their grandchildren. Among those who have indicated that the ability to preserve social benefits would make them take up work, about half of the people is over the age of 55 years old, and the rate has increased in the period 2007-2011 to slightly decrease in the period 2011-2013 and return to the level from the period 2007-2011. For these people the opportunity to combine work with receiving pensions would be a stimulating factor.

<sup>47</sup>65 years for men, 60 years for women. We assumed the retirement age that was in force at the time when the group was turning into professionally inactive.

Table 4.9.21. The structure of non-working persons by gender and age and selected causes of unemployment in the following subperiods of 2000-2015 (in percent of a given population)

Gender	Educational	Housework	Child care	Health	Unsuitable age	Retirement	Difficulties with finding job	Social benefits	No will to work	Caring for disabled / members of the household
2000-2007										
Total	24.3	7.1	6.5	15.7	11.6	33.9	13.9	4.3	2.4	1.85
Women	53.1	96.1	96.1	57.2	66.6	37.9	58.4	57.2	63.1	
Men	46.9	3.9	3.9	42.8	33.4	62.1	41.6	42.8	36.9	
15- 24 y.o.	90.6	4.2*	11.7*		29.8		20.3*		36.7*	
25-29 y.o.	7.6	10.5	20.7	9.8*			12.2			
30-34 y.o.		16.8	24.0				10.2			
35-39 y.o.		16.1	18.6		3.6*	0.6*	9.9	30.7*		**
40-44 y.o.	1.8*	12.0	11.0	3.9			10.2		63.3*	
45-49 y.o.		11.2	5.4	9.6			9.5			
50-54 y.o.		14.2	5.0	17.3	6.0	2.1	14.2	17.8		
55+ y.o.		14.9	3.7	59.4	60.6	97.3	13.4	52.0		
2005-2009										
Total	25.6	8.4	9.0	15.7	12	40.4	15.5	4.4	3.8	2.5
Women	50.5	92.4	95.6	51.7	66.7	62.0	54.4	55.2	57.6	77.3
Men	49.5	7.6	4.4	48.2	33.2	38.0	45.6	44.6	42.4	22.7
15-24 y.o.	89.1	7.6	13.3		26.1		16.1		28.6	
25-29 y.o.	9.0	11.3	23.2	5.1*			15.1	11.6*	16.2	
30-34 y.o.		15.9	26.2				10.8			31.7*
35-39 y.o.		14.5	18.5	5.5*	3.6*	1.3*	9.2	11.5*		
40-44 y.o.	1.9*	11.1	7.8	4.8			8.9		20.7*	
45-49 y.o.		10.2	5.3	7.6			10.7			
50-54 y.o.		12.6		17.6	5.5	2.3	15.5	20.0*		33.2*
55+y.o.		16.8	5.7*	59.3	64.8	96.4	13.7	57.0	34.6	35.1
2007-2011										
Total	26.6	6.5	6.3	13.7	8.9	43.5	9.8	3.1	2.7	1.5
Women	53.5	96.1	98.1	50.0	72.1	63.7	59.2	62.9	64.2	75.5
Men	46.5	3.9	2.9	50.0	27.9	36.3	40.8	37.1	35.9	24.5
15- 24 y.o.	92.5	4.7	9.4		27.4		19.2		21.3	
25-29 y.o.	6.5	8.5	18.1	5.6*			17.9			
30-34 y.o.		15.5	32.1				6.9		13.6*	28.6*
35-39 y.o.		10.6	15.2	5.0*	1.9*	0*	6.3	15.9*		
40-44 y.o.	0.9*	11.5	9.4	4.8			5.1		14.0*	
45-49 y.o.		12.6	6.3	6.6			9.9			
50-54 y.o.		13.8		17.2	4.2	1.1*	14.0	14.9		36.7*
55+ y.o.		22.8	9.6*	60.8	66.5	98.7	20.8	69.2	50.6*	34.7
2011-2013										
Total	19.9	6.9	7.0	12.9	8.2	40.9	17.6	2.7	2.3	2.0
Women	52.3	93.8	97.0	46.3	67.5	63.0	52.6	70.4	54.2	75.6
Men	47.7	6.2	3.0	53.7	32.5	37.0	47.4	29.6	45.8	24.4
15- 24y.o.	91.3	6.3	8.8		19.3		18.3		24.9	
25-29 y.o.	6.7	10.6	23.2	6.2*			16.0	8.1*	9.0	7.0*
30-34 y.o.		19.3	32.3				12.2			8.5
35-39 y.o.		12.8	17.1	6.9*	3.1*	1.2*	9.0	11.2*	9.9*	9.6
40-44 y.o.	2.0*	10.2	9.3	4.1			9.1			8.6
45-49 y.o.		9.4	3.2	7.7			7.7	7.2		14.0
50-54 y.o.		11.0		13.1	5.5	1.7	10.1	8.3	11.1*	13.4
55+ y.o.		20.4	6.1*	62.1	72.4	97.1	17.7	65.1	45.6	38.8
2013-2015										
Total	17.3	7.4	7.7	14.2	6.9	46.1	13.3	3.3	2.4	2.0
Women	54.2	96.7	98.3	48.5	69.3	64.5	58.0	63.6	65.7	80.3
Men	45.8	3.3	1.7	51.5	30.7	35.5	42.0	36.4	34.3	19.7
15- 24y.o.	86.5	2.3	7.6	2.3			12.3		15.2	
25-29 y.o.	11.3	7.8	17.2	2.4			10.6	11.0*		12.1*
30-34 y.o.		12.9	26.6	4.9			11.5			
35-39 y.o.		17.2	23.2	3.7	4.2*	1.6*	10.7			13.7
40-44 y.o.	2.3*	13.8	13.3	5.9			9.4	10.8*	28.5*	
45-49 y.o.		8.1	4.4	6.5			7.2			20.4*
50-54 y.o.		11.5	3.9	12.7			11.9	8.3		14.7
55+ y.o.		26.3	3.9	61.7	76.9	98.4	26.4	69.8	56.4	39.1

NOTE: respondents could indicate up to 3 causes.

\* combining age groups due to small numbers

\*\* too small numbers for the analysis of the structure by the socio-economic characteristics

Table 4.9.22. The structure of non-working persons by gender and age and the conditions of work for the period 2007-2015 (in percent of a given group of population)

Age/gender	Part-time	Possibility of doing part of the work at home	Flexible time	More help of family members in household duties	Possibility of taking care of children or elderly people	Possibility of maintaining rights to social benefits	Comfortable commuting and working conditions for disabled	Other	Lack of willingness to work
2005-2009									
Total	13.4	8.8	14.0	3.3	3.7	5.9	3.2	22.1	48.2
Men	35.8	32.9	41.7	20.0	12.0	50.3	58.1	52.2	36.5
Women	64.2	67.1	58.3	80.0	88.0	49.7	41.9	47.8	63.5
15-24y.o.	27.8	27.6	44.8	21.0	18.0		11.7	41.0	13
25-29 y.o.	8.5	9.8	14.0	21.4	21.9	17.0*	6.2	10.0	1.0
30-34 y.o.	6.8	9.1	9.5	17.0	20.3			5.1	
35-39 y.o.	6.3	8.5	6.7	10.0	15.3	6.8*	11.4*	5.1	1.2*
40-44 y.o.	4.2	7.4	5.0				7.6	6.0	0.9
45-49 y.o.	5.2	7.2	4.6	16.2*	12.0*	12.3*	8.6	6.8	1.5
50-54 y.o.	9.2	8.9	5.6				23.1	8.1	3.9
55+ y.o.	32.0	21.4	10.2	14.3*	12.6*	48.9	31.4	17.9	78.4
2007-2011									
Total	11.7	7.0	10.1	0.3	2.6	4.3	2.6	16.0	56.6
Men	34.9	31.0	40.8	14.1	9.6	44.0	44.0	45.4	35.9
Women	65.1	69.0	59.2	85.9	90.4	56.0	56.0	54.6	64.1
15-24y.o.	34.5	34.8	60.4	16.0	22.3		17.0	50.5	13.3
25-29 y.o.	5.9	9.1	10.2	15.6	17.1	17.0*	4.2	7.3	
30-34 y.o.	6.5	8.3	4.7	19.1	29.5			3.1	1.3*
35-39 y.o.	4.5	5.2	4.3	15.1	8.8	6.6*	4.9*	2.4	
40-44 y.o.	3.0	4.3	3.1				4.9	4.3	1.1*
45-49 y.o.	4.3	5.4		15.0*	10.4*	14.3*	5.7	4.3	1.2
50-54 y.o.	7.9	7.6					8.6	7.4	3.0
55+ y.o.	33.5	25.2	11.9	19.1*	12.0*	54.8	54.8	20.6	80.0
2011-2013									
Total	13.2	7.4	10.7	2.5	3.0	4.4	2.9	19.1	49.7
Men	38.2	33.8	37.7	16.1	14.4	49.4	59.0	50.6	36.9
Women	61.8	66.2	62.3	83.9	85.6	50.6	41.0	49.4	63.1
15-24y.o.	28.6	27.6	41.7	15.0	13.6	8.7	18.9	36.4	11.5
25-29 y.o.	7.4	9.9	13.8	21.4	18.9	6.7	8.2	11.5	
30-34 y.o.	7.7	9.7	10.9	25.6	25.7	8.5		7.2	1.5*
35-39 y.o.	4.2	5.3	7.5	14.7	14.3		12.4*	5.7	
40-44 y.o.	4.0	5.4	5.4	8.3	9.5	6.7*		5.5	1.4*
45-49 y.o.	5.1	6.6	4.4				13.0*	6.1	1.2
50-54 y.o.	8.1	8.5	4.3	10.1*	9.3*	9.1	17.6	7.7	2.5
55+ y.o.	35.0	27.1	12.1	14.8	8.9	52.7	29.9	19.9	81.8
2013-2015									
Total	11.8	6.9	9.2	1.9	2.6	2.8	2.3	15.3	60.4
Men	34.6	28.3	34.2	15.3	13.0	35.5	52.3	48.3	35.9
Women	65.4	71.7	65.8	84.7	87.0	64.5	47.7	51.7	64.1
15-24y.o.	25.2	24.8	38.5	14.6	14.6	11.0	15.0	30.2	9.3
25-29 y.o.	8.0	9.3	12.1	15.4	18.1			11.0	0.9
30-34 y.o.	7.5	11.7	10.0	15.3	26.1	8.6*	15.9*	6.6	1.2
35-39 y.o.	7.9	8.5	9.5	19.7	14.5			6.6	0.9
40-44 y.o.	6.9	10.3	7.9			13.9*		6.1	1.1
45-49 y.o.	5.3	5.7	3.4	22.7*			24.8*	8.5	0.9
50-54 y.o.	7.2	5.4	5.7			15.1*		8.5	2.8
55+ y.o.	32.0	24.2	12.8	12.2		52.7	44.4	24.4	82.9

Maximum 2 conditions could be indicated

\* groups combined due to small numbers

The conditions of taking up work or extending the period of staying on the labour market were also subject of the study: "The transition from work to retirement" carried out in 2006 and 2012 as an additional module to the Study of

Economic Activity of the Population (Central Statistical Office [GUS] 2007 and 2013b). In this study the catalogue of conditions to take up work or extend the period of work was limited and only contained three elements: possibility of flexible working hours, possibility of raising professional qualifications and improving safety and hygiene conditions at work. In contrast to *Diagnosis* both people working and non-working at the age of 50-69 years old were analysed. The results of these analyses also point to a passive attitude of non-working people in the older working-age groups.

#### 4.9.4.5. Educational activity of adults and dynamic of the labour market

The importance of training for the status on the labour market was confirmed by flow analysis between three states on the labour market: working, unemployed and professionally inactive, which was carried on the basis of a panel database. In *Social Diagnosis 2005* a flow analysis was carried out for the period between 2003 and 2005 for those who in 2003 benefited from education services, both full time, extramural and extension studies, as well as in the form of training courses in comparison with the rest of the population, who does not benefit from this type of services. In the flow analysis based on data from the edition of *Social Diagnosis 2007, 2009, 2011, 2013 and 2015* a different measure of educational activity was used, which was introduced only in the questionnaire in 2007, i.e. participation in any activity associated with improving one's professional qualifications or other skills over the past 2 years. Only those aged 25-39 years old are considered due to the fact that educational activity after the age of 39 years old significantly decreases and concerns marginal part of the population. This part of the study contains two types of analysis. The first one concerns the analysis of Tables concerning flows between the states on the labour market and the second one is a model analysis of the flows' determinants on the labour market, which improve the situation of the group analysed. Within the model analysis the impact of training, in particular, was analysed.

Tables below (Tables 4.9.23, 4.9.24. and 4.9.25.) show data from the five periods: 2005-2007, 2007-2009, 2007-2009, 2011-2013 and 2013-2015, but a detailed description mainly concerns the last period, for earlier editions of the *Social Diagnosis* it is presented in previous studies.

Among those aged 25-39 years old, who in the period 2013-2015 improved their qualifications considered according to the labour market status in 2013, about 73.7% were working, 18.3% professionally inactive and about 8% unemployed (Table 4.9.23.). Two years later there were more people working (85.9%) and less professionally inactive (about 5%) in this group. The share of unemployed decreased to around 5%. The structure of people who did not decide to improve their qualifications in that time, considered according to the employment status in 2013, is similar to people improving their qualifications– those working constituted about 75.8%, unemployed – about 9.4 percent and professionally inactive – approximately 14.7%. In 2015 also in this group the share of people working (82.8%) increased, though significantly less than in the group of people undertaking training, also the share of people unemployed decreased (6.3%) – similarly as in the case of those active educationally.

Improvement in the structure of both compared groups of people according to the status on the labour market involved an increase in the share of people working, stronger for those improving their qualifications, and a simultaneous decline in the share of professionally inactive people, also much more visible in the case of people educationally active. These changes result from the greater chance to change labour market status both from the state of inactivity and unemployment for people educationally active. By contrast, changes in the share of unemployed in both groups were no longer that clear.

These changes are consistent with the results of the previous round of study, though are clearer now. The difference concerns the unemployed undertaking training, whose share in the current period decreases, and in the period 2011-2013 slightly increased mainly due to the influx of previously professionally inactive people to this state on the labour market. For a change, these results slightly differ from the ones observed in earlier periods. The improvement of the situation on the labour market of people training in the periods 2005-2007 and 2007-2009 involved an increase in the share of people working and a decline in the share of people professionally inactive and a relatively stable share of people unemployed. For those not undertaking any training in the years 2005-2007 the change involved an increase in the share of people working along with a significant decrease in unemployment and a relatively stable share of professionally inactive people, and in the period 2007-2009 the change was similar to that observed in the recent period – there were more people working and less inactive, but the share of people unemployed was stable.

Table 4.9.23. Flows on the labour market of people aged 25-39 years old according to involvement in improving qualifications in 2005-2015 (%)

a) 2005-2007				
State in March 2005	State in March 2007			Total
	Employed	Unemployed	Inactive	
Persons involved in improving qualifications during the last 2 years (N=282)				
Employed	67.9	2.9	3.3	74.1
Unemployed	4.4	1.8	1.8	8.0
Inactive	12.8	1.8	3.3	17.9
Total	85.1	6.5	8.4	100.0
Other respondents (N=1141)				
Employed	63.3	1.6	4.0	68.9
Unemployed	8.8	3.1	2.3	14.2
Inactive	6.6	1.8	8.5	16.9
Total	78.7	6.5	14.8	100.0
b) 2007-2009				
State in March 2007	State in March 2009			Total
	Employed	Unemployed	Inactive	
Persons involved in improving qualifications during the last 2 years (N=445)				
Employed	75.7	2.9*	2.2*	80.9
Unemployed	3.4*	1.3*	0.4*	5.2
Inactive	7.2	0.4*	6.3*	13.9
Total	86.3	4.7	9.0	100
Other respondents (N=1620)				
Employed	67.3	3.3	3.7	74.3
Unemployed	4.3	2.5	1.4	8.1
Inactive	6.5	1.6	9.5	17.6
Total	78.0	7.4	14.6	100.0
c) 2009-2011				
State in March 2009	State in March 2011			Total
	Employed	Unemployed	Inactive	
Persons involved in improving qualifications during the last 2 years (N=806)				
Employed	67.3	4.3	1.9*	73.6
Unemployed	4.7	1.4*	0.4*	6.5
Inactive	8.4	3.8	7.7	20.0
Total	80.5	9.6	9.8	100.0
Other respondents (N=3670)				
Employed	67.6	3.1	3.2	73.9
Unemployed	4.3	2.6	1.6	8.4
Inactive	5.9	1.9	9.9	17.7
Total	77.7	7.6	14.7	100.0
d) 2011-2013				
State in March 2011	State in March 2013			Total
	Employed	Unemployed	Inactive	
Persons involved in improving qualifications during the last 2 years (N=729)				
Employed	73.4	2.1*	1.8*	77.3
Unemployed	2.9	2.6	0.3*	5.8
Inactive	6.8	1.5*	8.6	16.9
Total	83.1	6.2	10.7	100.0
Other respondents (N=3830)				
Employed	66.7	3.9	3.2	74.7
Unemployed	4.7	3.1	1.6	9.4
Inactive	4.2	1.9	9.7	15.9
Total	76.5	8.9	14.6	100.0
e) 2013-2015				
State in March 2013	State in March 2015			Total
	Employed	Unemployed	Inactive	
Persons involved in improving qualifications during the last 2 years (N=562)				
Employed	70.5	1.6*	1.6*	73.7
Unemployed	5.5	1.4*	1.1*	8.0
Inactive	10.0	2.0*	6.4	18.3
Total	85.9	5.0	9.1	100.0
Other respondents (N=3643)				
Employed	71.3	2.2	2.3	75.8
Unemployed	5.8	2.5	1.1	9.4
Inactive	5.7	1.6	7.5	14.7
Total	82.8	6.3	11.0	100.0

\* small numbers

Table 4.9.24. Flows on the labour market of women aged 25-39 years old according to involvement in improving qualifications in 2005-2015 (in percent)

a) 2005-2007				
State in March 2005	State in March 2007			Total
	Employed	Unemployed	Inactive	
Persons involved in improving qualifications during the last 2 years (N=160)				
Employed	62.1	1.9	4.5	68.5
Unemployed	4.5	2.6	2.6	9.7
Inactive	13.5	3.2	5.1	21.8
Total	80.1	7.7	12.2	100.0
Other respondents (N=593)				
Employed	56.6	1.4	6	64
Unemployed	6.8	2.2	3.4	12.4
Inactive	8.2	2.7	12.7	23.6
Total	71.6	6.3	22.1	100.0
b) 2007-2009				
State in March 2007	State in March 2009			Total
	Employed	Unemployed	Inactive	
Persons involved in improving qualifications during the last 2 years (N=219)				
Employed	70.3	2.7	3.2*	76.3
Unemployed	6.4*	1.4*	-	7.8*
Inactive	8.7*	0.5*	6.8*	16.0
Total	85.4	4.6*	10.0	100.0
Other respondents (N=840)				
Employed	57.5	2.5*	5.1	65.1
Unemployed	3.1	3.2	1.9	8.2
Inactive	9.2	2.4*	15.1	26.7
Total	69.8	8.1	22.1	100.0
c) 2009-2011				
State in March 2009	State in March 2011			Total
	Employed	Unemployed	Inactive	
Persons involved in improving qualifications during the last 2 years (N=431)				
Employed	63.1	5.6	2.3*	71.0
Unemployed	3.7	1.4*	0.7*	5.8
Inactive	7.9	5.3	10.3	23.2
Total	74.7	12.3	13.0	100.0
Other respondents (N=1787)				
Employed	57.4	2.7	5.3	65.4
Unemployed	3.5	2.8	2.2	8.5
Inactive	8.7	2.3	15.1	26.1
Total	69.6	7.8	22.7	100.0
d) 2011-2013				
State in March 2011	State in March 2013			Total
	Employed	Unemployed	Inactive	
Persons involved in improving qualifications during the last 2 years (N=414)				
Employed	68.1	2.2*	1.2*	71.5
Unemployed	3.6*	3.4*	0.2*	7.2
Inactive	9.2	1.9*	10.1	21.3
Total	80.9	7.5	11.6	100.0
Other respondents (N=1911)				
Employed	58.7	2.7	5.0	65.5
Unemployed	4.8	2.7	2.5	9.9
Inactive	6.4	3.0	15.1	24.5
Total	69.0	8.5	22.5	100.0
e) 2013-2015				
State in March 2013	State in March 2015			Total
	Employed	Unemployed	Inactive	
Persons involved in improving qualifications during the last 2 years (N=303)				
Employed	67.3	1.7*	2.6*	71.6
Unemployed	7.9	0.7*	1.0*	9.6
Inactive	10.6	1.7*	6.6	18.8
Total	85.8	4.0	10.2	100.0
Remaining respondents (N=1827)				
Employed	62.3	2.3	3.6	68.1
Unemployed	4.7	2.7	1.7	9.0
Inactive	8.0	2.7	12.2	22.8
Total	74.9	7.7	17.4	100.0

\* small numbers

The results from the periods compared can indicate the importance of improving qualifications on the increase of professional activity as a result of the increase of the share of people working and a decline in the involvement of

professionally inactive people. However, it should be remembered that the structure of people undertaking training consists mainly of young, well educated people, more often inhabitants of cities who thus have more chances on the labour market compared with other groups. Therefore, their benefits from further training may be smaller than for those improving their qualifications with lower levels of education.

As in previous periods people working that were educationally active in the period 2013-2015, as well as people not improving their qualifications were characterised by a high level of employment stability – 94% and over for both those not undertaking and undertaking training.

In conclusion, the results of the analysis for the periods 2013-2015, 2011-2013, 2009-2011, 2007-2009 and 2005-2007 indicated that improvement of skills is important for activation of professionally inactive people. Participation in improving qualifications increased chances of finding employment for the unemployed in the periods 2007-2009, 2009-2011 and 2013-2015 as opposed to the periods 2005-2007 and 2011-2013. For instance, chances for remaining employed were very high and relatively close to both groups of people compared – educationally active and not taking effort to improve their qualifications.

The dynamic of the labour market assessed on the basis of the flows between the distinguished states on the labour market is differentiated by gender (Tables 4.9.24. and 4.9.25.). Among women aged 25-39 years old who were improving their qualifications over the past two years the share of people working increased from 71.6% to 85.8%, more than in the period 2011-2013 (from 71.5% to 81%) and the share of professionally inactive significantly decreased from approximately 18.8% to 10.2%, which is a result comparable to the period 2011-2013 (from 21.3% to 11.6%). Among men who were improving their qualifications for the past two years the proportion of people working also increased from 76.2% to 85.8%, a much smaller increase was noted during the earlier period (from 85.4% to 86.3%). The share of professionally inactive men during the period 2013-2015 decreased from 17.3% to 7.7% in comparison with the decrease from approximately 11.1% to approximately 9.5% in the period 2011-2013. Among educationally active men during the period 2013-2015 the share of unemployed remained stable compared to the decrease in unemployment among women – from about 9.6% to around 4%. These results are different in comparison with the period 2011-2013, when for both genders there has been a slight increase in the share of unemployed people undertaking training. In the periods 2011-2013 and 2013-2015 a clear decline in professional inactivity in this group is associated with the influx to employment while in the period 2009-2011 influx of inactive women to unemployment was also meaningful.

The structure of men and women who have not been improving their qualifications is generally characterized by smaller share of people employed and a higher share of unemployed – with the exception of men in the periods 2013-2015. Their changes over time are generally less favourable (with the exception of the flows from unemployment to employment for men in the period 2013-2015). Except for the period 2009-2011 differences in the change of status on the labour market among people improving their qualifications and other are greater for women pointing to the higher rank of professional development for their status on the labour market.

To sum up, improving professional qualifications contributes to the improvement of the status of professionally inactive people on the labour market. Women benefited more from their educational activity than men in relation to changes of status on the labour market compared to people educationally inactive, what was visible especially in the last rounds of the study.

In the next step of the analysis, we decided to verify these findings in the model analysis of determinants of labour market flows in the period 2013-2015 for those aged 25-39 years old who improve their status on the labour market. The models were estimated for the flows from unemployment to employment, from inactivity to employment and from professional inactivity to unemployment. The purpose of the modelling was to estimate the impact of professional training on a particular change in the status on the labour market with the control of primary variables such as age, gender, place of residence and education. The calculations were made using logistic regression models in the form of (e.g. Gruszczyński, 2002):

$$P(Y = y_i) = F^{-1}(x^T \beta) = \frac{e^{x^T \beta}}{1 + e^{x^T \beta}}$$

where:

$Y$  – a binary random variable takes the values: 1 – if there is a change of status on the labour market (a transition from unemployment to employment, from passivity to employment, from passivity to unemployment). 0 – if there was no such change;

$F$  – cumulative distribution function of logistic distribution;

$x$  – the column vector of explanatory variables;

$\beta$  – the column vector of parameters.

Table 4.9.25. Flows on the labour market of men aged 25-39 years old by involvement in improving qualifications in the period 2005-2015 (in percent)

• 2005-2007				
State in March 2005	State in March 2007			Total
	Employed	Unemployed	Inactive	
People involved in improving qualifications during the last 2 years (N=122)				
Employed	76.7	4.3	0.9*	81.9
Unemployed	3.5	-	1.7*	5.2
Inactive	12.1	-	0.8*	12.9
Total	92.3	5.2	2.5	100.0
Other respondents (N=593)				
Employed	70.8	1.8	1.8	74.4
Unemployed	10.9	4.1	1.0	16.0
Inactive	4.8	1.0	3.8	9.6
Total	86.5	6.9	6.6	100.0
• 2007-2009				
State in March 2007	State in March 2009			Total
	Employed	Unemployed	Inactive	
People involved in improving qualifications during the last 2 years (N=225)				
Employed	81.3	3.1	1.3	85.8
Unemployed	0.4	0.9*	0.9*	2.2
Inactive	5.8	0.4*	5.8*	12.0
Total	87.6	4.4*	8.0*	100.0
Other respondents (N= 779)				
Employed	77.9	4.1	2.2*	84.2
Unemployed	5.5	1.8*	0.6*	8.0
Inactive	3.6*	0.8*	3.5*	7.8
Total	87.0	6.7	6.3	100.0
• 2009-2011				
State in March 2009	State in March 2011			Total
	Employed	Unemployed	Inactive	
People involved in improving qualifications during the last 2 years (N=376)				
Employed	72.1	2.9*	1.3*	76.3
Unemployed	5.9	1.6*	-	7.2
Inactive	9.0	2.4*	5.1*	16.5
Total	87.0	6.6	6.4	100.0
Other respondents (N= 1882)				
Employed	77.3	3.5	1.2	82.0
Unemployed	5.0	2.4	0.9*	8.2
Inactive	3.3	1.5	4.9	9.8
Total	85.6	7.4	7.0	100.0
• 2011-2013				
State in March 2011	State in March 2013			Total
	Employed	Unemployed	Inactive	
People involved in improving qualifications during the last 2 years (N=315)				
Employed	80.6	1.9*	2.9*	85.4
Unemployed	1.9*	1.3*	0.3*	3.5*
Inactive	3.8*	1.0*	6.3	11.1
Total	86.3	4.1*	9.5	100.0
Other respondents (N=1911)				
Employed	77.3	5.0	1.5	83.8
Unemployed	4.6	3.6	0.8*	9.0
Inactive	2.0	0.8*	4.4	7.2
Total	83.9	9.4	6.7	100.0
• 2013-2015				
State in March 2013	State in March 2015			Total
	Employed	Unemployed	Inactive	
People involved in improving qualifications during the last 2 years (N=260)				
Employed	73.8	1.9*	0.4*	76.2
Unemployed	2.7*	2.3*	1.5*	6.5*
Inactive	9.2	2.3*	5.8*	17.3
Total	85.8	6.5*	7.7*	100.0
Other respondents (N=1815)				
Employed	80.3	2.1	1.1	83.5
Unemployed	7.1	2.3	0.6*	9.9
Inactive	3.4	0.4*	2.8	6.6
Total	90.7	4.8	4.5	100.0

\* small numbers

By analysing determinants of improvement of the status on the labour market it must be taken into account that those aged 25-39 years old are characterized by high stability of employment. In the analysis of labour market flows understood as an improvement of the status on the labour market we are dealing with a selected group of people, not including those who remained in employment during this period. In addition, it should be noted that the status on the labour market is not studied in a continuous manner, but only in two-year periods, which means that the employment history of the analysed respondents is not full.

Table 4.9.26. Determinants of changes of the status on the labour market of people aged 25-39 years old in the period 2005-2015

Type of variable	Odds ratio
Dependent variable: change from unemployment to employment	
Age	0.915***
Man	1.112
Woman	ref.
Towns over 500k inhabitants	0.433**
Towns of 200-500k inhabitants	0.578*
Towns of 100-200k inhabitants	0.58*
Towns of 20-100k inhabitants	0.831
Towns with less than 20k inhabitants	0.717
Rural areas	ref.
Did not improve qualifications during the last 2 years	ref.
Improved qualifications during the last 2 years	1.157
At most basic education	2.344***
Basic vocational/ <i>gimnazjum</i>	1.474**
Secondary education	1.261
Higher and post-graduate education	ref.
N	3998
Pseudo R <sup>2</sup> (Nagelkerke)	0.043
Dependent variable: change from inactivity to employment	
Age	0.834***
Man	0.491
Woman	ref.
Towns over 500k inhabitants	0.718
Towns of 200-500k inhabitants	0.758
Towns of 100-200k inhabitants	0.792
Towns of 20-100k inhabitants	0.908
Towns with less than 20k inhabitants	0.916
Rural areas	ref.
Did not improve qualifications during the last 2 years	ref.
Improved qualifications during the last 2 years	1.377*
At most basic education	0.704
Basic vocational/ <i>gimnazjum</i>	0.553***
Secondary education	0.552***
Higher and post-graduate education	ref.
N	3992
Pseudo R <sup>2</sup> (Nagelkerke)	0.127
Dependent variable: change from inactivity to unemployment	
Age	0.884***
Man	0.214***
Woman	ref.
Towns over 500k inhabitants	0
Towns of 200-500k inhabitants	0.816
Towns of 100-200k inhabitants	0.797
Towns of 20-100k inhabitants	1.096
Towns with less than 20k inhabitants	1.575
Rural areas	ref.
Did not improve qualifications during the last 2 years	ref.
Improved qualifications during the last 2 years	1.397
At most basic education	0.306
Basic vocational/ <i>gimnazjum</i>	2.781***
Secondary education	1.006
Higher and post-graduate education	ref.
N	3992
Pseudo R <sup>2</sup> (Nagelkerke)	0.117

Statistically significant variables at significance level: \*\*\*-0.01. \*\*-0.05. \*-0.1

For flows from unemployment to employment several factors had importance. The probability of transition to employment significantly decreases with age, but this should be explained rather by growing employment stability in this age group (25-39 years old) than discrimination due to age. The effect of gender turned out to be irrelevant as opposed to the place of residence. Unemployed inhabitants of the medium towns were definitely less likely to find work than people living in rural areas. The level of education was of particular importance for this kind of movement on the labour market, but the direction of the effect turned out to be non-intuitive – the unemployed with at most basic vocational and *gimnazjum* education were more likely to find work compared with those with higher education. This effect is caused most likely by high stability of employment of people with higher education in this age group. However, there has been no significant impact of the training on the transition from unemployment to employment.

Another kind of improvement of the status on the labour market concerns transition from professional inactivity to employment. The influence of age, analogously as for the transition from unemployment to employment, has proved to be an important factor – the probability of taking up work by people professionally inactive decreased with increasing age. This was caused by the fact that young people who have completed the stage of their formal education, during which they were mostly inactive, find work and with the change of work the period of unemployment was short enough that it was not in many cases captured by the survey. Also for this change of the status on the labour market the effect of gender turned out to be irrelevant. Place of residence did not have influence on the probability of flow from inactivity to employment. The level of education was of crucial importance, but its direction is different than it was for the flows from unemployment to employment. Inactive people with basic vocational or *gimnazjum* education were less likely to find employment compared with those with higher education. It should be stressed that the findings of descriptive analysis of flows were confirmed – professional training positively affects the chances for finding work by inactive population in the period analysed.

Age is still a variable significantly differentiating the chance of this change of status on the labour market for the transition from passivity to unemployment – with increasing age decreases the likelihood of change of status from professionally passive to unemployed. Strong influence of gender should also be noted – professional activation by entering unemployment is definitely less likely in case of men than women. What also requires indication is the strong positive effect of basic vocational education on the probability of flow from passivity to unemployment compared with higher education, which together with the result concerning transition from passivity to employment confirms much smaller chances of people with this category of education on the labour market. The effect of training on the considered change of status on the labour market has not been identified yet.

The influence of training for leaving professional activity, which was identified in the analysis of flow Tables, generally has been confirmed.

#### 4.9.6.6. Educational activity and change in household incomes of people working in the period 2009-2015

The current analysis focused on the study of changes of the status on the labour market of educationally active and passive people. An important complement to this analysis is to check whether improvement of qualifications is associated with changes in the income situation of working people who have taken the effort of training and their status on the labour market during the last two years has not changed. In the study from the successive years 2007, 2009, 2011, 2013 and 2015 a question about respondent's personal net income for the past three months can be found in the individual questionnaire. In the analysis of the earlier rounds of *Social Diagnosis* it was necessary to use the income per person in the household while at the same time controlling the number of people in the household. However, household income is also affected by changes in income concerning other members of the household, which could not be taken into account in the analysis of dynamic of changes to the income situation of respondents undertaking training or not in the period 2005-2007.

However, the following analysis of the respondent's income situation on the basis of his personal income is only a description of the correlation between changes in personal income and training and does not allow for cause-and-effect interpretation. Especially that these incomes are strongly correlated with other features, such as: the level of education.

The Tables 4.9.28. and 4.9.27. present personal net income<sup>48</sup> of people working in 2007, 2009, 2011, 2013 and 2015 for two groups of respondents: those who were improving their skills over the past two years and those who were not as well as the dynamic of incomes in the periods 2007-2009, 2009-2011, 2011-2013 and 2013-2015. Due to different variables that determined income used in the analysis in the previous rounds of the study direct comparisons of changes in the income dynamic between the periods 2005-2007 (included in previous editions of *Diagnosis*) and 2007-2009, 2009-2011, 2011-2013 and 2013-2015.

The dynamic of income changes from both distinguished groups of respondents is different to the detriment of people educationally passive, for whom in the period 2013-2015 there has been an increase in revenue by 2% compared with the 4% increase for people educationally active. This result represents a reversal of the trend for the period 2011-2013, when there has been a decrease of 14% for people educationally active compared with about 7%

<sup>48</sup> The respondent's average net income for the last three months was used for the calculation.

increase for people educationally passive. Still invariably the incomes of people educationally active are higher than those educationally passive. In comparison with the period 2009-2011 the increasing trend of personal net income among people educationally active has been restored, although on a decidedly smaller scale (in the years 2009-2011 there has been an increase of 22%). It is also a change in comparison to the period 2007-2009 when income growth was very significant, but the same for both groups of people compared, i.e. both incomes of those raising their qualifications during this period and those educationally passive increased on average by 37%. For instance, in 2005 and 2007 income per person in the households of those undertaking training continued to grow faster than those who did not undertake any training. This beneficial change in income for both groups of respondents from the period 2007-2009 was associated with an overall increase in wages observed during these two years and especially in 2008. Reduction in wage growth dynamic in the period 2009-2011, especially for those educationally passive is connected with the economic downturn in recent years, as well as deterioration of the situation of people educationally active in the period 2011-2013. However, in order to determine the causes of different dynamic of the changes in personal net income during the last two years between people educationally active and passive more detailed analysis is required.

Women who in the last 2 years improved their qualifications are characterized by lower average income compared with educationally active men. For the period 2007-2009 the dynamic of average income of men and women who undertook training was the same (an increase of 37%), which meant maintaining 16% income gap based on gender from the previous period. However, in the period 2009-2011 personal income of men grew faster than that of women (24% versus 21%), and therefore the income gap based on gender has increased to 18%. In the years 2011-2013 the average income of people undertaking training decreased for both genders, but more for women (about 19%) than for men (about 8%), which resulted in the increase of income gap based on gender to 38%. In the period currently analysed average net income of women and men taking the effort of undertaking training increased on an equal scale (by 6%), which consolidated the size of the gender gap from the previous round.

The situation is different in the case of those educationally passive. In the years 2007-2009 average personal income of women not improving their qualifications increased stronger than income of men educationally passive (40% versus 34% for men), leading to a decrease in the income gap from about 24% in 2007 to 21% in 2009. In the period 2009-2011 income of people educationally passive grew much slower than those raising their qualifications, however more for women than men (8% versus 5%), which resulted in a further decrease in the income gap to 19%, which also continued in the period 2011-2013. The average personal net income of women educationally passive in the period 2011-2013 increased stronger (by around 12%) than men (about 4%). As a result the income gap decreased to approximately 13.1%. In the current period the dynamic of the average net income of people not undertaking training changed again. For women there was a decrease by 4% and for men an increase by 7%, which led to widening of the gap between genders among people educationally passive to 27%.

By comparing the changes of the income situation between people educationally active and passive, separately for women and men, interesting changes can be noticed. Income gap between women improving their qualifications and those educationally passive decreased from 40% in 2007 to 37% in 2009 to rise again up to 54% in 2011. While for men it increased from 27% in 2007 by 30% in 2009 up to 52.4% in 2011. Income gap in 2013 amounted to only about 10% for women only to rise again to the level of 21.5% in 2015. For a change, for men the gap in 2013 was around 34%, but two years later it slightly decreased to the level of 32%. Such a significant decrease in the income gap between people educationally active and passive in 2013, especially for women, was primarily the result of a decrease in the average personal income of people educationally active.

The dynamic of quartiles of income distribution in both groups of respondents shows a beneficial effect of educational activity on income distributions for women and men. For educationally active men the median income in 2013 decreased along with the stabilization of the first and third quartile in comparison with the year 2011, for a change in 2015 it rose and was again accompanied by stabilisation of the first and third quartile. For educationally active women in 2013 the third quartile decreased and the first quartile significantly increased along with the stabilisation of the distribution median of average personal income leading to a decrease in stratification of the income of this group of women. In contrast, in 2015 the first quartile significantly decreased and the third quartile increased along with stabilisation of the median value resulting in an increase in stratification of women's income in the last period analysed.

In the period 2009-2011 the median expressed the greatest dynamic of changes of income of men educationally active, and then the third quartile, as opposed to the period 2007-2009 when the first quartile increased the most (compare Table 4.9.28.). For a change, benefits from improving qualifications by women in the period 2009-2011 concerned only the lowest income groups (slight increase of the first quartile).

Surprisingly for the year 2013, increased income could be observed for both women and men educationally passive in comparison with a small decrease for people educationally active, which seems to indicate a relative decline in the benefits from improving human capital at a certain level of its saturation. The current situation suggests an increase in the income of women undertaking training compared with a decrease for women not taking the effort of training along with a homogenous increase in the income of men educationally active and passive.

Table 4.9.27. Breakdown of personal net income of working respondents aged 25-29 years old in 2009, 2011, 2013 and 2015

Specification of groups of respondents	Average personal income per and its disparity (in PLN)				1 <sup>st</sup> quartile				2 <sup>nd</sup> quartile				3 <sup>rd</sup> quartile			
	2009	2011	2013	2015	2009	2011	2013	2015	2009	2011	2013	2015	2009	2011	2013	2015
People who improved their qualifications in the last 2 years	2593*	3178*	2748*	2884*												
	2219**	2870**	1571**	1952**	1500	1700	1800	1700	2000	2300	2300	2400	3000	3500	3000	3483
Other respondents	1959	2110	2268	2321												
	1461	1450	1528	1560	1131	1300	1500	1500	1600	1800	1999	2000	2200	2500	2600	2700
Women who improved their qualifications in the last 2 years	2361	2859	2308	2449												
	2280	2700	1024	1444	1400	1500	1700	1500	2000	2000	2000	2000	3000	3000	2900	3000
Other women	1717	1856	2080	2015												
	1277	1248	1494	1177	1000	1200	1300	1320	1400	1500	1700	1739	2000	2100	2500	2400
Men who improved their qualifications in the last 2 years	2815	3494	3201	3386												
	2145	3002	1881	2311	1800	2000	2000	2000	2000	2800	2700	2800	3051	3972	4000	4000
Other men	2172	2293	2393	2570												
	1555	1514	1539	1775	1300	1411	1500	1600	1900	2000	2000	2000	2500	2500	3000	3000

\* average income in the last three months

\*\* standard deviation of personal income in the last three months.

Table 4.9.28. Dynamic of changes in parameters of personal net income distribution of working respondents aged 25-39 years old in 2007, 2009, 2011, 2013 and 2015 (previous period = 100)

Respondents by gender and educational activity	Average personal income	1 <sup>st</sup> quartile	2 <sup>nd</sup> quartile	3 <sup>rd</sup> quartile
Total				
Educationally active	1.37*	1.50	1.33	1.50
	1.22**	1.13	1.15	1.16
	0.86***	1.06	1.00	0.86
	1.04****	0.94	1.04	1.16
Educationally passive	1.37	1.40	1.33	1.22
	1.07	1.15	1.12	1.14
	1.07	1.15	1.11	1.04
	1.02	1.00	1.00	1.03
Women				
Educationally active	1.37	1.40	1.54	1.50
	1.21	1.07	1.00	1.00
	0.81	1.13	1.00	0.97
	1.06	0.88	1.00	1.03
Educationally passive	1.40	1.25	1.40	1.33
	1.08	1.20	1.07	1.05
	1.12	1.08	1.13	1.19
	0.96	1.01	1.02	0.96
Men				
Educationally active	1.37	1.50	1.25	1.33
	1.24	1.11	1.40	1.30
	0.92	1.00	0.96	1.01
	1.06	1.00	1.04	1.00
Educationally passive	1.34	1.30	1.46	1.25
	1.05	1.08	1.05	1.00
	1.04	1.06	1.00	1.20
	1.07	1.06	1.00	1.00

\* dynamic of income change in the period 2007-2009

\*\* dynamic of income change in the period 2009-2011

\*\*\* dynamic of income change in the period 2011-2013

\*\*\*\* dynamic of income change in the period 2013-2015

To sum up, in the period 2013-2015 the incomes of people from both distinguished groups of respondents still differ significantly for the benefit of people taking up training, but the gap between the average income of people educationally active and passive decreased compared to the previous period largely due to changes in women's incomes. There are differences in the stratification of incomes and their dynamic for both distinguished groups among women and men. The effect of training on improving income is higher in the period 2013-2015 for working women than men, which is a fundamental change compared with earlier periods.

#### 4.9.6.7. Individual determinants of adults' educational activity

It is possible to synthetically illustrate respondent's status on the labour market with the help of an appropriate model of the previously discussed differentiation of adults' educational activity associated with professional qualifications by their socio-demographic features. To do so the following logistic model has been used (e.g. Gruszczyński, 2002):

$$P(Y = y_i) = F^{-1}(x^T \beta) = \frac{e^{x^T \beta}}{1 + e^{x^T \beta}}$$

where:

Y – a binary random variable taking the value: 1 – in the case when the respondent improved their professional qualifications in the last 2 years and 0 in the case when he did not.

F – distribution function for the logistic distribution;

x – the column vector of explanatory variables;

β – the column vector of parameters.

In this model next to the standard socio-demographic features such as age, gender, level of education and class of the place of residence also respondents' labour market situation and state of health measured by legal or biological disability were considered. Models were estimated separately for men and women (Table 4.9.29.).

The results of the models' estimation confirm the findings of descriptive analysis. Both for women and men age is an important determinant of engaging in educational activity in the period 2013-2015 – the younger the people, the bigger the probability of undertaking training. However, it should be noted that women aged 30-34 years old relatively less often than women aged 25-29 years old and 35-39 years old decide on educational activity, which can be associated with an increase in duties related to childcare.

The second factor which strongly determines probability of engaging in educational activity is education: the lower the educational level, the less likelihood of further training of both women and men.

Status on the labour market is a variable significantly affecting probability of undertaking training. People present on the labour market (working and unemployed) engage in educational activity more frequently than those professionally inactive. Unemployed men engaged in training more often than those professionally inactive. For a change, working women were more likely to engage in training than those unemployed in relation to those professionally inactive.

For men state of health is not an important determinant of engaging in educational activity in the period 2013-2015. By contrast, for women during this period the effect of the state of health on the probability of taking training, but in a non-intuitive way, has become more visible – women without disabilities are by about 44% less likely to take educational activity than women with disabilities. This may be related to the greater availability of various programmes and projects addressed to people with disabilities, increasing their employability.

Class of the place of residence significantly differentiates probability of taking up training. With the increase in the size of the place of residence increases likelihood of taking up educational activity, particularly with regard to medium and large towns as opposed to rural areas. In the final round of the study the importance of living in large and medium towns has increased.

Table 4.9.29. Determinants of educational activity of people over 25 years old in the period 2013-2015 (logistic regression).

Type of variable	Independent variable – categories	Odds ratio estimation	
		Men	Women
Age	25-29y.o.	4.486***	4.945***
	30-34y.o.	2.183***	1.818***
	35-39y.o.	3.086***	2.549***
	40-44y.o.	2.714***	3.833***
	45-49y.o.	2.587***	2.987***
	50-54y.o.	1.996***	2.049***
	55+y.o.	ref.	ref.
Education	Basic and lower	0.105***	0.075***
	Basic vocational/ <i>gimnazjum</i>	0.222***	0.134***
	Secondary	0.521***	0.414***
	Higher and post-secondary	ref.	ref.
Status on the labour market	Working	3.284***	3.852***
	Unemployed	3.847**	2.421***
	Passive	ref.	ref.
State of health	Without disabilities	1.329	0.564***
	Disabled	ref.	ref.
Class of the place of residence	Towns with over500kinhabitants	3.010***	2.895***
	Towns with 200-500kinhabitants	4.140***	4.043***
	Towns with 100-200kinhabitants	2.019***	1.702***
	Towns with 20-100kinhabitants	2.263***	1.659***
	Towns below20kinhabitants	1.422**	1.583**
	Ruralareas	ref.	ref.
N		8109	9459
PseudoR <sup>2</sup> (Nagelkerke)		0.228	0.290

Statistically significant variables at significance level \*\*\*0.01. \*\*0.05.\*0.1

#### 4.9.4.8. Summary

Taking up training considered in the wider context of lifelong learning is one of the requirements of the modern labour market. Currently professional training or more broadly educational activity similarly to the rest of life activities cannot be attributed solely to a specific stage of life, but should be considered as an element of the entire life course of an individual. It also creates a necessity to examine these processes in the context of an integrated life course of individuals (*life course perspective*, Reday-Mulvey, 2005). It means that there is a need to adapt public policy in such a way as to allow people to connect (reconcile) various activities regardless of age. Thanks

to this human capital, its ability to work (Ilmarinen. 1999) and employability is built, as well as the possibilities of using its potential in socio-economic life of the country or the area in which people reside increase. This approach is reflected in a range of analyses carried out in this part. They generally concerned further professional training of people aged 25 years old or more, i.e. the process of training of adults during their live course, but after completion of the basic stages of formal education (kindergarten, primary school, *gimnazjum*, secondary school, and higher education).

The scope of professional training is still limited. In the current round of study just every tenth person participated in any activity related to improving professional qualifications or other skills. High selectivity of the training process was also confirmed. Young, well educated people, with higher income, professionally active, living in large agglomerations take up educational activity. It means, therefore, that those who take up training already have a relatively good situation on the labour market. For a change, people who need to improve their employment potential most are educationally passive.<sup>49</sup>

Another block of analyses concerned non-working people, in particular the reasons for not taking up employment by them. Lack of sufficient qualifications is not indicated as an important reason for remaining non-working. In the opinion of respondents there were other reasons of crucial meaning. However, please note that the reasons for not working given are expressions of the respondent's subjective assessment and not the real view of the situation. The reasons for not working indicated most often are strongly associated with the life course of an individual and the division of social roles in the family. It is primarily for such reasons like education and retirement (life course), care taking and housework (women). What is quite disturbing is the increasing share among non-working people of declarations that they do not want to work and, therefore, do not indicate the conditions of taking up employment. However, it concerns mainly people aged over 55 years old. These results point to the need to reduce the outflow of people in immobile working-age groups from the labour market (eg. Grabowska, 2012, GUS 2007 and 2013a), because in this age group professional deactivation usually becomes permanent. Among other conditions of taking up employment listed in the questionnaire respondents most often mentioned the possibility of part-time employment, flexible working time and possibility of performing part of the work at home. These indications set direction of desired changes in terms of increasing employability of non-working people, particularly in older working-age groups.

The effect of training on improving the labour market situation was verified by analysing the flows between basic states on the labour market: professionally passive, unemployed and working. To capture the differences between educationally active and passive the Tables of flows were made separately for these two categories of respondents. The analysis has been limited to people aged 25-39 years old due to the discontinuation of educational activity after the age of 39 years old. The results indicate improvement of the structure of both compared groups of people according to the status on the labour market, based on an increase in the share of people working, stronger for people improving their qualifications, and simultaneous decline in the share of people professionally passive, also much clearer for people educationally active. These changes must be associated with a greater chance of transition to the group of working people both from the state of passivity and unemployment for people educationally active. However, please note that the group undertaking training is made up of people relatively young, well educated, living in medium and large cities, whose situation on the labour market and the chances of improving it are relatively good. Changes in the share of unemployed people among the educationally active and passive were no longer so clear. Analysis of flows on the labour market for both of these groups indicates that professional training is important for activation of professionally inactive people, similarly as in previous rounds of the study. In the past two years participation in improving qualifications also increased the chances of finding employment by the unemployed, though the result was not always visible in previous rounds of the study. For a change, stability of employment was very high, regardless of educational activity in all rounds of the Diagnosis.

The effect of training on the improvement of the status on the labour market is dependent on gender. Women benefit from their educational activity more than men, compared to people educationally passive, what is visible especially in the final round of the study. Therefore, we can speak of greater benefit from educational activity for women measured in the improvement of the situation on the labour market. This result can also be explained by greater tendency to take up training by women.

High stability of employment in the group of people aged 25-39 years old, both educationally active and inactive has created the need to verify the impact of taking the effort to take up training on the situation of people working through analysis of their personal income. In the last period analysed the incomes of working people educationally active and inactive still clearly differ for the benefit of people taking up training. The gap between average income of people educationally active and inactive slightly increased over the past two years compared to the previous period due to the faster growth of incomes of people educationally active. This concerns in particular 2<sup>nd</sup> and 3<sup>rd</sup> income quartile. It is worth noting that there are differences in the stratification of incomes and their dynamic for both distinguished groups among women and men. What proves the imbalance in individual incomes

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<sup>49</sup> There is no possibility to assess the quality of educational activities, or adapt to the needs of the person involved in it or to the requirements of local employers, which would complement the quantitative data concerning the scale and scope of educational initiatives undertaken.

from work, based on gender, is the fact that average earnings of women taking up training are, nonetheless, smaller than average earnings of men not taking up this activity.

The analysis in this section ends with a model presentation of determinants of taking up training, considered separately for men and women. The results confirm high selectivity of educational activity due to age, level of education, place of residence and status on the labour market for both genders. Regardless of gender, younger, better educated people, professionally active, residents of larger and medium cities have greater chance of taking up training.

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## 4.10. Difficulties in finding employment after graduation

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### Abstract

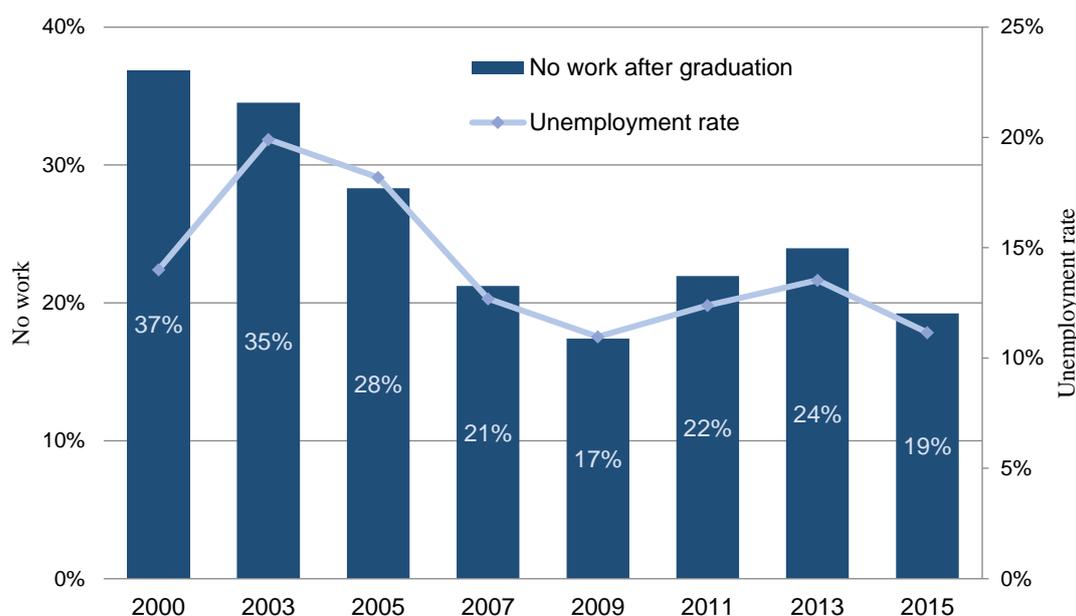
*In 2015, 19% of graduates examined in the Social Diagnosis stated that they could not find work after finishing their education – respectively 5 p.p. and 3 p.p. less than in 2013 and 2011. The problem discussed concerned mainly young people – 48% of people who could not find work after finishing school were between 16 and 24 years old. The analysis showed that women face the problem more frequently than men. Among graduates living in towns of over 500,000 inhabitants, the risk of facing the problem is significantly lower than among graduates from smaller towns. People with higher education are significantly less under the threat of being unemployed after finishing school than people with primary education. Differences between graduates of secondary and vocational schools and graduates of universities have turned out to be insignificant in this matter. Fields of studies with the lowest percentage of graduates who are unable to find work after finishing school proved to be law and health care. Directions with the highest percentage of such graduates are environmental protection, economy and administration. The issue presented affected people to a various degree depending on the place of residence. The biggest percentage of graduates who could not find work was recorded in Podkarpackie voivodship – 47%, while the lowest was recorded in the Lubuskie voivodship, where there were only 8% of such graduates. Among graduates having trouble with finding work, a lower level of satisfaction from education, life achievements and future prospects than among other graduates has been noted. One fourth of people who were not able to find work after finishing their education were willing to move abroad for work purposes. Among graduates who were not affected by the problem only 9% wanted to leave the country. All graduates stated that the main reasons of potential emigration were economic matters. However, among graduates who had problems with finding work also reasons such as no hope for finding work in the country as well as the assumption that connections play crucial role in Poland were also common.*

### 4.10.1. Introduction

Unemployment among young people is a serious problem in Europe and also in Poland. According to the Eurostat data, the unemployment rate of the total labour power in Poland is 9% and is lower than the average unemployment rate in the European Union by 1.2 p.p. (European Commission, 2014). However, in the 15-24 age group in Poland and in the entire Europe the unemployment rate is significantly higher. It is respectively 23.9% and 22.2%. No opportunities to find work by young graduates, especially graduates of universities undermine the good name of educational institutions and their potential to educate qualified specialists. A very frequent consequence of lack of a work matching the qualifications makes young people work below the level of their competences. In addition, difficulties with finding employment, which young people in Poland often encounter, may make them leave the country for work purposes. Employment of young people should be monitored in order to establish which group is most under the risk of the problem with finding employment. The following analysis aims at showing the conditions and potential consequences related to difficulties in finding employment after finishing education. It should be emphasised that the analysis concerns graduates of all levels of education. Difficulties in finding work were established on the basis of respondents' self-assessment. Namely, the respondents of the Social Diagnosis were supposed to answer the question: "Did you encounter difficulties in finding work after graduating last year?". The study was conducted only on respondents who are touched by the problem, i.e. people who finished school last year and were looking for employment.

### 4.10.2. No jobs for graduates in Poland in the period 2000-2015

As part of the analysis changes in the difficulties of graduates connected with finding employment in the period 2000-2015 were examined. The change of the percentage of people who dealt with lack of work after graduation is shown in Figure 4.10.1. In 2000 people who were not able to find employment after graduation amounted to 37% of all graduates. In further years the percentage decreased gradually until 2009, when it amounted to 17%. In the period 2011-2013 it decreased again by 5 p.p. in relations to the previous wave, amounting to 19%. Figure 1 shows also the unemployment rate in the period 2000- 2015. The trend of no employment for graduates is correlated with the general unemployment rate in Poland. Only in the period 2000-2003, even though the unemployment rate increased significantly (by 6 p.p.), the percentage of people with problems in finding work after graduation slightly decreased.



Source: Data by the Central Statistical Office (CSO, 2015), own calculations based on the Social Diagnosis

Figure 4.10.1. Percentage of people not able to find employment after graduation and unemployment rate in the period 2000-2015

### 4.10.3. General description of an unemployed graduate

The study showed also that in 2015 difficulties in finding employment concerned various groups of people indicated on the basis of socio-demographic variables. Table 4.10.1. shows the characteristic of people who had problems in finding work in the last year taking into account gender, age, size of the place of residence, employment level and socio-professional status. Graduates who could not find work constituted 19% of all graduates. The group of other graduates was given for comparison purposes – these are people who finished school last year, but did not have a similar problem.

The biggest difference between the two groups was their age. Among people who could not find employment almost half were people aged 16-24 years old. However, among other graduates only 14% of people belong to this age group. Significantly greater percentages in the group of other graduates are the 35-44 and 45-59 age groups – respectively 24% and 31%. Among people who had problems in finding work, there are definitively less people in these age groups – respectively 10% and 7%. It is less likely that all people from these age groups entered labour market for the first time after finishing their education. It is possible that part of them took up additional educational activity in order to improve their situation on the labour market. In other words, in the sample presented there are not only people who enter the market for the first time, but also people who are more experienced and who decided to improve their qualifications.

It comes as a no surprise that the group of graduates who had problems in finding work stands out with a relatively high percentage of people unemployed. As many as 30% of them remained unemployed and 14% of them were occupationally inactive at the time the study was conducted. Among other graduates, both unemployed and professionally inactive people each amounted to 4%.

The problem of finding work concerned women a little more than men (54%). In both groups studied, people usually lived in rural areas. 57% of people with difficulties in finding work and 51% of people without such problems lived in rural areas. Only 3% of graduates who could not find work lived in towns with more than 500k inhabitants in comparison to 8% of other graduates. The two groups do not differ significantly when it comes to the level of education. People who could not find work after finishing school usually had secondary education (40%). However, a big part of them had higher (28%) or vocational education (27%). 32% of other graduates are people with secondary education. There are equally many people with higher and post-secondary education. 30% of people in this group have vocational education.

Table 4.10.1. Characteristics of people with difficulties in finding employment after graduation due to socio-demographic traits

		No work after graduation	Other graduates
Total		19%	81%
Gender	Men	46%	51%
	Women	54%	49%
Age	16-24 y.o.	48%	14%
	25-34 y.o.	35%	31%
	35-44 y.o.	10%	24%
	45-59 y.o.	7%	31%
Size of the place of residence	Towns over 500k inhabitants	3%	8%
	Towns 200-500k	8%	7%
	Towns 100-200k	6%	7%
	Towns 20-100k	16%	17%
	Towns up to 20k	11%	11%
	Rural areas	57%	51%
Level of education	Primary and lower education	5%	5%
	Basic/ gimnazjum	27%	30%
	Secondary	40%	32%
	Higher and post-secondary	28%	32%
Socio-professional status	Public sector employees	7%	22%
	Private sector employees	34%	54%
	Private entrepreneurs	3%	6%
	Farmers	4%	7%
	Pensioners	1%	1%
	Pupils and students	7%	2%
	Unemployed	30%	4%
	Other professionally inactive	14%	4%

Table 4.10.2. Calculations of the logistic regression model for problems in finding employment after graduation

Explanatory variables		Odds ratios
Sex		
	Men	ref.
	Women	1.340***
Age		
	16-24 y.o.	ref.
	25-34 y.o.	0.341***
	35-44 y.o.	0.122***
	45-59 y.o.	0.070***
Size of the place of residence		
	Towns over 500k inhabitants	ref.
	Towns 200-500k	2.794***
	Towns 100-200k	2.534***
	Towns 20-100k	2.476***
	Towns up to 20k	2.505***
	Rural areas	2.219***
Level of education		
	Primary and lower	4.094***
	Basic vocational	1.119
	Secondary	1.211
	Higher and post-secondary	ref.
	Constant	0.203
	Number of observations	2933
	Pseudo R-square	0.125

Asterisks show statistically significant results: \* - significance level: 0.1; \*\* - significance level: 0.05; \*\*\* - significance level: 0.01.

The odds ratios in the Table show how the "chance" of difficulties in finding employment changes when explanatory variable X is of a specific value in comparison to the situation, in which this variable has a reference value.

To check which characteristics of individuals significantly influence difficulties in finding employment after graduation a logistic regression was applied. The results of the model's estimations are shown in the Table 4.10.2. The explanatory variable takes the value 1, when the person had difficulties in finding job after graduation, and 0 if not. The findings do not take into account the variable of "socio-professional status" as it is the consequence and not the cause of problems with finding employment. The results show that gender, age, and class of place of residence are characteristics which have a significant influence on the probability of dealing with the problem of

unemployment after graduation. Women are more under this threat than men of the same characteristics. People who live in towns of over 500k inhabitants are less under the threat of not finding work than people in other classes of place of residence. The risk of having difficulties in finding work after graduation decreases with age. It is also related to the level of education completed. Among people in the 16-24 age group, only 11% finished higher education. What is interesting is that only the difference between higher and post-secondary and primary and lower education turned out to be statistically significant. It comes as no surprise that people with basic and lower education are definitely more likely to face difficulties in finding work than people with higher or post-secondary education.

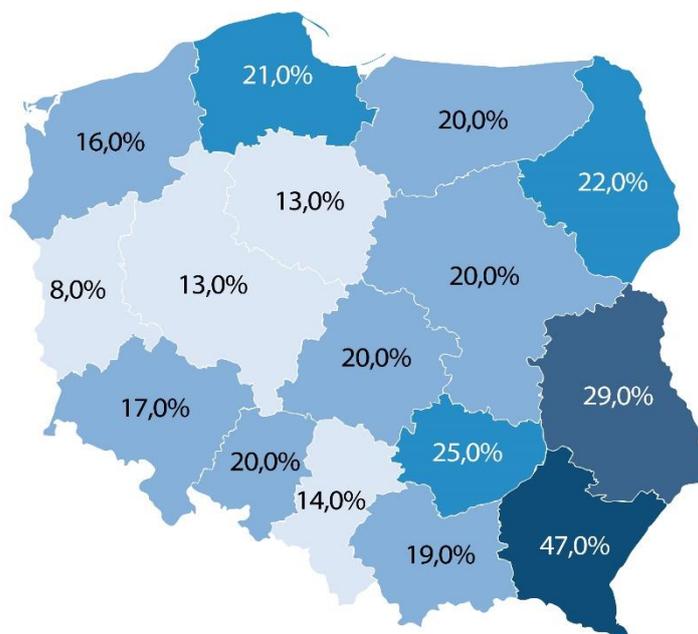


Figure 4.10.2. Percentage of people with problems in finding employment after graduation according to voivodships

The issue presented affects people to a various degree depending on the place of residence. Figure 4.10.2 shows the scale of the issue presented according to different voivodships in 2015. In the majority of voivodships the problem with finding work after graduation concerns about 20% of graduates. The situation was the worst in Podkarpackie voivodship, where almost half of the respondents could not find employment after graduation. Lubelskie voivodship is also characterised by a relatively high portion of people with the problem, where 29% of graduates could not find employment last year. The lowest percentage of people who could not find work after graduation was recorded in Lubuskie voivodship where there were only 8% of such graduates. Also Wielkopolskie, Kujawsko-Pomorskie and Śląskie voivodships are characterised by a relatively low percentage of graduates without work after graduation.

#### 4.10.4. Education profile of a graduate without work

An interesting aspect in the context of the analysis of the issue of finding work is the educational profile of graduates. The key question is which educational paths are at highest risk of difficulties in finding employment and which present this risk to a lower extent? In the previous part of the study, it was shown that distributions of levels of education among graduates who could not find work and other graduates do not differ greatly. The most important difference was the prevalence of people with secondary education in the first group. In this part the reversed question was asked. Namely, it was shown what was the share of graduates who could not find work on different educational levels. The data concerning educational level and difficulties in finding employment after graduation are available in all editions of the *Social Diagnosis* what allows for the presentation of results achieved over the last 15 years. Thanks to that, we can see if the results obtained for the latest edition of the study are characteristic only for a given year or are they part of a long-lasting trend. Apart from that, diversification of the analysis with time dimension allows for tracking changes in different groups of education. The results are shown in Figure 4.10.1.

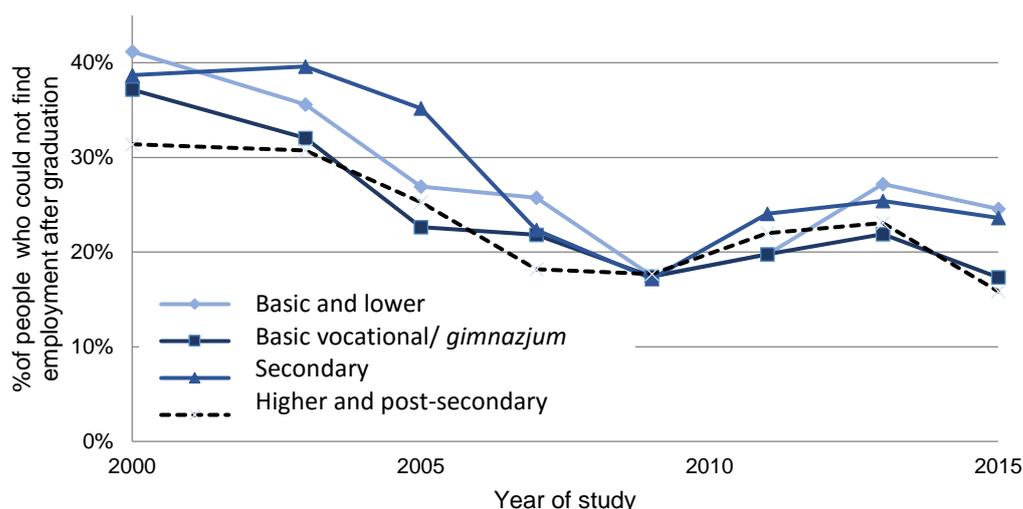


Figure 4.10.1. Percentage of people unable to find jobs after graduation according to the level of education, in the period 2000- 2015

In the majority of years studied people with higher and post-secondary and basic vocational education had the lowest percentage of graduates who could not find work. Only in 2011 people with higher and post-secondary education not only had a higher percentage of people facing difficulties in finding employment than people with basic vocational education, but also significantly higher than people with basic education. For a change in 2009 this percentage was very similar in all groups and exceptionally low in comparison to previous years, when it was about 17%. In 2015, just like in 2013, people with basic and secondary education had a similar percentage of people with difficulties in finding work after graduation. In 2015 it was respectively 25% and 24%. Among people with vocational education only 17% of people had such a problem and only 15% among people with higher and post-secondary education. Good news is that in all these groups the percentage of people with difficulties in finding work decreased in comparison to 2013. The results suggest that people with specialist skills and competences acquired in vocational school or at university are under lower risk of unemployment after graduation.

Four levels of education, on which the current analysis was based, are collective categories. In order to be able to make more thorough conclusions, the educational profile of people who are not able to find employment after graduation should be studied more carefully. Figure 4.10.2. shows the percentage of such people according to disaggregated educational levels. For comparison purposes, also the results from 2013 were included.

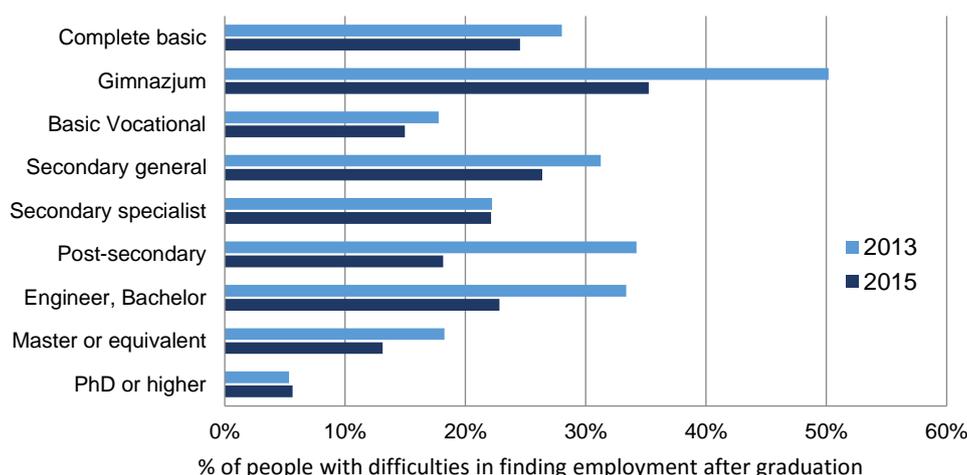


Figure 4.10.2. Percentage of people with problems in finding employment according to their level of education

In almost all groups, except for the group of people with PhD or higher degree, the problem of finding employment decreased. However, it should be noted that the group of people with PhDs is small and only 5% of people from this group had problems with finding employment. That is why the insignificant percent increase of such people in this group (by 0.3 p.p.) should not be treated as a representative reflection of the trend.

What is an interesting conclusion is the fact that there are less people who could not find work after graduation among people with basic vocational education than among people both with the engineer’s and bachelor’s degree

as well as people who completed post-secondary school. Vocational education allows for the development of specific skills and gaining of appropriate knowledge for a specific profession. Also higher education, especially on some fields, should offer the possibility of developing skills necessary for chosen professions. However, higher education of the first stage does not guarantee finding employment.

The situation of people who graduate on the labour market does not depend only on the level of education, but also on its major. Figure 4.10.3 shows the percentage share of people who could not find employment after graduation in the last year in the total number of people who graduated in different majors. The results concern all graduates, as well as only people with higher education. Majors in which the number of graduates did not exceed 20 were omitted.

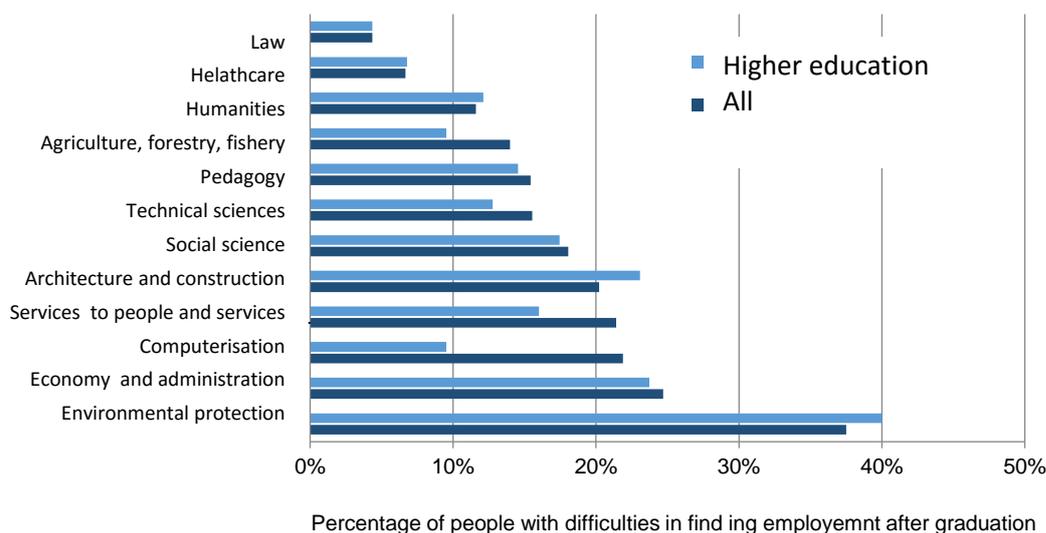


Figure 4.10.3. Difficulties with finding employment after graduation according to direction of education completed

Majors with the lowest number of graduates facing difficulties in finding employment are law, health care and humanities. Majors with the highest number of such people are: environmental protection, economy and administration and computerisation. However, it is worth noting that people who finished higher education in the field related to computerisation have a much lower share of graduates who could not find employment. That means that the problem concerns mainly people with technical and secondary education, even though the demand for IT technicians on the market is high (Batorski, Błażewicz, 2014). The reason for such a disparity can be growing work demands concerning those professionals, which are the result of dynamic development of ICT technologies. Graduates of technical and vocational schools educated in this field and without any work experience may not comply with these demands.

#### 4.10.5. Difficulties in finding work and satisfaction with various aspects of life

The current analysis focused on showing some conditions underlying the problem analysed. The difficulties some people experience when they try to find employment after graduation may have consequences for the psychological well-being of such people and their satisfaction with life, among others. This part shows the level of satisfaction of graduates with various aspects of their lives depending on the fact if they faced problems in finding work after graduation. The analysis takes into account the following partial satisfactions: satisfaction with life achievements, satisfaction with future prospects and satisfaction with education. The results for these partial satisfactions were presented in Figures 4.10.4. – 4.10.6. The diagrams evaluate satisfaction on the x-axis on the scale from 1 to 6, where 1 represents “very unsatisfied” and 6 – „very satisfied”.

In each and every of the three variables analysed, among graduates who could not find employment, there are more unsatisfied and less satisfied people than among other graduates. The smallest difference between these two groups can be noticed in case of satisfaction with education. It can mean, among others, that people who could not find employment after graduation to a limited extent look for the reason of their professional failure in education. The problem in finding employment after graduation has, however, a significant influence on the graduates’ vision of the future.

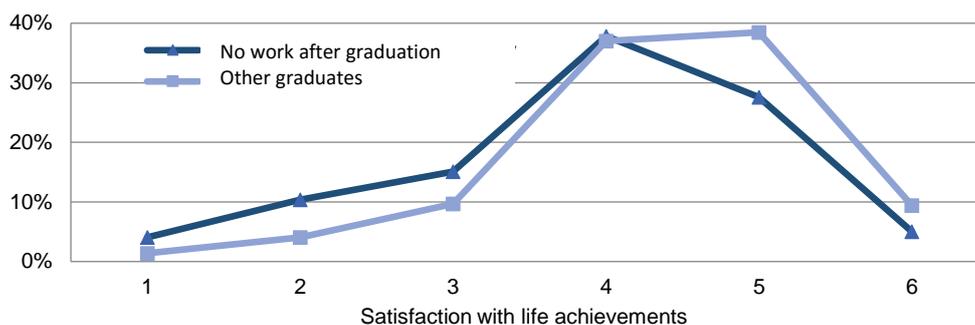


Figure 4.10.4. Satisfaction with life achievements (1 – very unsatisfied. 6 – very satisfied)

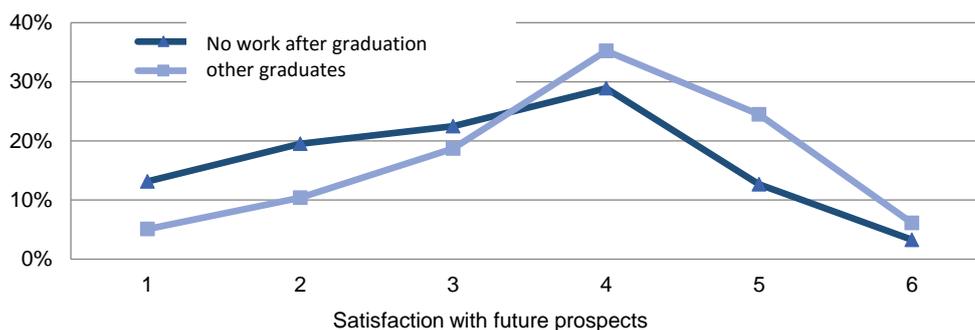


Figure 4.10.5. Satisfaction with perspectives for the future (1 – very unsatisfied. 6 – very satisfied)

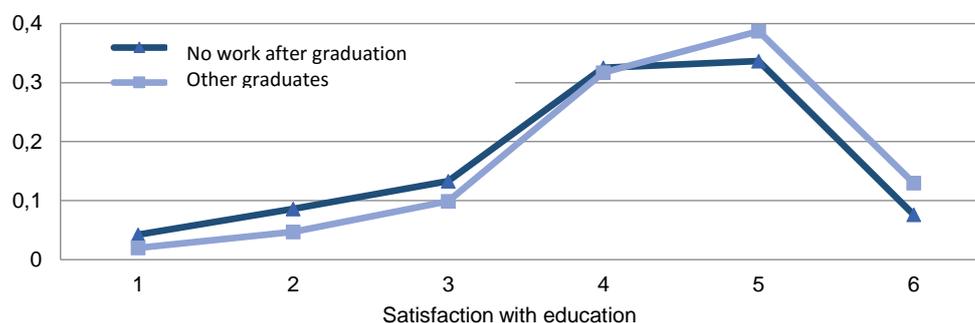


Figure 4.10.6. Satisfaction with education (1- very unsatisfied; 6 – very satisfied)

The biggest disparity between the group of graduates who cannot find employment and the group of other graduates may be observed in satisfaction with future prospects. As many as 13% of people who were unable to find employment last year are very unsatisfied with future prospects and almost one fifth of people in this group are unsatisfied with future prospects. Among other graduates, there are respectively 5% and 10% of such people. While almost one fourth of remaining graduates is satisfied with the possibilities the future presents for them, only 13% of graduates who could not find employment in the last year find their potential future satisfying. Dissatisfaction with important aspects of life, especially the pessimist vision of the future, may have serious consequences for mental well-being (Czapiński, 2012). It can also have a demotivating influence, inhibiting the development and implementation of life plans of people who view their future negatively.

#### 4.10.6. Emigration plans of graduates without work

One of the strategies adopted by people who cannot find employment after graduation may be changing the place of looking for employment. No satisfying perspectives for the future in Poland may result in a willingness to move abroad for work purposes. This part of the analysis shows how many people dealing with problems in finding employment plans to go abroad in the next few years. A compilation of the most frequent reasons for potential emigration is also showed.

Figure 4.10.7. shows the share of graduates who consider the possibility of moving abroad, depending on having problems in finding work or not. The majority of people who cannot find employment - over one forth – plans to go abroad for work purposes. Among other graduates only 9% considers such a possibility.

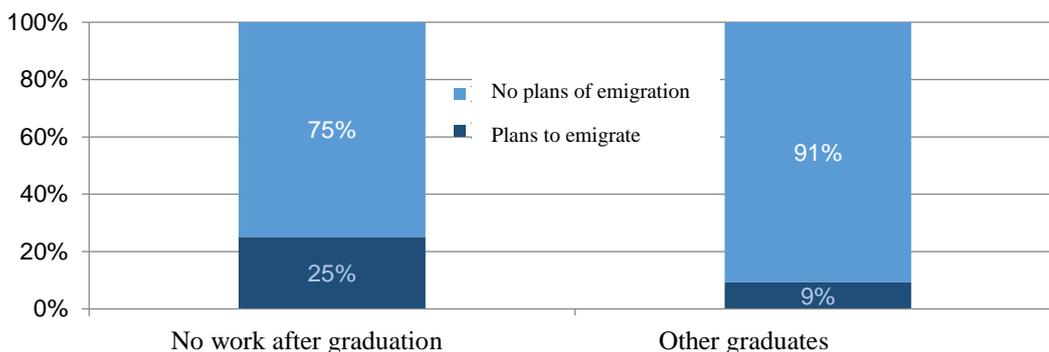


Figure 4.10.9. Difficulties with finding employment after graduation and emigration plans in the next two years

Figure 4.10.10. shows the main reasons which motivate graduates to go abroad. In both groups, the main reason for potential migration was higher income than in the country. Over 68% of people who could not find employment and over 80% of other graduates points to this argument as one of the reasons for going abroad for work purposes.

However, among people who could not find work the last year, some other reasons proved to be important, even though they have less importance for other graduates. One of them was no hope for any work in the country – 43% of graduates who could not find employment pointed to this argument as the reason for potential emigration. As it was shown, almost one third of people in this group remained unemployed during the collection of data. These people may be not only unsatisfied with their perspectives for the future; they may be convincing themselves in the belief that it is impossible to find any work in the country.

Another frequently chosen reason for emigration among people with problems in finding employment after graduation is the belief that in Poland only connections count. Over 40% of people in this group also think that the problem is big enough to consider going abroad. It is also worth noticing that a relatively big part of graduates with difficulties in finding employment in Poland claimed that no hope for finding work compliant with their qualifications is one of the reasons for potential emigration. There were almost 19% of such people, 10 p.p. more than among other graduates. The problem in finding work by graduates may be connected rather with the mismatch between their qualifications and the labour market than a general deficit of work for young people. Some people are for sure dealing with the problem of finding work which would be compliant with the direction of education completed, but also would not be below their competences.

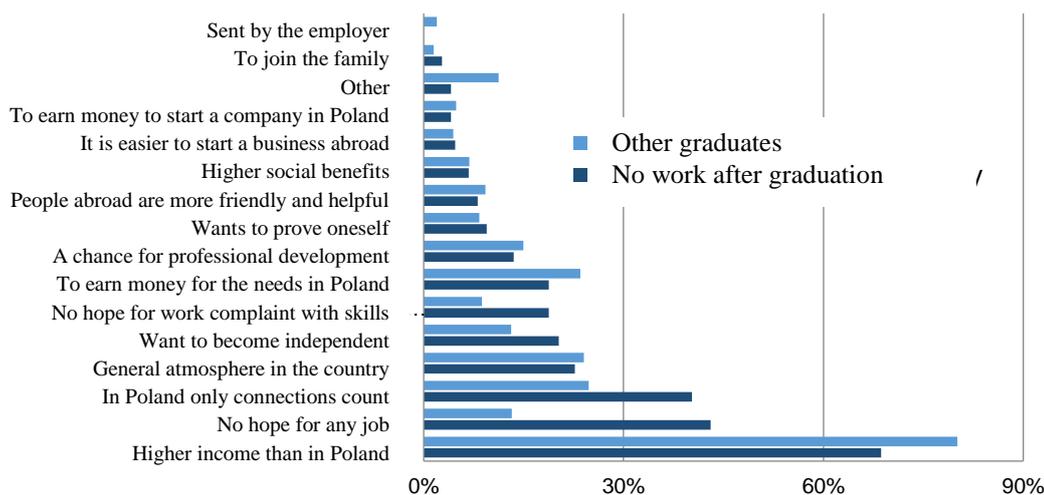


Figure 4.10.10. Reasons for wanting to emigrate for work purposes

#### 4.10.7. Difficulties in finding work in a longer timeframe

The *Social Diagnosis* is a panel study which allows for tracking changes of individuals’ characteristics in time. In the context of the problem discussed, what is important is the question if people who had a problem with finding

work after finishing their education succeeded on the labour market in a longer timeframe. Studies on the problem of unemployment of people show that experiencing difficulties with finding work at the beginning of the professional career have an effect on the later life in terms of income and professional activity as well (Arulempalam, Booth, Taylor, 2000; Gardecki, Neumark, 1998; OECD, 2010). As it is show in Figure 4.10.11., in 2013 over one third of people with such a problem were unemployed while 15% remained professionally inactive in comparison to respectively 6% and 4% of people who have not been dealing with this problem.

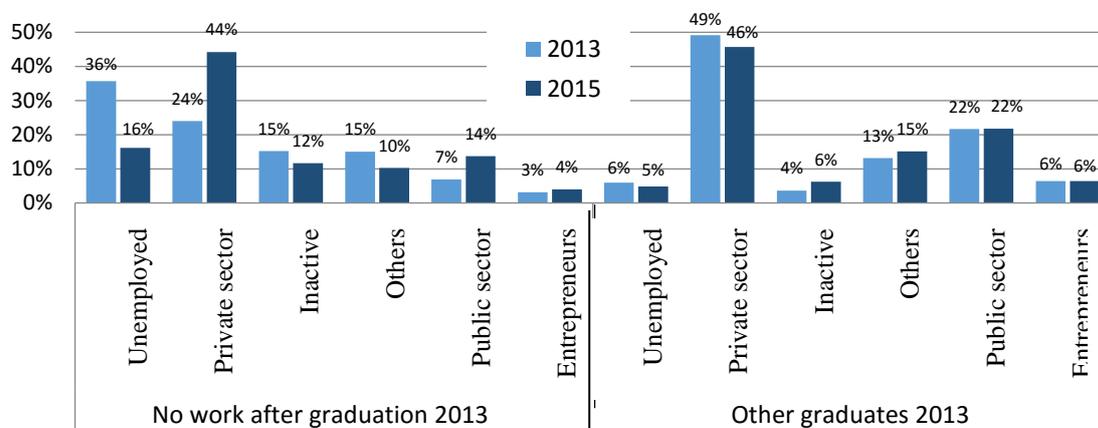


Figure 4.10.11. Socio-professional status of people with problems in finding employment in 2013

In 2015, 16% of people who two years before were not able to find work were still unemployed and 12% were professionally inactive. Among people who did not have such a problem in 2013 only 5% were unemployed. 6% remained professionally inactive. As it can be seen, even though the majority of people who could not find work in 2013 were able to succeed on the labour market within 2 years, a significant majority of them still remains unemployed or professionally inactive. It shows that people with difficulties in finding work after finishing education are more susceptible to exclusion from the labour market in the longer term.

As it has been shown before, people who were unable to find work in 2015 were less satisfied with their future prospects than graduates who did not have such a problem. It is a very worrying conclusion, especially if such a state is maintained for a longer period of time. Figure 4.10.12 shows the differences between perspectives of graduates who could not find work in 2013 (marked with light blue colour) and other graduates from 2013 (marked with dark blue). Dashed lines show the differences between those groups in 2013, while solid lines – in 2015. Just like in the latest edition of the study, in 2013 graduates who could not find employment were much less satisfied with their future prospects e than other graduates. However, after two years satisfaction with the vision for the future of these groups is much less divergent. That means that the influence of difficulties with finding employment after finishing education on the satisfaction with future prospects seems not to have a long lasting character.

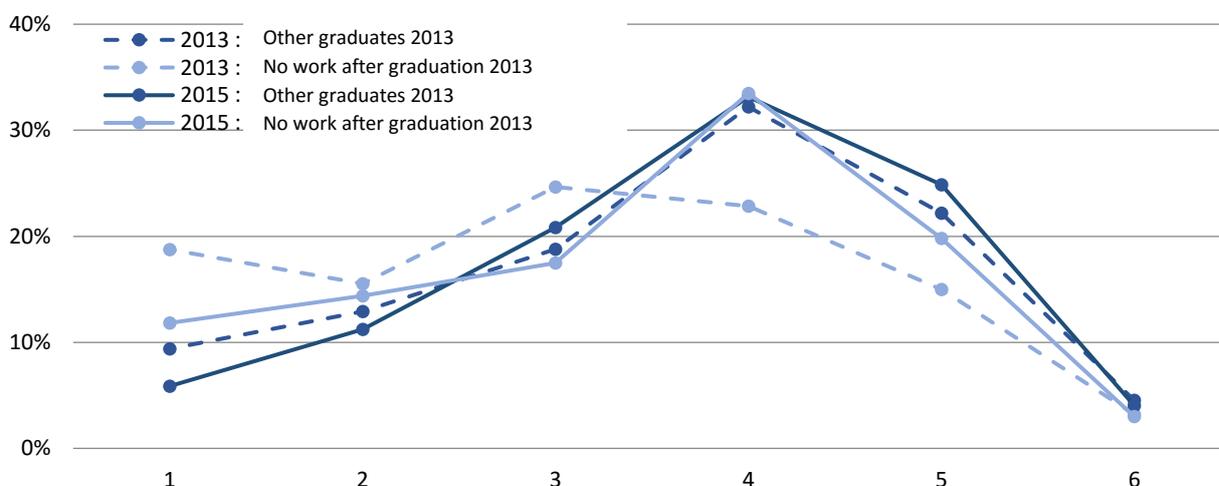


Figure 4.10.12. Satisfaction with future prospects of people who could not find work in 2013 (1 – very unsatisfied, 6 – very satisfied).

#### 4.10.8. Summary

In comparison to previous years, in 2015 less people - almost one fifth of all graduates had difficulties in finding work. People who are mainly affected by the problem are young people aged 16-24 years old. Almost one third of people who were not able to find work last year after graduation are unemployed and a big share of them is professionally inactive. Also in a longer term perspective, people who could not find work are more under the threat of unemployment and remain professionally inactive more often than other graduates.

The least people who were unable to find employment were among the group of university graduates from Master programs as well as graduates of basic vocational schools. Majors with the lowest percentage of graduates having difficulties in finding work after finishing school are law and health care. Directions with the highest percentage of such graduates are environmental protection and economy and administration. Computerisation is also a field with a high percentage of people unable to find jobs, however, among graduates of higher education in this field there are significantly less such people.

The problem in finding work after finishing school may result in worsening of mental well-being and life satisfaction. The presented analysis showed that graduates who were unable to find jobs are less satisfied with their life achievements, education and future prospects. However, such an effect is not constant in a longer term perspective.

The pessimistic vision of the future makes such people think about the possibility of emigration. Over one fourth of people who had troubles in finding work plans to go abroad in the next two years after graduation. Apart from financial aspect, other reasons given usually include: no hope for any work in Poland or for work compliant with qualifications, as well as the belief that the Polish labour market is mainly ruled by connections.

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## 4.11. Influence of new technologies on the labour market – user status and technological unemployment

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### Abstract

*Internet and new technologies are significant for the labour market. However, the influence of technological changes is still not well-known. This article based on the Social Diagnosis data from the period 2005-2015 analyses two main dimensions of the influence of new technologies on the users' professional position. The article discusses chances of finding employment by the unemployed, maintaining work by people working as well as improving professional situation by professionally active people understood as finding a better-paid work, taking up additional work or getting promotion. The influence of Internet usage on changes in income is also analysed. The second part focuses on more long-term effects of technologies on changes in the methods of performing work and, as a consequence, on the change in the demand for work in many professions. Technologies can contribute to improvement of employees' efficiency, but also to the replacement of part of the work so far done by people with the work of machines and software. In this article on the basis of the analysis of risk of automation for over seven hundred professions prepared by Frey and Osborne (2013) we estimate that the percentage of people employed in Poland who will be under the risk of losing their job as a result of computerisation and robotization amount to over 40%. We show that the risk of automation of professions is already significantly related to the employment rate. Moreover, people looking for employment in professions not threatened by automation find employment easier than unemployed people in the professions at high risk of automation. However, it should be noted that the process of adjusting labour market to the phenomenon of automation can also be observed. Part of the people professionally active change their profession and most often to a profession at a lower risk of automation. Also people who are just entering the labour market slightly more often take up work in professions which are at a lower risk of automation.*

### 4.11.1. Internet usage and professional situation

Almost 85% of Poles who work use the Internet and even though only part of them uses the Internet at work, this medium and other new technologies have crucial importance for the situation on the labour market. They should be analysed on two levels. Effective use of new technologies may have an influence on professional situation, but what is more important, it also influences a change in the methods of performing work. Technologies may increase effectiveness of employees, but also replace part of the work so far done by people with the work of machines and software. This article aims at analysing the relation between Internet and new technologies with the situation and changes occurring on the labour market. The first part is going to cover the analysis of individual effects, namely changes related to the use of technologies by professionally active people. The second part is going to cover the analysis from the macro level, namely changes in the labour market structure resulting from automation.

Internet usage varies among representatives of different professions. Internet is used by almost all employees from the first three professional groups according to the ISCO classification (Figure 4.11.1). Moreover, the majority of them have already been using the Internet for a long time. The groups that use Internet the least are farmers, gardeners, fishermen and workers doing simple works, which means these groups of people whose job does not require the use of the Internet.

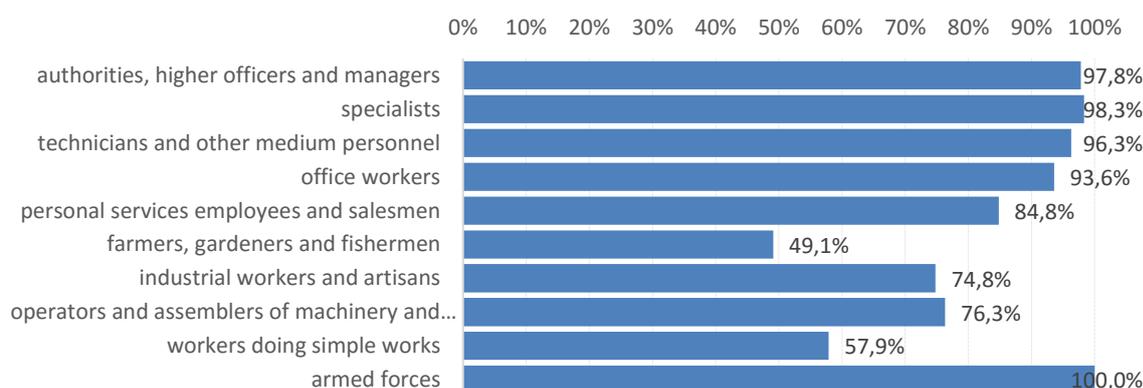


Figure 4.11.1. Internet usage among working people according to professional groups in 2015.

Unemployed people use Internet much less than employed people. 85% of employed people use the Internet and only 69% of people looking for work. The difference between the groups has been at a similar level for a long time (Figure 4.11.2). It may indicate that Internet usage is positively correlated with chances of finding employment, but it may also be an effect of other differences between internet users and non-users (e.g. age and education), which also influence their situation on the labour market. That means that it is worth analysing the impact of Internet usage on the chance of being employed.

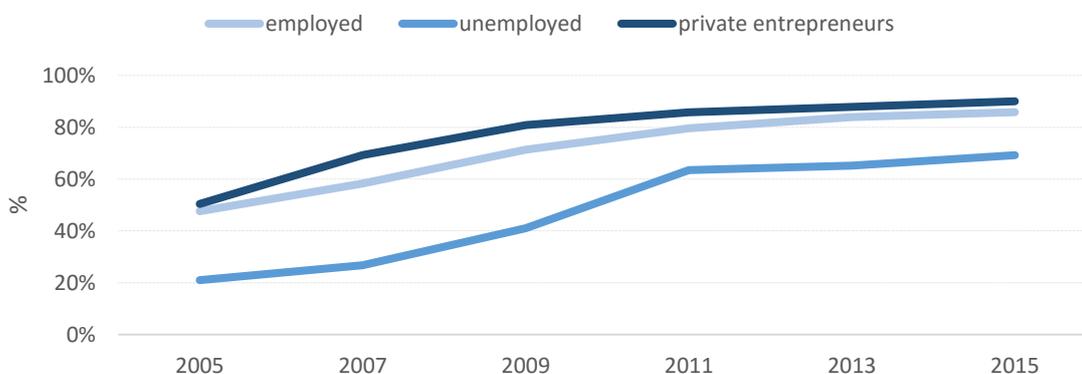


Figure 4.11.2. Internet usage among employed, unemployed and private entrepreneurs in the period 2005-2015.

It can be expected that Internet usage favours having work as more and more work offers are available only on the web and in addition an increasing number of working positions require computer and internet literacy. These effects are confirmed in the data, particularly in the analysis of the changes that occur over time. If to look at the professional status of individuals who were unemployed in 2013, then among those who have used the Internet currently 48% are working compared to only 33% among those who are not using Internet. Much greater chance of users finding work is not a new phenomenon – the Figure 4.11.3 shows this effect was stable in the last 10 years and probably was also present earlier. However, the importance of starting to use the Internet is changing. Still in the period 2005-2009 people who were starting to use the web had greater chance of finding work than those who did not use the Internet. The probability of finding work does not deviate in this group from opportunities for employment of unemployed people who were benefiting from the Internet for a long time. Since 2011, the situation has changed and you can see practically no increased chances of finding work among the unemployed who have started to benefit from the Internet only recently. This result may indicate that today experience, way of using the web and skills possessed are more important.

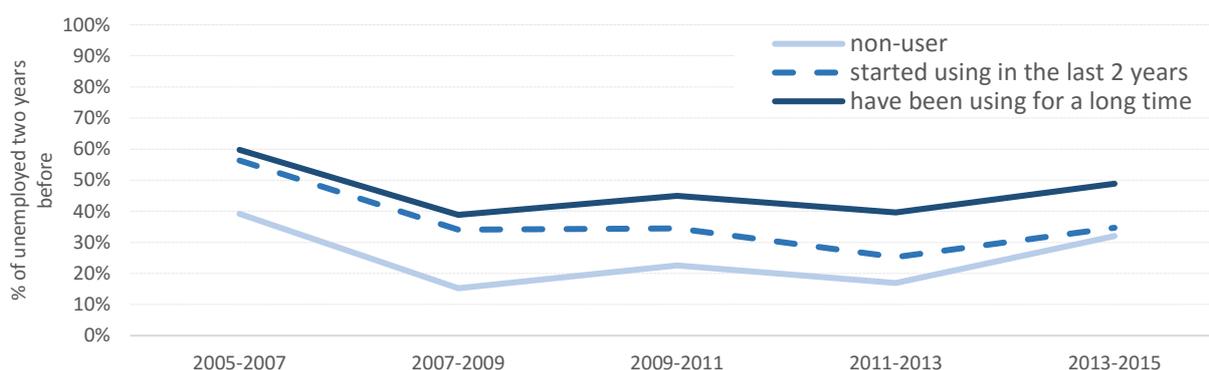


Figure 4.11.3. Flows from the group of unemployed people to the group of employed people in the period 2005-2015 depending on the Internet usage.

The chance to activate people professionally inactive is greater if they use the web. Among users who in 2013 were inactive currently 27% are working and among those who did not use the web only 10% are working.

Internet users not only have greater chance of finding work if they were unemployed or remained professionally inactive, but also are more likely to maintain employment if they were employed (Figure 4.11.4 panel A). In the period 2005-2015 more than 90% of people employed who have used the Internet still maintained employment after the next two years. But among those who did not use the web, the percentage share rarely

exceeded 80%. On the other hand, in the period 2013-2015 the effect of increased risk of employment among people not using the Internet, present earlier, seems to disappear (Figure 4.11.4. part B). Both among Internet users and other people the risk of unemployment is very similar – about 4% of people lost work.

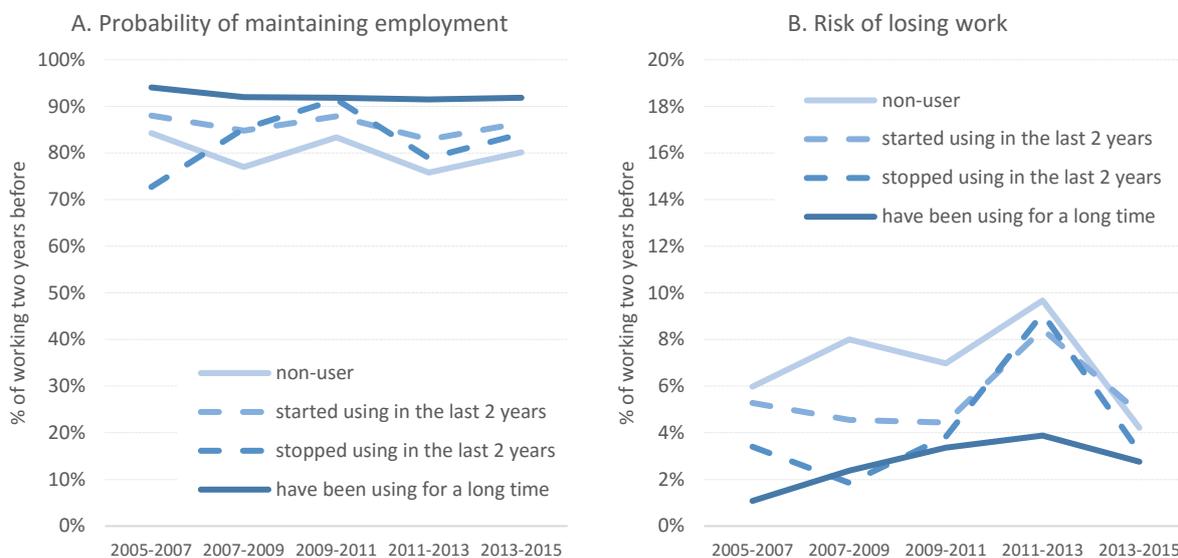


Figure 4.11.4. Change in the situation of people employed according to Internet usage in the period 2005-2015. A. Probability of maintaining employment. B. Risk of losing work.

As most people working use the Internet, there is no sense in analysing the meaning of the very fact of using the web for the situation of people employed. Much more important is how a person benefits from the use of web. Therefore, further analysis will involve three dimensions of Internet usage identified in another part of the study of Social Diagnosis 2015 (Batorski, 2015).

**4.11.2. Situation of working people – changing work, promotion, increase of competences and establishment of companies**

This part will analyse differences in the changes of the situation of workers depending on the use of the Internet. People who use Internet are more likely to take better-paid or additional work. During the last year such a change concerned 17% of them while among those who did not use Internet only every tenth person took up a better-paid or additional work. This type of differences in changing work has long been present (Figure 4.11.5 A).

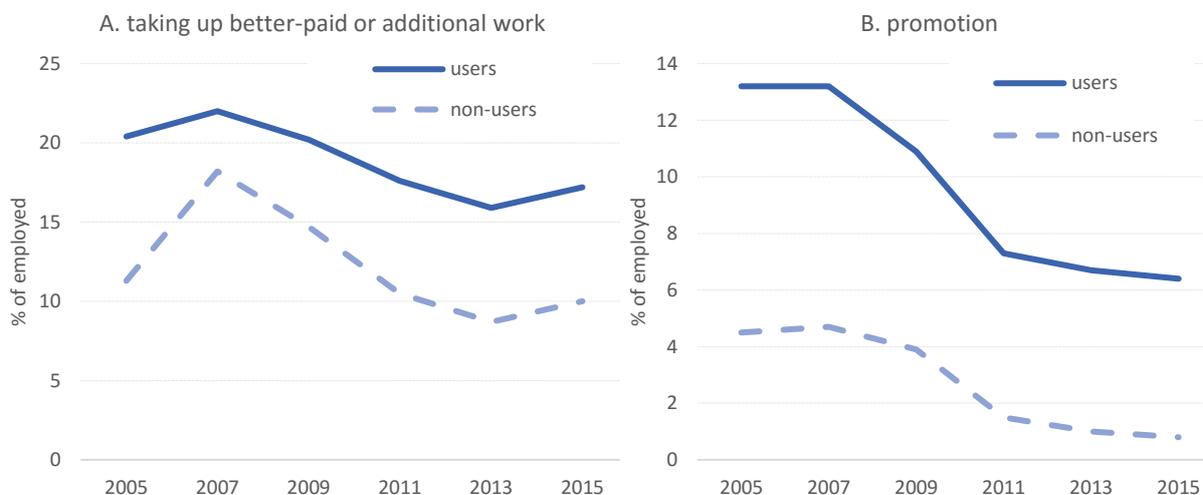


Figure 4.11.5. Changes concerning work among workers depending on Internet usage in the period 2005-2015. A. Taking up better-paid or additional work. B. promotion.

The differences in taking up better-paid or additional work are associated with Internet usage. However, in order to accurately determine the significance of the use of this technology, the effect of other variables has to be excluded. For this purpose a logistic regression analysis was conducted (Table 4.11.1). If to take into account the importance of other factors, such as gender, age, education or professional group, the significant influence of Internet usage is still visible. Moreover, apart from the very fact of the use of web it is equally essential how it is used. This should come as no surprise as more than 85% of the employees uses the web and the very fact of using the web is less and less often a differentiating factor. Better-paid or additional work is more often taken by these users who use the Internet in a more comprehensive and advanced way. But more frequent use of the web for basic applications related to communication and access to information is also significant. Whereas, the use for entertainment purpose is not significant. Thus, the higher the competences of a given worker are, the more comprehensive and advanced is the way he/she uses the web, the greater chances he/she has for changing work or finding additional work.

Table 4.11.1. Determinants of taking better-paid or additional work during the past year. The results of the logistic regression.

	B	Standard error	Wald.	df	Significance	Exp(B)
Internet usage	0.406	0.09	20.112	1	0.00	1.5
Ways: universal and advanced	0.273	0.029	88.248	1	0.00	1.314
Ways: basic and communication	0.125	0.03	16.994	1	0.00	1.133
Ways: Entertainment	-0.032	0.032	0.962	1	0.33	0.969
Sex (female)	-0.243	0.056	19.128	1	0.00	0.784
Age (in years)	-0.054	0.002	491.574	1	0.00	0.947
Education (in years)	0.03	0.012	6.265	1	0.01	1.03
Profession (authorities, higher officers and managers*)			117.446	9	0.00	
specialists	0.391	0.135	8.38	1	0.00	1.478
technicians and other medium level staff	0.243	0.144	2.849	1	0.09	1.275
office staff	-0.039	0.16	0.06	1	0.81	0.961
personal services workers and vendors	0.216	0.147	2.164	1	0.14	1.241
farmers, gardeners and fishermen	-0.622	0.189	10.847	1	0.00	0.537
industry workers and craftsmen	0.358	0.147	5.97	1	0.02	1.431
operators and assemblers of machinery and equipment	0.113	0.158	0.51	1	0.48	1.119
workers doing simple works	0.755	0.158	22.812	1	0.00	2.129
armed forces	-1.727	0.781	4.888	1	0.03	0.178
Constant	-0.467	0.28	2.779	1	0.10	0.627
Total percentage of volatility explained:						
Cox & Snell $R^2 \times 100$	9.2					
Nagelkerke $R^2 \times 100$	19.1					

\* Reference group

It is also worth noting that the use of the Internet for purposes related to work, especially looking for work via Internet, does have an additional significant positive impact on the change of work, not included in this analysis. The results obtained confirm the intuitions concerning the importance of the Internet. People who use it at work, as well as those who are looking for work over the web are more likely to find a better or additional work.

The situation is similar when it comes to getting promotion (Figure 4.11.5 B). Employees using the Internet get promoted more often. Differences in the period 2005-2015 persist. Gradual expanding of the group of Internet users, although it has an effect on the decrease in the percentage of people getting promoted, however does not change the difference in relation to people who do not benefit from the web. If we eliminate the importance of significant differences in age, gender, education and profession, then Internet usage will also be a significant factor in getting professional promotion. It is also important, however, how the network is used (Table 4.11.2). Those who use the Internet for instrumental purposes, have increased competences and use Internet in a more advanced way have greater chance of promotion. On the other hand, Internet users who more often use the web for entertainment purposes have slightly less chances of promotion.

Table 4.11.2. Determinants of professional promotion during the last year. Results of logistic regression.

	B	Standard error	Wald	df	Significance	Exp(B)
Internet usage	0.586	0.134	19.045	1	0.00	1.796
Ways: universal and advanced	0.316	0.038	67.608	1	0.00	1.371
Ways: basic and communication	0.187	0.039	22.775	1	0.00	1.205
Ways: Entertainment	-0.116	0.042	7.628	1	0.01	0.891
Sex (female)	-0.357	0.072	24.782	1	0.00	0.7
Age (in years)	-0.041	0.003	166.488	1	0.00	0.96
Education (in years)	0.039	0.015	6.643	1	0.01	1.04
Profession (authorities, higher officers and managers*)			39.567	9	0.00	
specialists	-0.213	0.134	2.512	1	0.11	0.808
technicians and other medium level staff	-0.625	0.155	16.359	1	0.00	0.535
office staff	-0.494	0.17	8.394	1	0.00	0.61
personal services workers and vendors	-0.429	0.157	7.497	1	0.01	0.651
farmers, gardeners and fishermen	-0.904	0.207	19.047	1	0.00	0.405
industry workers and craftsmen	-0.736	0.164	20.243	1	0.00	0.479
operators and assemblers of machinery and equipment	-0.823	0.183	20.209	1	0.00	0.439
workers doing simple works	-0.607	0.195	9.636	1	0.00	0.545
armed forces	-0.463	0.462	1.006	1	0.32	0.629
Constant	-1.136	0.353	10.339	1	0.00	0.321
Total percentage of volatility explained:						
Cox & Snell $R^2 \times 100$	5.1					
Nagelkerke $R^2 \times 100$	14.9					

\* Reference group

These results are consistent with expectations. The use of the Internet for purposes related to work improves employee's situation. On the other hand, people for whom Internet is primarily a source of entertainment have less chance of achieving professional promotion.

One of the mechanisms to improve one's own professional situation by changing work for a better one, finding additional work or getting promotion may be the use of the Internet to improve one's own competences. Internet usage gives access to vast resources of knowledge and some users use it for training and acquisition of new skills. At the same time Internet is also a source of information on training opportunities outside the web. Therefore, users are much more likely to improve their competences – during the last year 23% of working Internet users and only 3% of employees who do not use the Internet have raised their skills. The difference in the development of one's own competences between the two groups remained at a constant level of over 20 p.p. for at least the last 10 years (Figure 4.11.6 A).

The fact of using Internet favours improvement of qualifications even if we exclude differences related to age, level of education and sex (Table 4.11.3). Moreover, if we look at employees who use the Internet, we will see that raising skills is related to increased competences in the use of Internet and a more versatile use of it. Users who use the Internet as a source of entertainment are less likely to improve their competences. This dependency shows that for some Internet users the resources available on the web are an opportunity for their own development while for others the same tool is rather an opportunity to have fun.

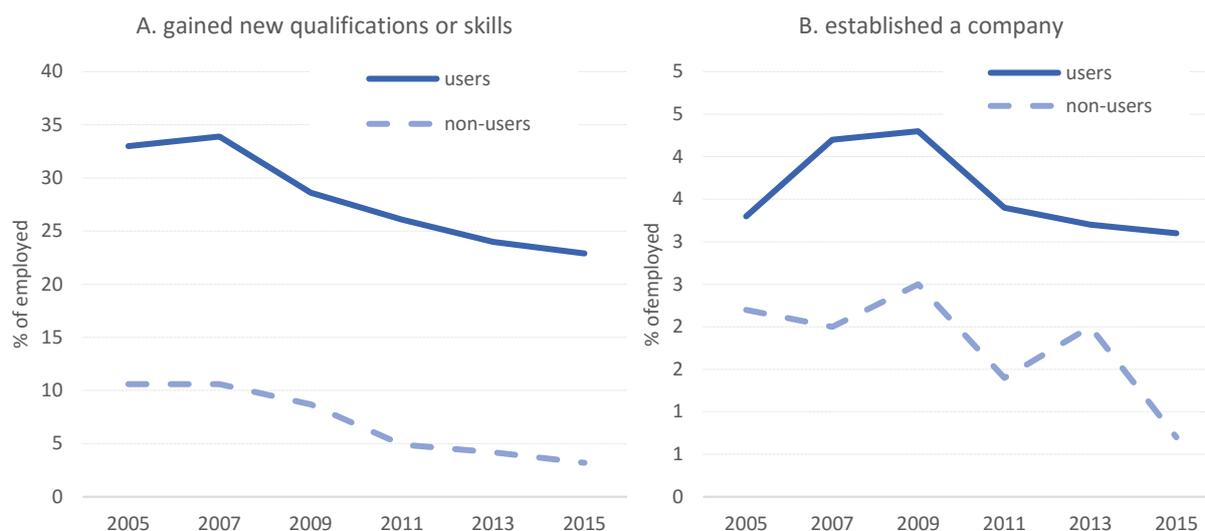


Figure 4.11.6. Work-related changes depending on the use of the Internet in the period 2005-2015. A. to gain new qualifications or skills in order to increase wages. B. establishment of a company.

Clearly those Internet users who use the courses and trainings available on the web are more likely to improve their competences. Every third person participating in courses and trainings on the Internet claims that he/she improved his/her professional qualifications within the last year while among the remaining employees who use the Internet only 14% have acquired new skills.

Table 4.11.3. Determinants of increasing competences and taking up training with a view of increasing wages in the period of the last year. The results of logistic regression.

	B	Standard error	Wald	df	Significance	Exp(B)
Internet usage	1.482	0.132	125.551	1	0.00	4.4
Ways: universal and advanced	0.48	0.028	291.223	1	0.00	1.617
Ways: basic and communication	0.228	0.028	64.532	1	0.00	1.256
Ways: entertainment	-0.137	0.031	19.753	1	0.00	0.872
Sex (female)	-0.132	0.054	5.884	1	0.02	0.876
Age (in years)	-0.047	0.002	366.949	1	0.00	0.955
Education (in years)	0.098	0.011	73.196	1	0.00	1.103
Profession (authorities, higher officers and managers*)			96.333	9	0.00	
specialists	0.137	0.109	1.588	1	0.21	1.147
technicians and other medium level staff	0.049	0.118	0.173	1	0.68	1.05
office staff	-0.305	0.135	5.086	1	0.02	0.737
personal services workers and vendors	-0.535	0.129	17.115	1	0.00	0.585
farmers, gardeners and fishermen	-1.021	0.188	29.472	1	0.00	0.36
industry workers and craftsmen	-0.109	0.129	0.719	1	0.40	0.897
operators and assemblers of machinery and equipment	0.023	0.137	0.029	1	0.86	1.024
workers doing simple works	-0.488	0.163	8.93	1	0.00	0.614
armed forces	-0.086	0.347	0.062	1	0.80	0.917
Constant	-2.409	0.283	72.534	1	0.00	0.09
Total percentage of volatility explained:						
Cox & Snell R <sup>2</sup> x 100	16.4					
Nagelkerke R <sup>2</sup> x 100	31.7					

\* reference group

Positive effects of the use of the Internet in a way that is conducive to professional career development are also present in other dimensions. It is worth at least to mention that people using the web are more likely to start their own business activity and to establish companies (Figure 4.11.6 B).

### 4.11.3. Internet usage and increase in income

People of a higher material status use the Internet more often. In 2015, an average working user earned a bit more than PLN 2,600. It is PLN 800 per month more than in the case of people who did not use the Internet. But does the use of the Internet reflect itself in income growth? As it was shown in the previous part, Internet users change employment or undertake additional work much more frequently. They also set up their own business more often. Generally, these are people with higher and more sought after on the job market competences. So it can be expected that the use of the Internet will also have its consequences for income growth. Let's analyse income changes that occur between different editions of the study *Social Diagnosis* as a function of the ways and change of using the Internet. This type of analyses showed previously that the incomes of users grow faster than those who do not use the Internet (Batorski, 2011).

In the period 2005-2015, the income of people who use the Internet grew clearly faster than of the people who did not use the web. Interestingly, until 2009 an increase in the income of people who only recently started to use the Internet was also bigger. Later this effect was no longer present and the income of Internet beginners did not grow significantly faster than the income of people who did not use the Internet.

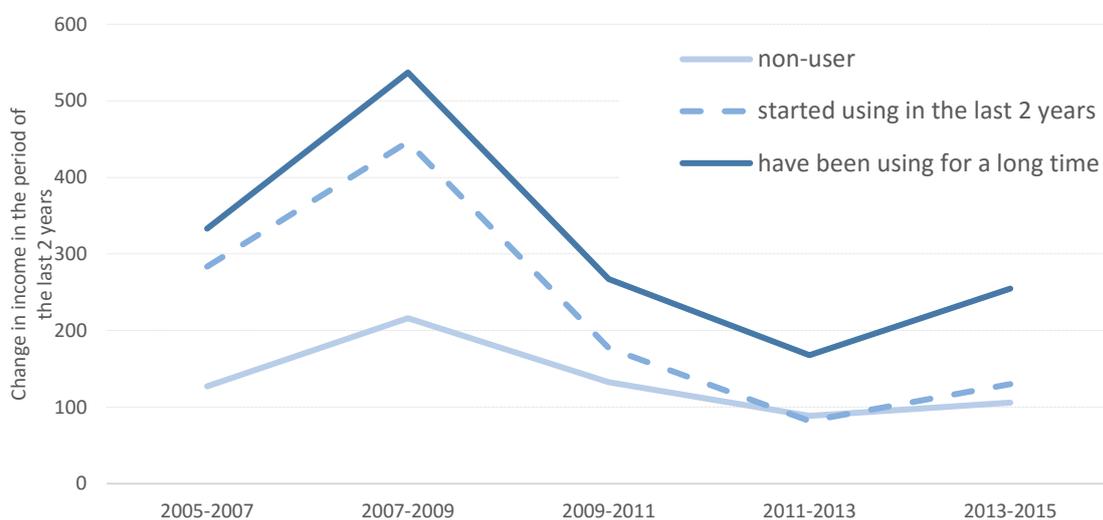


Figure 4.11.7. Income changes depending on the use of the Internet in the period 2013-2015.

The analysis of dependencies of the changes of income on the use of the Internet along with the control of differences related to the level of education, gender, age, profession and the size of the place of residence show that the use of the Internet is essential. But even more important is how the web is used. The impact of the use of the Internet is primarily associated with competences and versatility of the use of the web. Between 2013 and 2015 users with higher-level skills were getting an average of about PLN 150 more than people with average competences.

### 4.11.4. Working from home and its consequences

Up to 48% of working people at least from time to time uses home computer and access to the Internet to handle work-related matters. Moreover, one fourth of them admits they worked at home during the last week. These results do not reflect the fact that telecommuting has become very popular in Poland, but rather the fact that computers and the Internet lead to blurring of boundaries between private life and work. The intertwining of these two spheres works as a feedback loop – not only part of the work is done from home or from other places using mobile technologies, but also the workplace more and more often becomes a place of dealing with private matters. Noticing this phenomenon, it is worth asking a question about its consequences. The amount of time devoted to work may be an intermediary factor, that is the reason why it is worth analysing in the first place whether work

from home has impact on how long we work? Subsequently, I will try to verify if working from home is important in terms of satisfaction with work or stress related to it.

Almost half of working people admits to the use of home computer to work from home. Contrary to what could be expected, the percentage of such people does not increase and between 2013 and 2015 it decreased by 2.5 p.p. The majority of people working from home do it rarely. In the period preceding the study, every fourth employee used the home computer for professional purposes while in 2009 30% of employees did so.

People whose work directly allows to perform some of the duties from home do so much more often. There are less than 20% of such employees, of whom four in five actually at least occasionally works from home. Some work-related tasks with the help of the home computer are, however, also performed by nearly 40% of those who declare that their work does not allow to perform duties from home. It concerns most probably less significant tasks, answering emails, etc. Thus, we can estimate the current maximum scopes of work from home for more or less 10% of working people and additionally more than one third from time to time performs some work-related tasks from home.

The use of home computer and access to the Internet for the purpose of professional work is clearly more common in households where there is broadband access. In households with a slower broadband access or mobile access 21% of employees works from home and in those where there is broadband access – 28%. Also the speed of the broadband access is important and in households with the speed of 30 MB/s or faster as many as 40% of employees regularly happens to work from home! It is possible that broadband access favours telework, although it is also possible that those who work from home are more likely to invest in broadband access with a higher throughput.

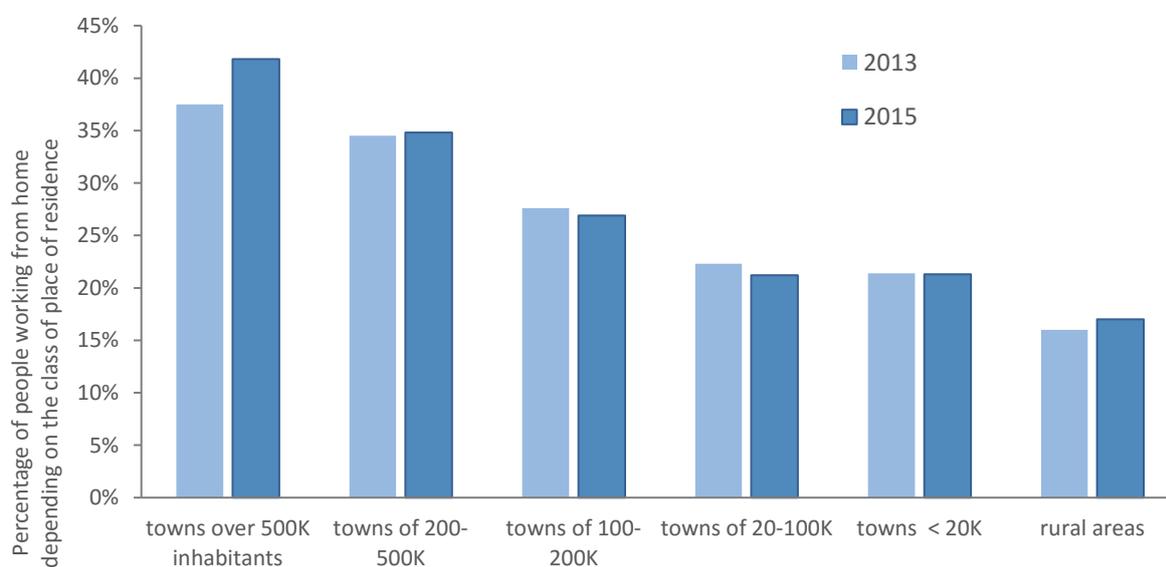


Figure 4.11.8. The use of the Internet to work from home depending on the size of the town in the period 2013-2015

The importance of broadband speeds is connected with the fact that telecommuting is much more popular among employees who live in the largest towns than those from rural areas and small towns. The difference is more than twice as many respondents. Thus, though telecommuting potentially could be a way to solve the problems of unemployment in areas outside the large towns, this potential remains still untapped. This is the effect of both infrastructure problems and poorer Internet access quality in small towns, but also, and perhaps even primarily, lower competences of users from such areas (Batorski, 2015).

People who work from home using their home computer and Internet access clearly devote more time to professional work. Both in 2013 and 2015 they worked an average of about an hour a week more than other employees. One wonders whether these differences do not result from other factors, such as for example the type of work to be done than the very fact of working from home. Analysis of the changes over time, however, dispels the doubts – workers who between 2013 and 2015 started to work from home or have increased the frequency of such an activity, dedicate to work about half an hour more than they did in 2013. On the other hand, working time of those who are currently working from home less often than they did two years earlier, or do not do it at all, is now about half an hour a week shorter. These results confirm that blurring of boundaries between work and private life and taking work home reflects itself in lengthening of the time devoted to professional activity.

Taking work home can have negative consequences. People working more at home are more likely to face "expectations of their spouses, which they are not able to meet." This effect was noticeable both in 2013 and 2015. And while it requires more in-depth analysis, the results obtained suggest that working from home can result in deterioration of relations with other family members.

On the other hand, people who work from home a little more often declared higher satisfaction with work, which may result from the fact that people who are happy with their work are more likely to also work from home after hours. It is also possible that these people simply do another kind of work, which is not only more rewarding, but also easier to perform from home.

#### **4.11.5. Risk of automation**

The results presented in this article confirm that the use of new technologies generally contributes to the improvement of the users' position on the labour market. However, development of technology also has more long-term effects, namely it has influence on more structural changes on the labour market. New tools increase productivity, which may result in a reduction in the demand for work. In addition, part of the work that was previously done by people can be carried out by machines or software. This does not apply only to physical work, but to a greater extent also to mental work. This process may have significant consequences for the labour market and the emergence of the phenomenon of technological unemployment, i.e. unemployment mainly caused by technological change. This problem is not new (Gregory, 1930), especially since industrial revolution there has been a gradual change observed in the demand for professions popular earlier. However, in recent years wider concerns have also been voiced about the pace of change (Brynjolfsson & McAfee, 2011, 2014). These authors point out that in the event of rapid changes, employees do not have the time to retrain and improve qualifications – technologies are developed faster than people and institutions are able to adapt to them. Also concerns are raised about the insufficient increase in the demand for new professions and for those for which the demand is growing to offset the reduction in demand for professions that are taken up by machines and software.

Using anticipations of the new trends in the development of technologies in the next dozen years or more, it is possible to determine which professions will be most subject to automation, and consequently also the size of the group of employees that may be forced to change work. Such an analysis was conducted by researchers at the University of Oxford. Carl Frey and Michael Osborne studied the susceptibility of different professions to automation by analysing the characteristics of work in a particular profession and its complexity (Frey and Osborne, 2013). For this purpose they used an American Standard Occupational Classification SOC and O\*NET, which contain precise characteristics of professions, ways of conducting work in these professions, necessary competences and other information characterizing the work (O\*NET online). Frey and Osborne established the risk of automation for more than 700 professions. Similar analysis were carried out by Bitner, Starościk and Szczerba (2014), however they used less detailed classifications of professions. Therefore, in this paper we use the probabilities of automation assessed by researchers from Oxford, transcoded from the SOC classification on the ISCO-08 applied in Poland, by assigning professions divided according to the 4-digit ISCO to the corresponding SOC professions, which already had probability of automation assigned to them. In the case where a single ISCO code had more than one match in the SOC code, an average probability of automation for those professions was calculated, weighted by the occurrence of a given profession (Batorski & Błażewicz, 2015). The advantage of this approach is the application of the International Standard *Classification of Occupations* ISCO-08 at a high level of detail, using four digits. This allows for accurate analysis of the significance of the risk of automation for individual people studied. As well as more precise determination of the threat of automation which in the aggregation to a smaller number of professional groups, as a result of averaging is underestimated.

The risk of automation of profession must be interpreted in terms of probability of how fast a given profession can be automated. However, they should not be interpreted as the percentage of workers in a given profession who will lose work. Moreover, it should be remembered that even in the case of professions with a high level of employment, full automation does not take place overnight and in the case of slow continuous changes, adaptation of the population to the conditions must be taken into account. Risk factors of automation are used first of all for diagnosis and comparative purposes.

High values of the risk of automation are indicated by professions, which involve many repetitive actions and can be replaced by computers or machines. Professions most at risk of automation are office services clerks, specialists for finance and statistics, office equipment operators, money flow clerks. Subsequently: selected groups of vendors and intermediate financial personnel or other office services clerks. Whereas, the least affected professions are teachers, especially at lower levels of education, managers in various industries, doctors and dentists. Little risk concerns also representatives of the professions associated with ICT, especially with regard to the processing of data, such as database and computer networks specialists, mathematicians and statisticians. On the other hand, the group which also does not have to worry about the fall in demand due to the development of new technologies are people conducting artistic, cultural and culinary activities.

Previous studies showed high level of technological unemployment in Poland (Batorski, Błażewicz, 2015), higher from the levels observed in the United States (Frey & Osborne, 2013) or in the United Kingdom. Frey and Osborne (2013) have distinguished professions at high risk of computerization and automation as those, in which the risk factor exceeds 0.70, and respectively professions at low risk (less than 0.3). According to this classification, almost 47% of workers in the United States are working in professions that are vulnerable to automation and only one third works in the professions, in which the risk is small (Frey and Osborne, 2013).

In the first half of 2015, one third of the employees in Poland worked in professions at low risk of automation (probability less than 0.3), while in the professions at high risk (probability above 0.7) 46% of working people (Figure 4.11.9). These percentages are almost identical to those from the United States five years earlier. These results indicate that, similarly as in other countries, a big part of the currently employed are working in occupations, which in their current form do not have good prospects for development in the next 10-20 years. This does not mean that all these professions will disappear, but the demand for them can drastically decrease, ways of conducting them could change so much that they will require completely different competences (e.g. automated production supervision).

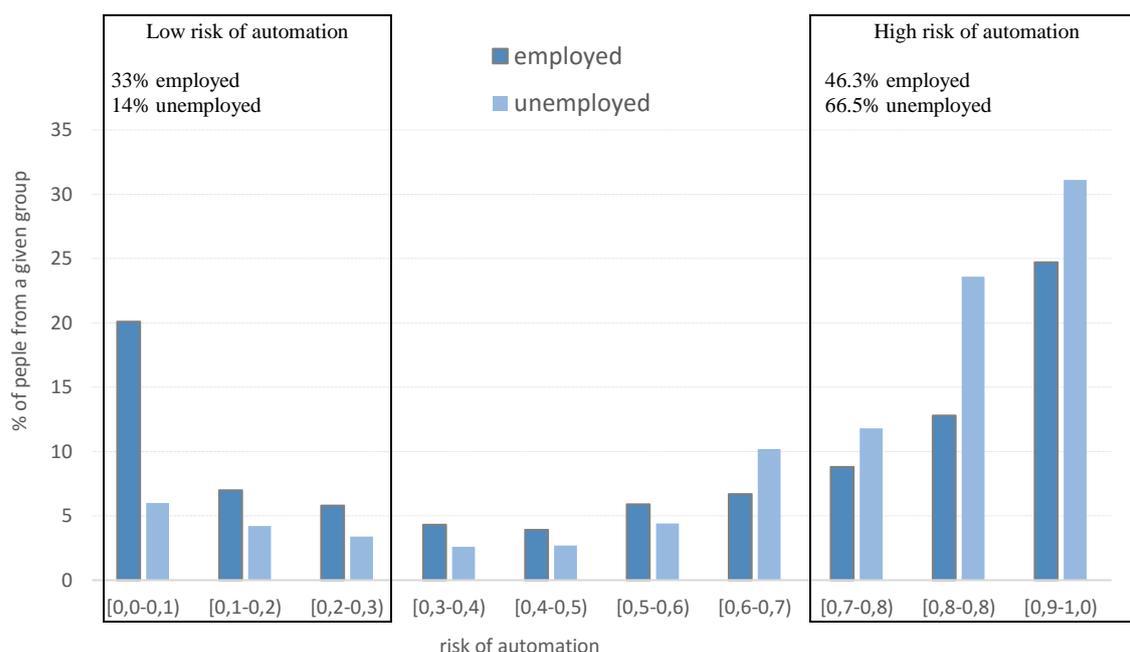


Figure 4.11.9. Structure of the employed and unemployed population according to the risk of automation in 2015.

Figure 4.11.9 also presents the structure of the groups of people unemployed according to professions they worked in recently. As it can be noticed, distributions for the unemployed and employed differ much. Much less of the unemployed worked in professions of low risk of automation (14%) and almost two thirds represent professions of high risk of automation. These results show that the relation between risk of automation and unemployment can be significant. Already now the effects of computerization and robotization can be seen on the labour market.

#### 4.11.6. Does automation result in an increase of unemployment?

Unemployment is much higher in professions for which there is greater risk of automation. According to data from the Social Diagnosis 2015, in professions at low risk of automation real unemployment amounted to 4%, in the group of professions at moderate risk of automation – 8% and in the professions at high risk up to 12%. A detailed dependency distribution is shown in Figure 4.11.10.

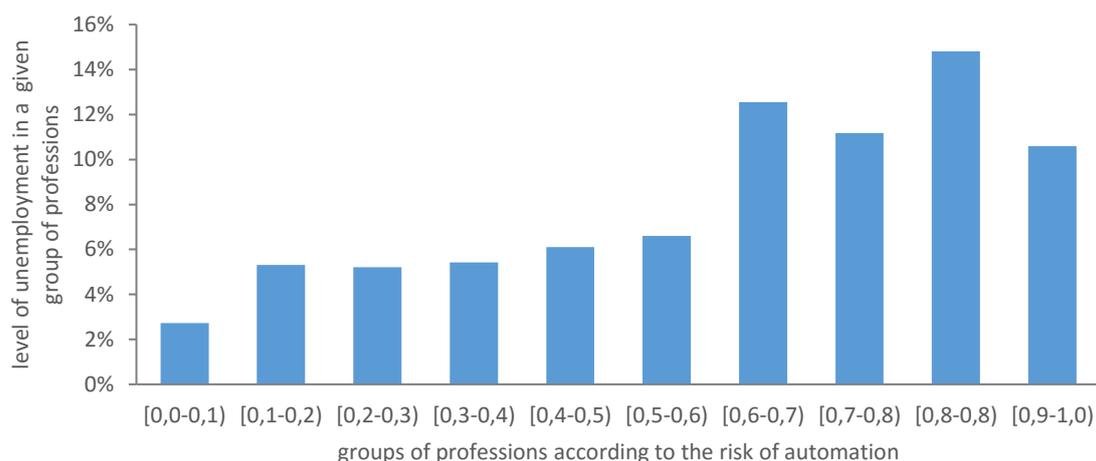


Figure 4.11.10. Unemployment level in professions depending on the risk of automation in the first half of 2015 in Poland.

Higher probability of automation in a given profession does not only mean a greater percentage of people out of work, but also relatively less chance of finding work. As Batorski and Błażewicz (2015) showed, the higher the risk of automation, the less work offers in this profession in relation to the number of the unemployed. As a result unemployed people in professions at high risk of automation have much less chances of finding work than unemployed representatives of professions with low risk of replacing humans with machines and software.

The above shown simple relationship of unemployment to the risk of automation may be apparent and be the result of other factors. Therefore, in order to verify whether automation indeed results in unemployment, analyses of changes occurring over time were carried out. This was possible thanks to the panel study of Social Diagnosis, in which the same people are surveyed every two years. Analysis of panel data from the years 2013-2015 shows that people working in occupations at low risk of automation have indeed more chances of maintaining employment than representatives of professions at high risk of automation. (Figure 4.11.11). In professions at high risk of automation in 2015, 89% of those who had worked two years earlier worked and 4% were unemployed. Whereas, among people working in professions, which are not at risk of automation in 2013 almost 93% still had worked and there were only 2% of people unemployed.

The risk of automation also has impact on the chance of finding work. People who in 2013 were unemployed, if they work in a profession at low risk of automation, had much more chances of finding employment than those who represent professions at high risk of automation. 63% of people unemployed in 2013 in the so called "safe" professions and 46% of people in professions at high risk of automation worked in the spring of 2015. People in professions more at risk of automation were much more likely to remain unemployed (Figure 4.11.11).

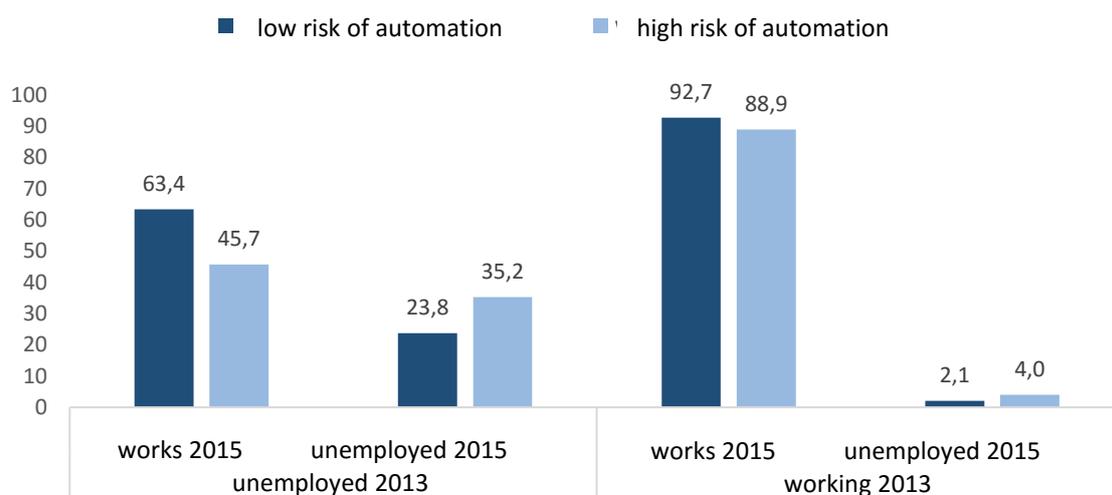


Figure 4.11.11. Flows between the unemployed and working according to the risk of automation in the period 2013-2015.

The so far presented changes occurring over time may be not only the effect of automation, but also other differences between the people working in professions with low and high risk of automation of work. To exclude the impact of factors such as age, education, gender, size of the place of residence, etc., statistical analyses have been carried out. Logistic regression analyses of the determinants of unemployment in 2011, 2013 and 2015 show that working in a profession at a greater risk of automation was associated with a significantly greater risk of unemployment. These dependencies are stable in the period 2011-2015. This means that part of unemployment in Poland is linked to the development of new technologies and automation of work. This does not mean, however, that new technologies have only negative impact on the number of working posts. In fact, Internet usage was also taken into account in the analyses. As it has been shown above, the use of the web has positive implications for employment opportunities among people professionally active. People who use the web are less under the threat of lack of work. Moreover, this effect is relatively more important than the risk of automation in a profession. In other words, a person who works in a profession at high risk of automation, but uses the Internet is less likely to be unemployed than someone who works in a profession at low risk of automation, but does not use the web. Internet usage significantly increases the chances of finding employment and also the likelihood of maintaining work for people who are already employed. These results are evidence of the positive effects of the use of the Internet, but at the same time also of the reinforcement of the phenomenon of digital exclusion (Batorski, 2009).

#### ***4.11.7 Labour market adjustment to the changes occurring***

The analyses presented above allow to conclude that the automation process results in unemployment in Poland. However, this is not sufficient to fully determine to what extent this phenomenon is a problem. One of the important questions is whether technological unemployment is of temporary character and people losing their work are quickly finding employment elsewhere or is it of structural and more long-lasting nature. The analyses carried out show that among people unemployed as well as among people professionally inactive there are clearly more representatives of professions at high risk of automation. Almost two-thirds of them are representatives of endangered professions and only 14% of them are people in professions at low risk of automation. However, if we look at the duration of unemployment, it turns out that it is similar for the unemployed in professions with varying degrees of risk of automation.

Another important issue is the emergence of new professions and an increase in the demand for workers in other professions (e.g. IT specialists). Although demand for work in many professions may decrease, new previously non-existent professions emerge all the time and additionally there is an increasing demand for some of the existing professions. So it is worth considering to what extent the processes of fall in demand for work in some professions are associated with the growth in demand for work in other professions. In this context, it is also important how quickly people professionally active adapt to the changes occurring on the labour market. The analysis of changes of the profession practiced, which are taking place in Poland in recent years, should, however, be started with a provision that this is not a full picture of the changes occurring. Because we only analyse flows between professions without taking into account the changes that should occur in this classification. There are two phenomena – first of all, new professions emerge that are classified together with others according to the existing divisions. Secondly, we do not include changes to the ways in which professions are practiced. A profession of the same name could have been practiced differently a few years ago than it is practiced today. Thus, adaptation of workers may also occur within a single occupation.

Changes in the structure of the demand for work in a variety of professions result in changes in the demand. There is a gradual adaptation of people professionally active to the demands of the labour market. This is both the result of individual behaviour and changes in the profession of people working, as well as the result of generational renewal.

People professionally active relatively frequently change the profession practiced. These changes occur both on the occasion of the change of place of work as well as by changing the position in the workplace. Analysis of data from the Social Diagnosis panel shows that within a period of two years (2011-2013 and 2013-2015) about one third of professionally active people changes work (also including the unemployed). Changes to professions at lower risk of automation are a bit more frequent. In this way a gradual adjustment of the labour market to the automation process takes place.

It is worth noting that this type of adjustment seldom occurs in such a way that people losing their work in the profession, which requires small change of qualifications, re-train and earn new work that requires high competences. Retraining of a worker to a programmer is not simple and the process of change, consequently, has a more gradual character. For specialist professions, in which there is a deficit of workers, generally people from other related professions re-train. Thus, these changes do not involve the necessity of dealing with a very large competence gap. At the same time, these people vacate their previous working posts, which can be easier taken over by people who have lost their work.

Another type of adjustment mechanism is the change resulting from the fact of successive generations entering and older people leaving the labour market. Young people who are just starting to work are often more adept at

using new technologies and are better prepared for professions, which are more difficult to automate. People retiring are more likely to work in professions the popularity of which is already declining. These changes are also empirically observable, but their scale is also not large. Moreover, there are exceptions. Between 2013 and 2015, among people entering the labour market there were less people who came to work in professions at high risk of automation than among those who were finishing their professional career. Such cases may, however, be related to the current situation on the labour market. Depending on the conditions, the first work can be far from actual competences of graduates.

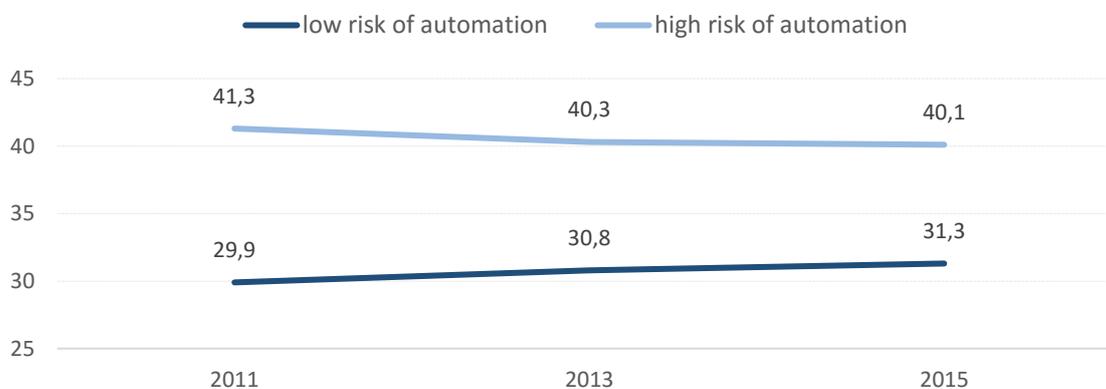


Figure 4.11.12. Change in the share of professions at low and high risk of automation in the structure of employment in the period of 2011-2015.

The result of these processes is a gradual change of the structure of the labour market. The number of people working in professions at low risk of automation increases and the number of those who work in professions at high risk of automation is decreasing. Figure 4.11.12 shows the changes occurring in recent years. It is true that these changes are not major, but they are evidence that adjustment of the labour market occurs and although the phenomenon of technological unemployment is a fact, it is partially compensated by adapting workers and changes of the professions practiced.

#### 4.11.8. Summary

The development and popularization of new technologies has a significant influence on the labour market. They allow for increasing productivity and improving efficiency of work, and sometimes also for replacing work previously done by people with work done by software and machines, which along with the decreasing costs of technology allows to also decrease the costs of production and services. Such a situation is favourable for people with appropriate competences regarding the use of new technologies. People who can use the Internet in a more universal and effective way more often get promoted, change work for a better one and their income is growing faster. Internet users find it also easier to find work as there are more and more work offers published only on the web and the ability to use Internet is one of the conditions of employment. However, at the same time the situation of people who do not have sufficient competences or work in professions for which the demand is falling is worsening, because with automation the methods of working in their professions are changing and workers are less needed. As it has been shown in this article, the processes of digitalisation and robotization of professions will be of a crucial importance in the next few years.

The effects of automation will be a serious problem for the labour market no matter if the demand for work will be growing or rather changing fast with new professions, demanding different competences, replacing the old ones. Currently, there are no resources necessary for swift retraining of big groups of people and the ability to retrain is at a very low level among Polish employees (Strzelecki, Saczuk, Grabowska, & Kotowska, 2015). There are various solutions to the problem of the decreasing demand for work. Basic threat is noticed in the negative effects of decreasing purchasing power of the society (Brynjolfsson & McAfee, 2014). After all, it is consumption which is one of the key elements influencing GDP.

Finally, it should be noted that the changes described in this article are occurring in the time when unemployment rate in Poland is decreasing. The problem of technological unemployment would have been much worse if not for the other factors that improve the economic situation of Poland – from economic situation of Poland's commercial partners up to the inflow of EU structural funds. It is possible that if the situation on the market was worse, the phenomenon of digital unemployment would have also worsened.

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## 5. INDIVIDUAL QUALITY OF LIFE AND LIFESTYLE

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### Abstract

*The article concerns analysis of various aspects of life: psychological well-being, individual finances, health, life stress, strategies of coping, social support, personal traits and lifestyle, including, for example, the system of values, religious practices, auto destructive behaviours (alcohol abuse, smoking, drugs) and crime. Main assumptions of the onion theory of happiness are verified.*

### 5.1. General psychological well-being

The choice of type of instrument to assess subjective/psychological well-being depends to a considerable extent on the model of the quality of life one employs, in general - hedonic or eudaimonic (Czapiński, 2004a). Generally, within the hedonistic model adopted in the Diagnosis one can differentiate between two basic dimensions of psychological well-being: the emotional (the balance of emotional experiences – form the presence or over a longer period of time or separately, the positive and negative affect) and the cognitive (evaluation of one's own life at present, in the past and in the future) (cf. Diener, 1984; Veenhoven, 1994). The hedonistic psychological well-being model is sometimes extended to include satisfaction with particular domains of life (domain satisfactions, Diener, Suh, Lucas, Smith, 1999). The purely emotional aspect was disregarded within this project. An indicator that comes closest to that dimension is the four-degree scale of sense of happiness (Annex 1, Individual questionnaire, question 34). The scale of depression symptoms (question 52) also includes items related to emotions – moods and motivations. The cognitive dimension of general psychological well-being was measured by mean of two scales: assessment of life-as-a-whole (question 3), and of the past year (question 57). In addition, in line with the “onion theory of happiness” (Czapiński, 1992, 2001a, 2004b, 2011a), two indicators of yet another dimension of psychological well-being were taken into account; i.e. of the will to live (suicidal tendencies and the desire to live, questions 36 and 40), which conditions the person's long-term resistance to stress in life<sup>50</sup>.

Most indicators of general psychological well-being were in the form of simple one-question scales. The scale of depression is an exception, as it comprises 7 items-symptoms, taken from the well-known and 21- item Beck's Depression Inventory (Beck et al., 1961), often applied in psychological and epidemiological research. The choice of those particular items was motivated by psychometric considerations; in previous studies they had shown the greatest correlation with the objective determinants of living conditions (especially with age - cf. Czapiński, 1996, 1998, 2001b). The sum of responses to all seven questions was an indicator of depression. It could be treated as a measure of the degree of psychological inadaptability, which reflects the inefficiency of coping with problems or stress in life. Under no circumstances should the indicators based on this scale be interpreted as a diagnostic of the level of clinical depression disorders in the population<sup>51</sup>.

#### 5.1.1. Data for whole samples

The assessment of life-as-a-whole was found to have continued to improve (Table 5.1.1., Figure 5.1.1.). In that regard we are on 15<sup>th</sup> place in the EU and we are closer to the countries of North-West Europe than to the Southern Europe. We are ahead of the countries such as Italy, Portugal, Spain, all the countries of the old Eastern bloc, except Slovenia, and especially Greece, where, according to Eurostat, the percentage of people feeling positive about their lives is almost half the size compared to Poland (Figure 5.1.2.). It is not only influenced by the increasing wealth of the Poles as we still belong to the poorest country in the EU. Our GDP per capita according to the purchasing power parity expressed in US dollars, and based on the 2011 valued, placed us in 2014 on the sixth position from the end in European Union (Figure 5.1.3.). The percentage of those who evaluated their entire life as at least good increased considerably (by 2.8 percentage points as compared to 2013, and by more than 24 percentage points as compared to 1991)<sup>52</sup>. This result is the highest in the entire period covered by research and more than twice as high as in 1993, which was the worst in this respect. It is also worth stressing that starting from 1994 a strong feature has been an improvement in the assessment of life-as-a-whole. Also the percentage of very happy people rose compared to 2013, and that change is statistically significant (Table 5.1.2. and Figure 5.1.4.).

The value of two indicators of the will to live - the most important aspect of psychological well-being - also slightly changed and is the highest in the entire period from 1991 (see: Czapiński, 1998) (Tables 5.1.2. and 5.1.3.).

<sup>1</sup> These indicators are analysed in detail in Czapiński (Czapiński (2011a).

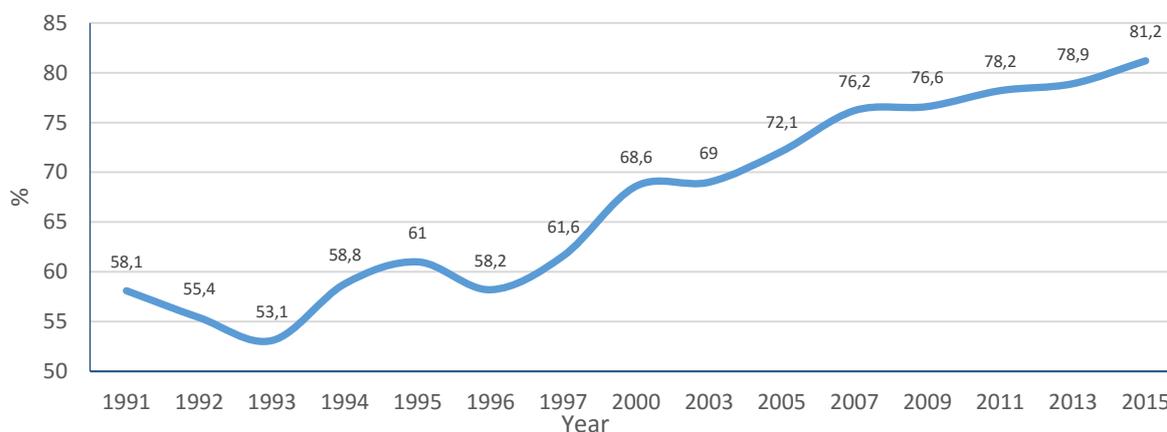
<sup>51</sup> In Poland, the correlation between our depression indicator and age is very high and ranges 0.60 to 0.70.

<sup>52</sup> The comparison of the average valued in this scale between 2013 and 2015 for the panel sample proves that the increase of the life evaluation is statistically significant ( $t=8.546$ ,  $p < 0.000$ ).

The symptoms of depression were like two years before the least frequent in the entire period under examination (Table 5.1.4. and 5.1.5.).

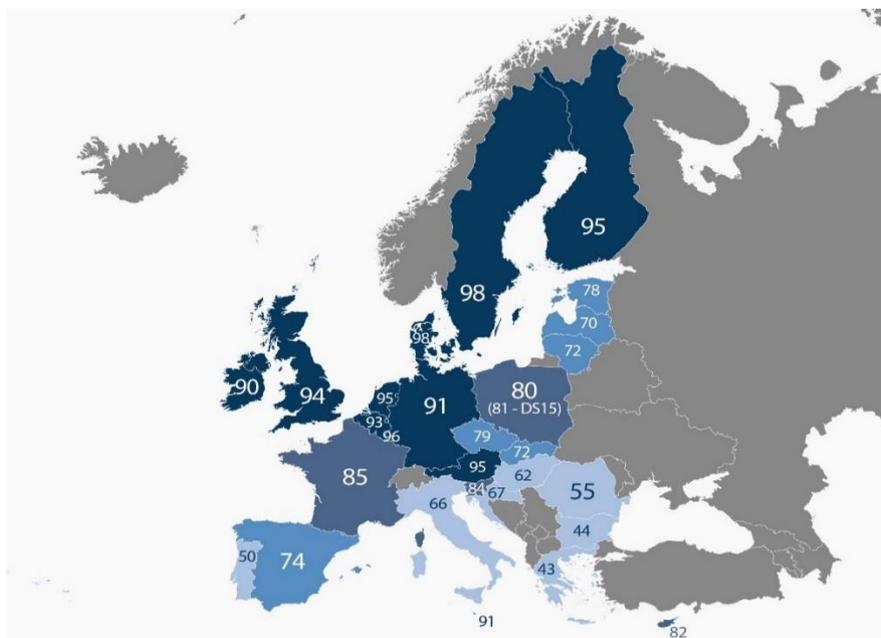
Table 5.1.1. Percentage distribution and average median for answers to the question “How do you perceive your entire life?” and the size of samples between 2000-2015.

Answers	2000	2003	2005	2007	2009	2011	2013	2015
1. Delightful	2.9	3.1	2.9	3.7	4.2	3.9	4.2	5.3
2. Pleasing	30.2	31.6	34.2	37.1	38.8	40.0	40.8	42.3
3. Mostly satisfying	34.0	34.6	35.8	35.6	33.9	34.3	33.9	33.9
4. Neither good nor bad	24.1	22.0	19.5	17.1	16.3	16.0	15.5	13.7
5. Mostly dissatisfying	7.0	6.6	6.1	5.3	5.3	4.8	4.6	4.0
6. Unhappy	1.0	1.2	1.1	0.8	1.0	0.7	0.7	0.6
7. Terrible	0.8	0.7	0.4	0.5	0.5	0.3	0.3	0.2
N	6635	9597	8791	12621	26133	26403	26233	22199
Average	3.08	3.04	2.97	2.87	2.85	2.81	2.79	2.72



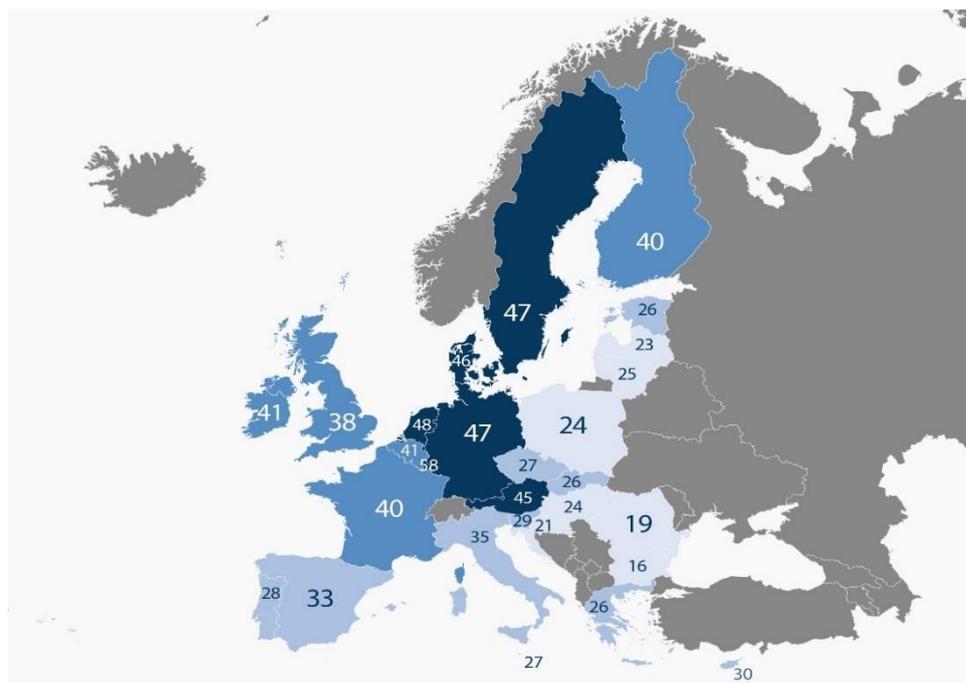
Source: 1991-1997 — Czapinski, 1998; 2000-2015 — Social Diagnosis.

Figure 5.1.1. Percentage of respondents who positively view their life (as great, successful or good enough).



Source: Eurobarometer spring 2014 and Social Diagnosis 2015

Figure 5.1.2. Percentage of persons who view their lives positively in 28 countries of EU.



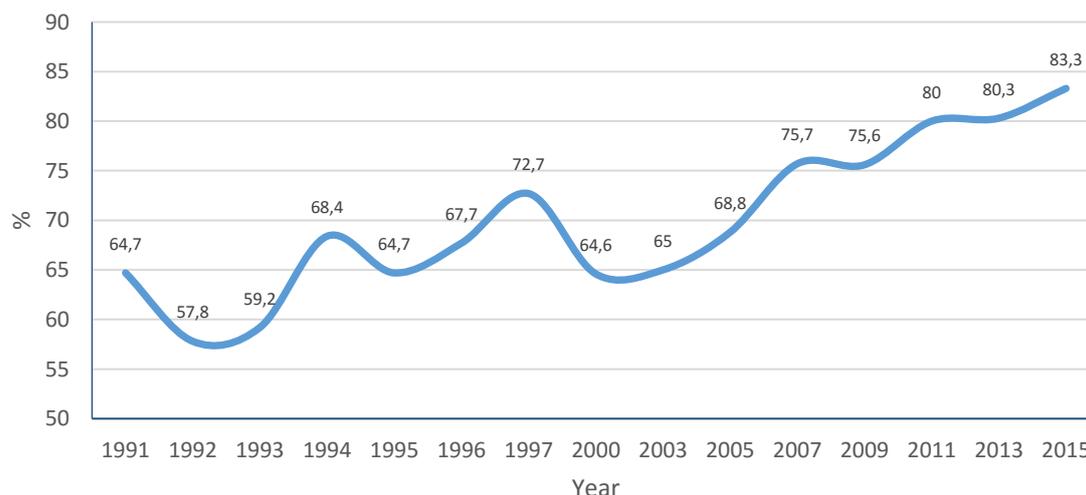
Source: <http://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD>

Figure 5.1.3. GDP per resident in thousands of USD according to the parity of the purchasing power in 28 EU countries.

Table 5.1.2. Percentage distribution for answers to “Taking everything into account, how do you perceive your life at present – could you say you are:” between 2000-2015.

Answers*	2000	2003	2005	2007	2009	2011	2013	2015
Delighted	5.6	5.4	6.3	7.9	9.3	9.8	10.2	11.9
Pleased	58.9	60.0	63.5	68.1	66.7	70.5	70.3	71.7
Not very happy	35.6	30.2	27.0	21.8	21.6	18.1	17.9	15.2
Unhappy		4.4	3.2	2.1	2.4	1.6	1.6	1.3

\* Respondents aged 16+.



Source: 1991-1997 — Czapiński, 1998; 2000-2015 — Social Diagnosis.

Figure 5.1.4. Percentage of respondents aged 18+ which were happy and quite happy between 1991 and 2015.

Although the changes in the assessment of life-as-a-whole and in the sense of happiness are significant and have shown an extremely consistent growth trend since 1994, two other indicators of psychological well-being - suicidal tendencies and the desire to live - were subject to considerably smaller and non-systematic fluctuations over that period. This is consistent with the fundamental assumption of the “onion theory of happiness” (Czapiński,

1992, 2001a, 2004b, 2011a). At the deepest level of well-being - the will to live, reflected in suicidal tendencies and the desire to live - there is an internal stabilisation mechanism (called the attractor of happiness), which makes that level much more resistant to the changes in the objective aspects of life as compared to the more surface level of general subjective well-being, measured by the assessment of life-as-a-whole and of the past year, and by the sense of happiness. The empirical test for this assumption is discussed in further detail in section 5.4.2.

Table 5.1.3. Percentage distribution and median average of answers to the question “At present, how strong is your will to live?” between 200-2015.

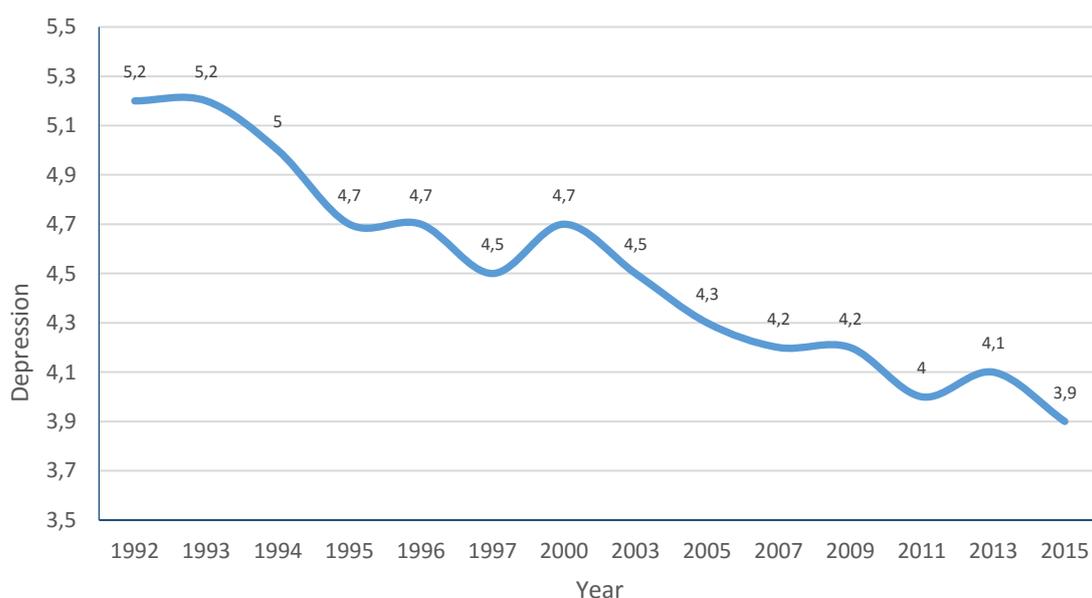
Answers*	2000	2003	2005	2007	2009	2011	2013	2015
I don't want to live at all	1.0	0.9	1.0	0.5	0.6	0.5	0.4	0.4
2	0.8	0.7	0.6	0.6	0.6	0.4	0.4	0.4
3	1.4	1.5	2.1	1.3	1.3	1.0	0.9	0.7
4	2.5	2.2	2.7	2.1	2.0	1.6	1.7	1.1
5	5.1	6.9	6.7	6.7	6.1	5.2	5.1	4.3
6	9.2	6.3	6.9	6.8	6.7	5.5	6.0	5.2
7	8.8	9.0	9.5	9.7	9.5	9.8	9.7	9.2
8	11.7	14.4	15.9	15.9	16.5	16.5	17.0	17.6
9	15.1	13.4	14.3	14.6	15.1	17.3	17.4	17.6
I want to live very much	44.4	44.5	40.6	41.8	41.7	42.2	41.3	43.5
Average	8.33	8.32	8.21	8.33	8.35	8.48	8.46	8.59

Table 5.1.4. Percentage distribution of answers to the question “In the recent months, how often have you been depressed and thinking about suicide?” between 2000-2015.

Answers	2000	2003	2005	2007	2009	2011	2013	2015
1. Very often	1.2	1.1	0.7	0.7	1.0	0.6	0.7	0.5
2. Often	3.0	3.2	2.6	2.5	2.2	2.2	2.3	2.1
3. Rarely	9.9	10.1	9.7	9.3	8.8	8.7	8.3	7.3
4. Never	85.9	85.6	87.0	87.6	88.0	88.6	88.7	90.0

Table 5.1.5. Average incidence of symptoms of depression (for seven items) between 2000-2015.

Year	2000	2003	2005	2007	2009	2011	2013	2015
Symptoms	4.73	4.46	4.32	4.20	4.15	4.02	4.07	3.88



Source: 1992-1997 — Czapiński, 1998; 2000-2015 — Social Diagnosis.

Figure 5.1.5. Average intensity of depression symptoms between 1992 and 2015.

### 5.1.2. Data for panel samples between 2011-2015

In order to show how indicators of general psychological well-being change in time; i.e. with the age of respondents and with all the changes in their lives, we need to consider panel samples (the same respondents) from two waves or more. The results of comparisons for selected well-being indicators from different waves are shown in Table 5.1.6. The statistically significant increase of the depression indicator in the panel sample in comparison with the data from previous editions of the Diagnosis is easily explained by the extremely strong relationship between depression and age<sup>53</sup>. In 2015, respondents were four years older than in 2011, and this is the only reason why they showed more symptoms of depression than in 2011.

Table 5.1.6. Comparison of values of general psychological well-being indicators for 2011 and 2015 and 2013 and 2015 in panel samples (the same respondents).

Variable	Study year	Average	Standard deviation	Average difference	t	Degree of freedom	Significance level	Correlation
Depression	2013	4.22	4.086					
	2015	4.26	4.151	-0.043	-1.702	15017	n.s.	0.719*
	2011	4.10	3.857					
	2015	4.35	4.134	-0.250	-8.304	11202	0.000	0.685*
Desire to life	2013	8.50	1.776					
	2015	8.55	1.720	-0.054	-3.786	15341	0.000	0.480*
	2011	8.51	1.776					
	2015	8.56	1.718	-0.055	-3.156	11419	0.002	0.432*
Suicide thoughts	2013	3.86	0.438					
	2015	3.87	0.429	-0.008	-2.001	15328	0.045	0.272*
	2011	3.86	0.437					
	2015	3.87	0.432	-0.009	-1.903	11410	n.s.	0.258*
Life evaluation	2013	2.76	0.980					
	2015	2.75	0.958	0.015	2.015	15360	0.044	0.539*
	2011	2.80	0.986					
	2015	2.76	0.961	0.044	4.819	11430	0.000	0.499*
Sense of happiness	2013	2.11	0.562					
	2015	2.09	0.548	0.020	4.191	15353	0.000	0.440*
	2011	2.12	0.559					
	2015	2.09	0.548	0.021	3.678	11432	0.000	0.379*

\* p < 0.000

The assessment of life-as-a-whole improved as compared to 2011 and 2013, and the sense of happiness was greater in comparison with both 2011 and 2013.

As mentioned before, the onion theory of happiness (Czapiński, 1992, 2001a, 2004b, 2011a) stipulates that at the deepest level of the will to live, psychological well-being should be the most stable over time independent of age, and should return to a constant level after deviations caused by negative events in life. And indeed, two measures of the will to live - the desire to live and suicidal tendencies - were subject to the least changes in time.

We may therefore say that Poles' psychological well-being has increased considerably over recent years, and that it is not (just) a generational change, because it occurred also in the same individuals despite their growing old and the increase in the depression indicator strongly correlated with age.

## 5.2. Satisfaction with particular areas and aspects of life

According to the onion theory of happiness (Czapiński, 1992, 2001a, 2004b, 2011a), the most peripheral level of well-being, in which a man indicates most realistic evaluation, is the dimension of domain satisfactions; i.e. satisfaction with particular areas and aspects of life. This year, the scale of domain satisfactions covered 16 different areas and aspects of life, exhausting nearly the entire scope of interests and activities of an average person (Annex 1, individual questionnaire, question 63). These may be divided into:

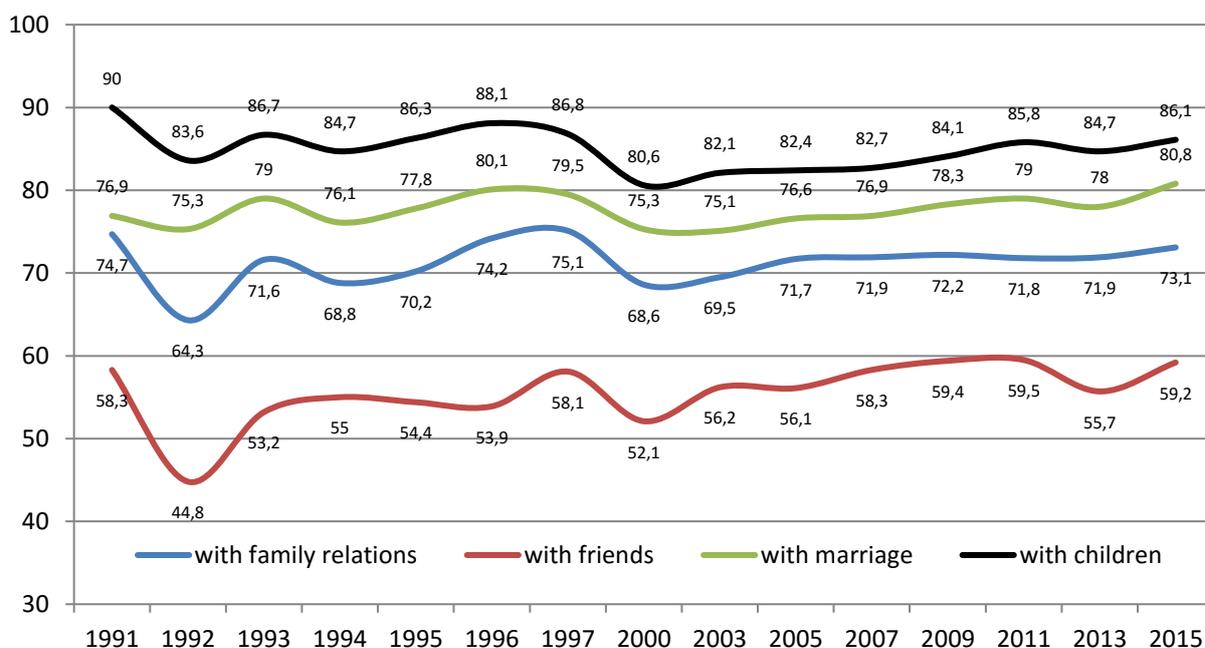
- social aspects (satisfaction with relationships with the loved ones in the family, with relationships with friends, with marriage, children),
- material aspects (satisfaction with the financial situation of the family and with housing conditions),

<sup>53</sup> In five studies from different parts of the world, which covered a total of 39 000 individuals, it was established that young people are much more at risk of experiencing at least one episode of depression than older generations (Nesse and Williams, 1994). This is explained, inter alia, by civilisation processes (the risk of depression grows with the level of economic development of the country) which affect the psyche of the younger generations much more strongly than that of the older people, who grew up in the "age of fear" after the Second World War.

- environmental aspects (satisfaction with the situation in the country, the place of residence, the level of safety in the place of residence),
- health-related aspects (satisfaction with one’s health condition), and
- other aspects, related to self-assessment (satisfaction with one’s own achievements, prospects for the future, educational level).

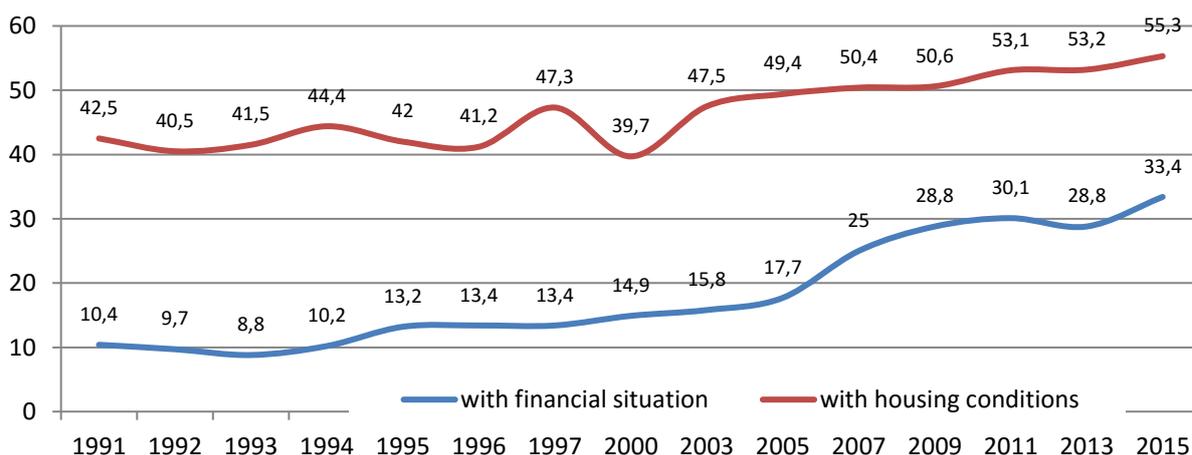
### 5.2.1. Data for entire samples

After a slight decrease in 2013, satisfaction with a majority of aspects of life is increasing and is the highest in 2015 since 1991 (Figure 5.2.1.-5.2.5.).



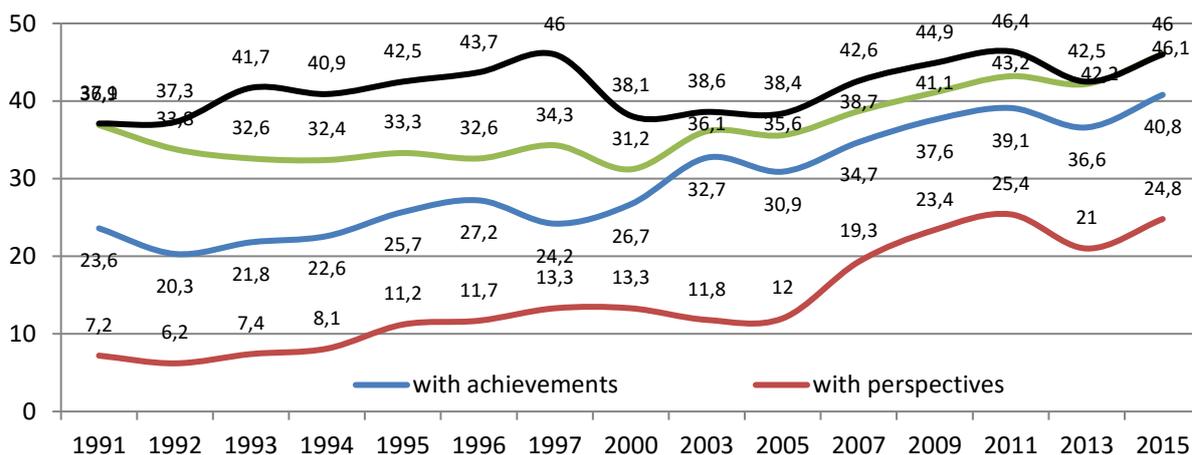
Source: 1991-1997 — Czapiński, 1998; 2000-2015 — Social Diagnosis.

Figure 5.2.1. Percentage of people aged 18+ “very satisfied” or “satisfied” with relations with the closest family members, acquaintances (group of friends), their marriages and children between 1991 and 2015.



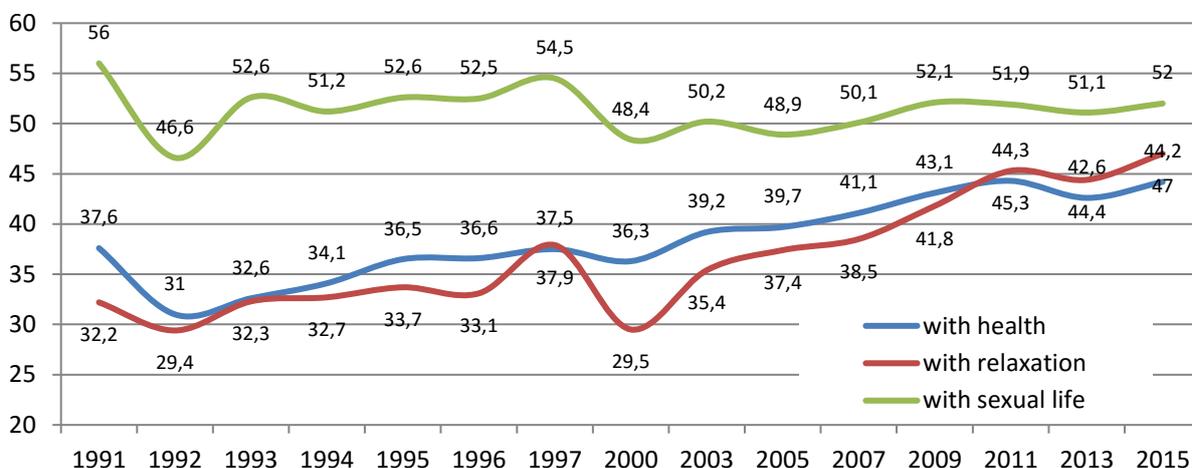
Source: 1991-1997 — Czapiński, 1998; 2000-2015 — Social Diagnosis.

Figures 5.2.2. Percentage of people aged 18+ “very happy” or “happy” with their family's financial situation and housing conditions between 1991 and 2015.



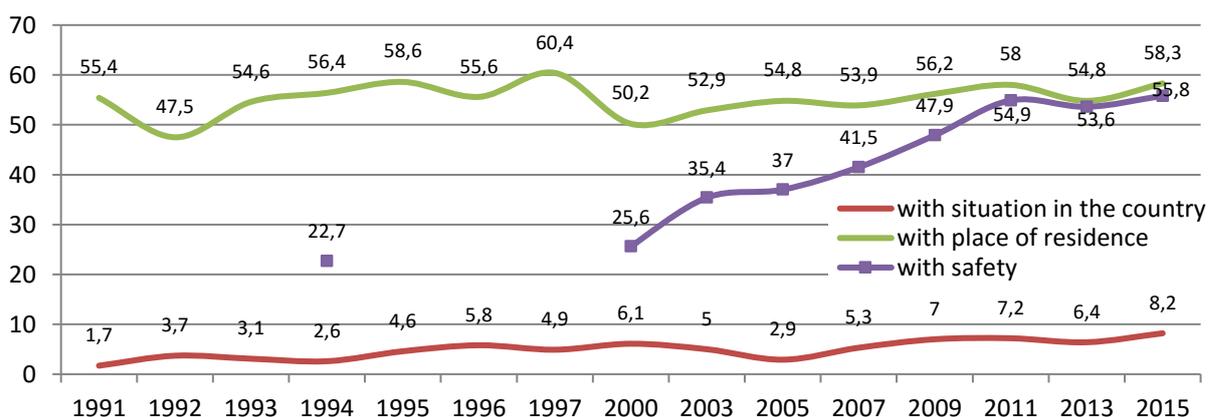
Source: 1991-1997 — Czapiński, 1998; 2000-2015 — Social Diagnosis.

Figure 5.2.3. Percentage of people aged 18+ “very satisfied” or “satisfied” with their own achievements, future perspectives, education and work between 1991 and 2015.



Source: 1991-1997 — Czapiński, 1998; 2000-2015 — Social Diagnosis.

Figure 5.2.4. Percentage of people aged 18+ “very satisfied” or “satisfied” with their state of health, leisure time and sex life between 1991 and 2015.



Source: 1991-1997 — Czapiński, 1998; 2000-2015 — Social Diagnosis.

Figure 5.2.5. Percentage of people aged 18+ “very satisfied” or “satisfied” with the situation of the country, place of residence and its state of security between 1991 and 2015.

The indicators of life satisfaction (with relations with relatives, with marriage, children, colleagues, health, leisure time, sex life and place of residence) indicate to three crisis periods in lives of Poles – the first in 1992, the second in 2000 and the third in 2013.

### 5.2.2. Panel sample data

The comparison of domain satisfactions in panel samples in the years 2011-2015 and 2013-2015 shows that in the longer horizon of four years, statistically significant increases occurred in 4 domains, decreases occurred in ten of them and no changes were observed in two (Table 5.2.1.). Over the past two years there were no positive changes, 12 negative ones and there was no change in respect of four types of satisfaction. The greatest decrease was observed in respect of the future prospects, the situation in the country, the sexual life, work, place of residence and relationship with colleagues (friends). In the past two years there were no changes in satisfaction with relationships with close family members (even though there was a decline in satisfaction with children and marriage), own educational level, own housing conditions and own family financial situation (despite the fact that the actual income of households declined in that period by 5%).

Table 5.2.1. Differences in particular domain satisfactions in panel samples in the years 2011-2015 and 2013-2015, ordered by the degree of change between 2013 and 2015 (from the most positive change to the most negative).

Satisfaction with:	2011 – 2015		2013 -2015	
	Change size	Significance level	Change size	Significance level
Situation in the country	-0.104	0.000	0.223	0.000
Future prospects	-0.043	0.001	0.129	0.000
Own family financial situation	0.119	0.000	0.117	0.000
Own life achievements	0.031	0.004	0.072	0.000
Own educational level	0.094	0.000	0.071	0.000
Work	-0.001	n.s.	0.069	0.000
Place of residence	-0.016	n.s.	0.041	0.000
Own housing conditions	0.044	0.000	0.039	0.000
Relationship with colleagues (group of friends)	-0.030	0.002	0.020	0.018
Manner of spending leisure time	0.000	n.s.	0.007	n.s.
Safety in place of residence	-0.021	0.041	0.006	n.s.
Children	-0.052	0.000	-0.003	n.s.
Marriage	-0.028	0.016	-0.019	0.048
Relationships with close family members	-0.005	n.s.	-0.021	0.013
Own health condition	-0.065	0.000	-0.022	0.018
Sexual life	-0.113	0.000	-0.038	0.002

NOTE: a positive number indicates a rise in satisfaction and a negative a fall; ns. - the change is statistically insignificant.

### 5.2.3. Local patriotism

The answer to the question about place of residence satisfaction may be treated as an indicator of attachment to the place where one lives, to one's "little homeland". This is all the more so as most Poles live where they were born or somewhere in the vicinity.

The results presented in Figure 5.2.6. and Tables 5.2.2. - 5.2.4. show a fall of satisfaction with place of residence. The percentage of those very satisfied and satisfied has been increasing since the beginning of the century with the exception of 2007 and 2013 and reached the highest level in 2015.

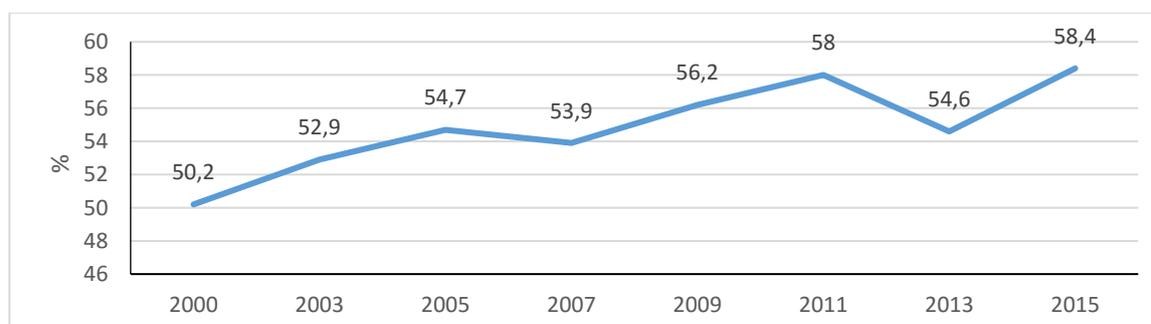


Figure 5.2.6. Percentage of residents who were very satisfied and satisfied with their place of residence between 2000-2015.

Let us see how the best opinions (“very satisfied” and “satisfied”) with the place of residence are distributed in terms of towns, residence class, Voivodship and subregions (Tables 5.2.2.-5.2.5.) in 2011, 2014 and 2015. The greatest variation concerns towns, which is understandable, since we asked about towns. The greatest number of those very satisfied with where they live may be found in Gdynia (87.2%), which by far outpaces Gdańsk (79.2%), Toruń (73.1%) and Kraków (70.5%). The smallest proportions of those very satisfied with where they live are in Wałbrzych (23.6%) and Bytom (40.7%).

Table 5.2.2. Percentage of urban residents very satisfied and satisfied with where they live in 2011, 2013 and 2015.

Rank	City	2011		2013		2015	
		%	N	%	N	%	N
1.	Gdynia	83.4	152	85.0	141	87.2	125
2.	Gdańsk	65.7	344	68.8	351	79.2	386
3.	Toruń	72.3	143	73.9	158	73.1	130
4.	Kraków	70.0	574	65.9	639	70.5	509
5.	Białystok	64.2	204	60.2	206	68.3	220
6.	Warszawa	64.9	1244	61.4	1176	67.6	944
7.	Wrocław	69.9	483	65.5	459	67.6	367
8.	Olsztyn	61.1	127	56.8	158	67.5	122
9.	Zielona Góra	70.3	75	62.1	66	66.7	78
10.	Gliwice	44.7	132	59.2	105	66.1	115
11.	Szczecin	51.4	296	54.1	296	64.9	225
12.	Bielsko-Biała	75.4	188	58.3	194	61.5	155
13.	Poznań	63.9	328	65.6	323	60.4	267
14.	Rzeszów	70.9	86	58.2	98	59.0	61
15.	Katowice	49.7	287	56.4	314	58.3	261
16.	Kielce	55.6	160	37.9	134	57.5	106
17.	Radom	41.2	182	50.0	196	56.1	164
18.	Częstochowa	52.6	190	55.2	134	55.1	78
19.	Gorzów Wlk.	58.5	120	46.4	111	53.6	72
20.	Lublin	45.8	253	53.8	251	53.3	165
21.	Opole	56.4	78	47.3	92	53.3	90
22.	Łódź	42.4	616	38.1	576	50.7	436
23.	Sosnowiec	51.1	231	52.4	230	50.3	144
24.	Zabrze	59.4	101	65.2	89	47.8	115
25.	Bydgoszcz	61.9	276	43.9	246	47.7	176
26.	Ruda Śląska	42.7	117	46.4	98	45.6	89
27.	Jaworzno	35.5	141	49.7	170	43.5	170
28.	Bytom	27.0	74	30.5	60	40.7	59
29.	Wałbrzych	23.7	177	30.7	165	23.6	90

In terms of size of place of residence, the largest towns (500.000 and more inhabitants) come out best and middle-sized towns (100 000-200 000) the worst.

In terms of Voivodship, the differences are smaller than between urban areas. Relatively the most satisfied of place of residence are inhabitants of Pomorskie (largely due to the residents of Gdynia, Gdańsk and Słupsk subregion) and the least in Warmińsko-Mazurskie.

By subregion, Słupski comes out on top at 86.6% satisfied, followed by Grudziądzki with 78% and Gdański with 77.8%. At the other extreme are Tarnowski, Przemyski and Elbląski (under 40% of satisfied residents).

The most local patriots are to be found in the large cities with the exception of Łódź and in the Pomorze region. Between 2011 and 2015, there have been marked changes in certain parts of Poland. In a small number of towns, the level of residents’ satisfaction has risen significantly (Gliwice, Gdańsk, Szczecin, Katowice, Radom, Lublin, Łódź, Jaworzno, Bytom), while in the majority of the rest, satisfaction with place of residence remained the same or decreased. The largest decline was observed in Bydgoszcz, Zabrze, Rzeszów and Bielsko-Biała. In terms of place of residence class, for the past four years the satisfaction of those living in the larger towns (200 000 – 500 000) increased. In the Voivodship section, there are no significant changes. As far as the subregions are concerned, the number of very satisfied residents most increased in percentage terms in Grudziądzki, Oświęcimski, Szczeciński, Sandomiersko-Jędrzejowski, Katowicki, Wałbrzyski and Lubelski, and most decreased in Tarnowski, Przemyski, Elbląski, Chełmsko-Zamojski, Sieradzki and Leszczyński.

Only to a certain degree does dissatisfaction with place of residence go in hand with disapproval with the activity of local council authorities (for the whole sample  $r=0.166$ , for 29 large towns  $r=0.112$ ). An indicator of disapproval with the activity of local council authorities was an answer to the question “How often over the last months have you been annoyed at the activity of your local council?” on the scale of “often”, “it happens” and

“never”. So the percentage of selected large town residents who were often annoyed is this year significantly lower than 2 and 4 years ago (8.7, 13.9 and 12.0 respectively). In this respect, Jaworzno, Bielsko-Biała and Rzeszów come out best and Częstochowa i Kraków worst (Table 5.2.6.).

Dissatisfaction with place of residence and disapproval with the activity of local authorities reflect, to a certain extent, dissatisfaction with the situation in the country or vice versa as the dissatisfaction with situation in the country reflects on the lower satisfaction with won place of residence and larger disapproval with the activities of local authorities. This is borne out by the significant correlations between these indicators (satisfaction with place of residence and the situation in the country  $r=0.226$ , for approval of local council activity and satisfaction with the situation in the country  $r=0.224$ ).

Table 5.2.3. Percentage of residents of towns of various sizes very satisfied and satisfied with their place of residence in 2011, 2013 and 2015.

Class of residence	2011		2013		2015	
	%	N	%	N	%	N
Towns over 500k residents	62.2	3230	59.1	3179	64.4	2528
Towns 200-500k	57.7	2556	58.0	2481	64.2	2100
Towns 100-200k	53.7	1978	51.7	2016	53.4	1730
Towns 20-100k	57.7	5199	54.1	5082	57.4	4313
Towns up to 20k	57.3	3408	52.5	3108	57.3	2627
Rural areas	58.1	9899	54.4	10304	57.1	8917

Table 5.2.4. Percentage of residents very satisfied and satisfied with where they live by Voivodship in 2011, 2013 and 2015.

Rank	Voivodship	2011		2013		2015	
		%	N	%	N	%	N
1.	Pomorskie	69.3	1534	67.2	1515	73.7	1449
2.	Małopolskie	63.3	2247	57.8	2316	62.9	1943
3.	Podlaskie	58.6	823	53.8	820	61.3	692
4.	Zachodniopomorskie	56.1	1177	50.7	1160	61.1	914
5.	Opolskie	62.5	711	54.5	693	60.6	711
6.	Kujawsko-Pomorskie	60.5	1407	59.2	1470	60.4	1172
7.	Mazowieckie	58.2	3622	54.8	3582	59.4	3097
8.	Dolnośląskie	55.0	2012	54.0	2010	57.9	1592
9.	Lubuskie	57.2	677	46.8	699	57.7	557
10.	Wielkopolskie	60.4	2351	57.1	2305	56.9	2173
11.	Śląskie	55.0	3313	56.1	3195	56.0	2585
12.	Świętokrzyskie	52.4	885	48.7	882	55.7	695
13.	Podkarpackie	59.9	1440	52.6	1438	55.5	1176
14.	Łódzkie	53.4	1769	49.9	1733	53.9	1397
15.	Lubelskie	55.8	1475	55.1	1469	50.8	1269
16.	Warmińsko-Mazurskie	48.0	971	42.8	986	44.3	794

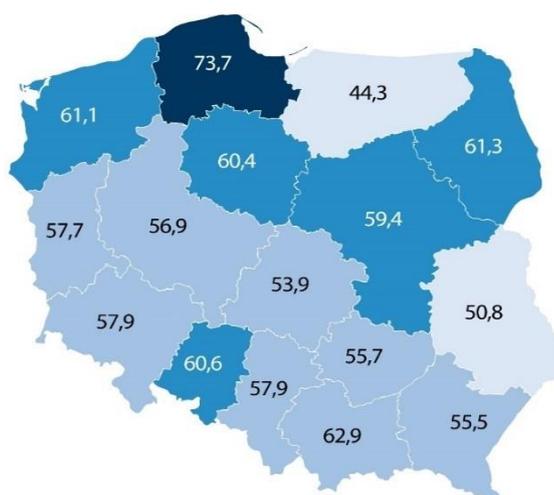


Figure 5.2.6. Percentage of residents very satisfied and satisfied with where they live by Voivodship in 2015.

Table 5.2.5. Percentage of residents very satisfied and satisfied with where they live by subregion in 2011, 2013 and 2015.

Rank	Subregion	2011		2013		2015	
		%	N	%	N	%	N
1.	Śląpski	84.5	329	74.5	339	80.6	317
2.	Grudziądzki	61.4	300	73.8	342	78.0	273
3.	Gdański	67.4	862	69.5	848	77.8	808
4.	Nowosądecki	71.3	502	68.4	469	77.3	432
5.	Suwalski	60.9	192	48.7	197	69.7	145
6.	Tyski	70.4	250	73.1	246	69.1	194
7.	Piński	72.5	138	58.7	126	67.7	133
8.	Oświęcimski	55.2	376	59.7	327	67.5	274
9.	Krakowski	65.6	1047	58.6	1126	66.6	859
10.	Białostocki	61.4	364	58.4	354	66.1	336
11.	Szczeciński	54.2	430	49.8	443	65.2	323
12.	Rzeszowski	67.9	368	56.2	356	64.4	282
13.	Nyski	60.6	284	57.9	263	63.5	290
14.	Skiernewicki	63.4	244	61.9	263	63.3	217
15.	Kaliski	59.5	524	57.9	534	62.1	517
16.	Tarnobrzeczki	61.9	810	56.6	804	62.0	652
17.	Rybnicki	57.9	325	57.2	336	61.9	268
18.	Stargardzki	59.3	297	48.1	297	61.7	214
19.	Ciechanowsko-płocki	55.6	445	56.3	461	60.9	410
20.	Krośnieński	62.9	442	52.8	457	60.3	396
21.	Częstochowski	58.7	455	55.2	385	60.2	261
22.	Sandomiersko-jędrzejowski	46.1	324	48.8	362	60.2	289
23.	Radomski	53.6	511	53.6	526	59.8	496
24.	Bydgosko-toruński	64.7	542	57.5	516	59.4	402
25.	Warszawski	60.4	2070	56.3	1923	59.2	1586
26.	Zielonogórski	61.8	375	45.5	390	59.1	325
27.	Legnicko-głogowski	53.8	306	48.5	272	59.0	292
28.	Opolski	63.8	426	52.4	431	58.6	421
29.	Gliwicki	54.1	318	62.2	251	58.6	293
30.	Wrocławski	55.9	316	55.7	327	58.5	277
31.	Ostrołęcko-siedlecki	56.2	596	50.5	671	58.4	604
32.	Poznański	59.3	712	58.8	687	57.5	561
33.	Koszaliński	55.9	451	53.6	420	57.3	377
34.	Bytomski	53.7	271	56.2	242	57.1	233
35.	Starogardzki	59.8	343	53.8	328	56.5	323
36.	Gorzowski	51.5	302	48.1	307	55.9	232
37.	Łódzki	47.9	839	42.6	754	55.4	617
38.	Leszczyński	65.3	490	52.5	455	55.3	425
39.	Jeleniogórski	59.3	427	59.4	475	54.7	376
40.	Puławski	56.1	348	65.5	346	54.7	286
41.	Lubelski	48.4	467	53.7	448	54.7	365
42.	Bielski	61.4	536	53.4	563	54.1	421
43.	Katowicki	48.2	542	55.0	543	52.7	454
44.	Kielecki	56.0	562	48.6	520	52.5	406
45.	Włocławski	56.1	565	52.3	612	51.3	495
46.	Sieradzki	61.6	272	56.2	296	51.0	204
47.	Koniński	54.5	488	57.7	499	49.5	528
48.	Piotrkowski	53.4	413	51.3	420	47.9	359
49.	Łomżyński	53.0	266	51.9	269	47.9	211
50.	Wałbrzyski	36.2	480	39.3	477	47.8	278
51.	Chełmsko-zamojski	66.2	430	55.7	442	47.8	427
52.	Elcki	44.4	151	42.1	146	47.3	110
53.	Olsztyński	44.7	431	45.7	475	47.3	378
54.	Sosnowiecki	46.2	610	49.4	625	45.9	442
55.	Bialski	50.9	230	41.6	234	44.0	191
56.	Elbląski	53.1	389	39.3	365	39.5	307
57.	Przemyski	56.4	308	58.0	288	36.6	227
58.	Tarnowski	53.3	322	41.4	394	34.9	379

Table 5.2.6. Percentage of large town residents who in the last months were often annoyed by the decisions and actions of local authorities in 2011, 2013 and 2015.

Rank	City	2011		2013		2015	
		%	N	%	N	%	N
1.	Częstochowa	17.9	190	20.7	134	16.9	78
2.	Kraków	13.4	574	11.3	639	14.4	509
3.	Opole	19.0	78	15.2	92	13.5	90
4.	Kielce	13.8	160	16.4	134	13.2	106
5.	Olsztyn	7.9	127	13.9	158	13.2	122
6.	Wrocław	9.6	483	12.0	459	13.1	367
7.	Ruda Śląska	8.5	117	18.4	98	11.4	89
8.	Wałbrzych	23.2	177	29.1	165	11.1	90
9.	Warszawa	11.3	1244	13.2	1176	10.2	944
10.	Radom	22.5	182	18.9	196	8.5	164
11.	Szczecin	13.9	296	13.2	296	8.4	225
12.	Łódź	12.8	616	17.5	576	8.3	436
13.	Lublin	15.4	253	12.4	251	7.9	165
14.	Katowice	13.6	287	11.5	314	7.8	261
15.	Poznań	7.7	328	11.1	323	6.8	267
16.	Gdańsk	14.8	344	17.4	351	6.7	386
17.	Gdynia	4.0	152	5.7	141	6.4	125
18.	Bydgoszcz	9.8	276	20.6	246	6.3	176
19.	Toruń	13.2	143	22.2	158	6.2	130
20.	Gorzów Wlk.	10.0	120	15.3	111	5.8	72
21.	Białystok	10.3	204	11.2	206	5.4	220
22.	Zielona Góra	8.0	75	7.7	66	5.3	78
23.	Gliwice	16.0	132	15.5	105	5.2	115
24.	Sosnowiec	8.3	231	9.6	230	4.9	144
25.	Zabrze	15.8	101	12.4	89	3.4	115
26.	Rzeszów	11.8	86	10.2	98	3.3	61
27.	Bytom	6.8	74	3.3	60	3.3	59
28.	Bielsko-Biała	3.7	188	6.7	194	2.6	155
29.	Jaworzno	0.7	141	8.3	170	1.2	170

### 5.3. Importance of selected living condition indicators for the subjective quality of life

In order to understand which of the so called objective predictors (factors determining respondents' life situation) have a real link to psychological well-being (in whatever direction that link may be), and which only have an apparent (superficial) link resulting from a link to a real predictor, and so to identify the actual correlations of differences, we conducted a multiple regression analysis covering a wide range of objective life quality indicators. Below please see the results of the multiple regression analysis for each gauge of general psychological well-being (Table 5.3.1.).

Age is the most important factor determining Poles' psychological well-being in this, just as it was in the previous, study. The older, the worse the psychological condition, especially in terms of maladjustment symptoms (depression). In relation to depression, age determines 14.5% of symptom incidence (after the elimination of all other factors), and without the elimination of other factors the Figure rises to around 40% (a size unknown in social studies). What is more, as opposed to Western societies (USA, Canada), in Poland the relation between age and depression (a number of times stronger here than there) is not negative, but positive. In the US, it is the youth that suffer depression more often than the elderly<sup>54</sup> while in Poland the incidence of psychological depression symptoms increases with every year<sup>55</sup>.

The second most significant factor for general psychological well-being is marriage, and the fifth the number of friends, which together with marriage might be treated as a single indicator of social support. The Transformation disturbed certain basic social bonds, so a feeling of disinterested kindness and support from others

<sup>54</sup> It is unclear why this Polish phenomenon of reversing the correlation appropriate for the developed countries between the age and depression is occurring. Perhaps, it is a result of adaptation skills differentiated by the generations: people who exercised for longer time the rules of life in PRL have now more difficulties with adapting to the new principals introduced after changing the system; the older people feel more lost and less useful (for instance, on the labour market) in the new reality. Nonetheless, why is this reversed and extremely strong correlation between chronological age and depression not weakening with the passage of time? After all today's 30-year-olds have also entered into the adulthood in the Third Republic, yet just as the 30-year-olds in 1992 they are much more prone to depression than the 20-year-olds. It remain the biggest secret of the transformation as well as the Poles.

<sup>55</sup> Percentage of variance was counted as the square of partial correlation multiplied by 100.

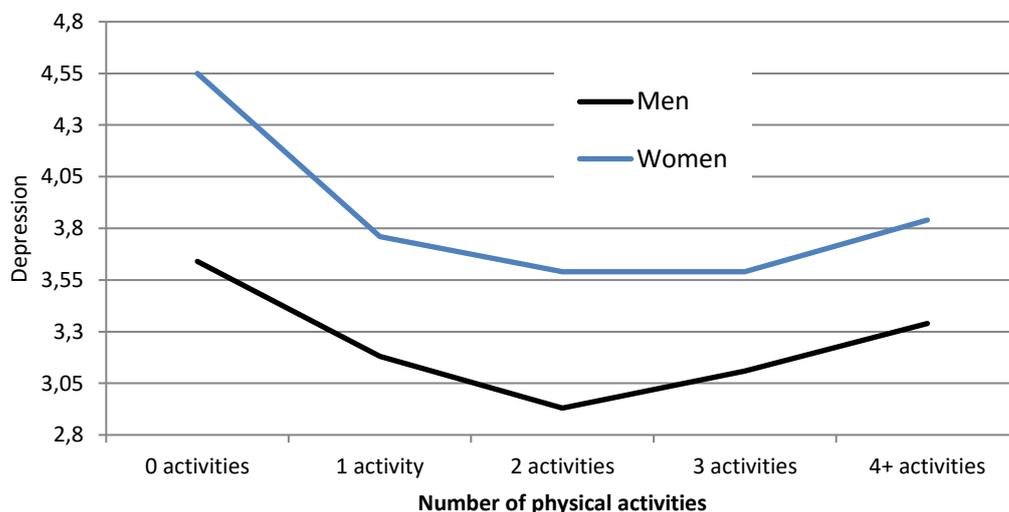
became all the more sought after, especially in times of hardship. As the saying goes, a friend in need is a friend indeed, as this study proves. The role of close friends is especially significant as far as the basic measure of well-being - the will to live - is concerned. It is our close friends that maintain our will to live in difficult life situations and keep our minds off suicidal thoughts (see chapter 5.9.). In third place, like two years ago, was alcohol abuse, an important life-quality prophylactic indicator, and fourth was per capita household income.

Factors like narcotics use, professional status, cigarette smoking, supporting children, housing conditions and place of residence class have very little significance on psychological well-being.

A factor favouring both physical and psychological health is physical activity (see Machon, Norton, Ariely, 2008; Penedo, Dahn, 2005; Ross, Hayes, 1998). Diagnosis data also confirm this, as in terms of all the main indicators of psychological well-being, the effect of any kind of active sport or physical exercise is very strong.

As regards depression, physical activity with control for age and gender explains 1.1% of the symptom intensity variation (Figure 5.3.1.). Moreover, it appears that the positive effect of activity is much greater in women who generally have higher depression indicators than men, but only for a limited number of kinds of sport or exercise as more than three kinds are linked in women with raised indicators of depression. However, there is no marked interaction effect of physical activity and gender in the case of assessment of whole lives hitherto, where activity alone explains 1.6% (Figure 5.3.2.). Physical activity explains 2.2% of the synthetic psychological well-being indicator (see chapter 9.2.) differentiation (Figure 5.3.3.). Here also the interaction effect with gender is significant as for men, the optimal number of activity is lower than for women.

Section model analysis do not settle the direction of dependency as to whether physical activity strengthens well-being or better psychological condition motivates people to do sport. The results of a number of experimental or quasi-experimental studies however show that physical activity raises mood and improve other well-being indicators (Thayer, 1987, 2001). The data from the Social Diagnosis suggest that the correlation is bilateral: the subjective well-being favours the increase in on numbers of physical activities and the increase in the number of physical activities results in improvement in well-being (Tables 5.3.2. and 5.3.3.). However, those effects are statistical: adding to the baseline of the general subjective well-being level and to the baseline number of physical activities in 2011 the change on the number of physical activities between 2011 and 2015 in the multiple regression analysis increases the percentage of the explained variation in the well-being change by 0.5 percentage point and also increases the percentage of the explained variation in the scope of the change of the number of physical activities between 2011 and 2015 by 0.5 percentage point, including the multiple regression analysis of the well-being level after the baseline of the physical activities in 2011. On the other hand, the mechanism of the influence of physical activity on well-being has not been clarified; quite likely it concerns the release of endorphins or other substances responsible for the regulation of mood in the brain, but it cannot be ruled out that social relations that accompany many kinds of sport are also important, as well as a feeling of ability and success.



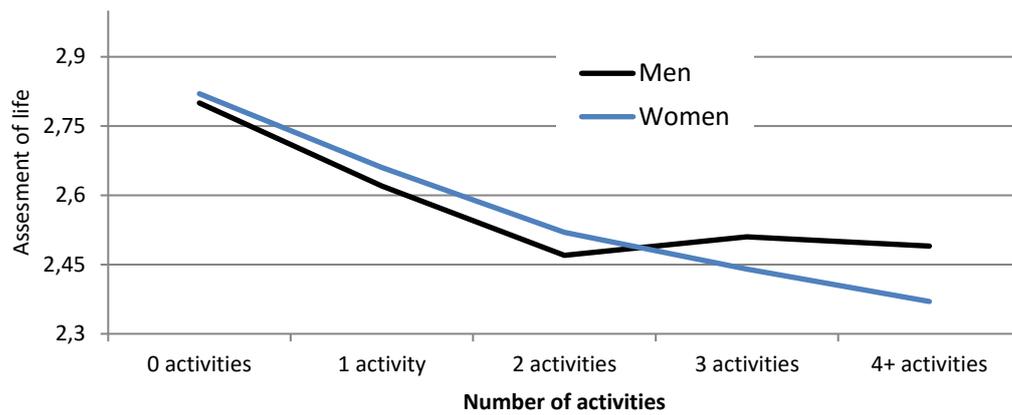
NOTE: main effect of physical activity  $F(4, 21386) = 59.846, p < 0.000, \eta^2 = 0.011$ ; effect of gender  $F(1, 21386) = 4.459, p < 0.002, \eta^2 = 0.001$ ; physical activity and gender interaction effect  $F(1, 21386) = 4.459, p < 0.002, \eta^2 = 0.001001$ : the co- variable was age

Figure 5.3.1. The intensity of clinical depression symptoms by number of physical activities and gender with the control of age

Table 5.3.1. Percentage of variation of individual indicators of general psychological well-being specifically explained by each predictor, excluding the effect of other predictors, and the rank of individual predictors in terms of the average proportion of explained variance of all general psychological well-being indicators in 2013 and 2015<sup>46</sup>.

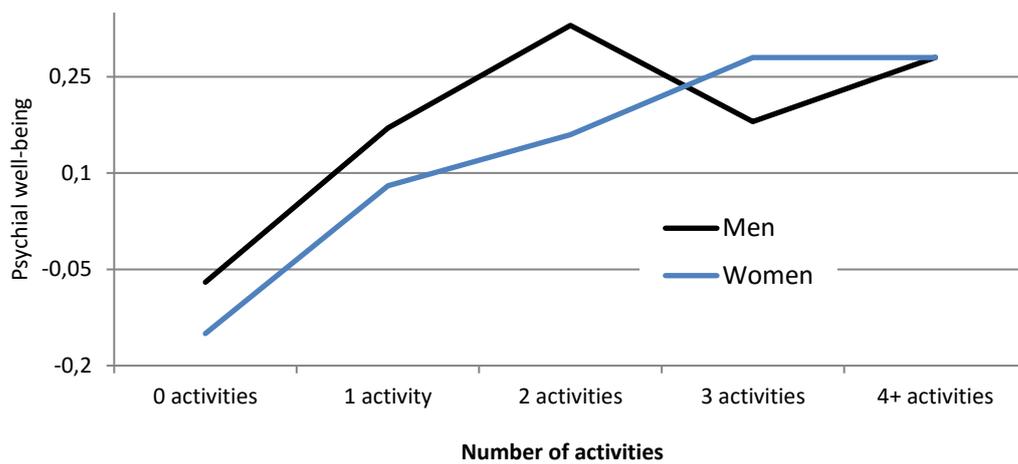
Predictor	Assessment of life- as-a-whole		Sense of happiness		Suicidal tendencies		Desire to live		Assessment of the past year		Depression		Average value of predictor		Predictor rank	
	2013	2015	2013	2015	2013	2015	2013	2015	2013	2015	2013	2015	2013	2015	2013	2015
Age	1.0	1.7	1.7	2.3	0.0	0.0	0.3	0.7	0.5	0.6	14.5	15.4	3.00	3.45	1	1
Marriage	4.0	4.8	1.6	2.1	0.1	0.1	0.6	1.2	0.7	0.8	0.5	0.7	1.25	1.62	2	2
Alcohol abuse	0.8	1.1	0.7	0.7	1.4	1.0	0.8	1.3	0.5	0.6	1.4	1.4	0.93	1.02	3	3
Per capita income	1.6	2.0	1.6	1.5	0.2	0.2	0.6	0.6	1.0	0.6	0.2	0.3	0.87	0.87	4	4
Number of friends	0.9	1.1	0.7	1.0	0.1	0.2	1.2	1.2	0.2	0.1	0.6	0.5	0.62	0.68	5	5
Unemployment	1.1	0.9	0.2	1.0	0.0	0.0	0.1	0.1	0.9	0.7	0.1	0.1	0.40	0.47	7	6
Educational level	0.5	0.7	0.1	0.2	0.1	0.1	0.2	0.3	0.1	0.2	1.0	0.8	0.33	0.38	8	7
Gender	0.4	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	2.1	1.6	0.43	0.32	6	8
Being an other non-working person	0.8	1.0	0.5	0.5	0.1	0.1	0.0	0.0	0.2	0.2	0.0	0.0	0.27	0.30	10	9
Religious practices	0.3	0.4	0.4	0.3	0.0	0.0	0.2	0.1	0.3	0.3	0.2	0.3	0.23	0.23	11	10
Smoking	0.6	0.4	0.5	0.4	0.2	0.3	0.3	0.1	0.3	0.1	0.0	0.0	0.32	0.22	9	11
Being a pensioner	0.5	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4	0.18	0.20	12	12
Drug use	0.0	0.0	0.0	0.2	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.2	0.00	0.20	18	12
Work in the privet sector	0.4	0.5	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.13	0.18	13	13
Work in the public sector	0.4	0.6	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.13	0.17	13	14
Being a farmer	0.3	0.4	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.12	0.13	14	15
Being an entrepreneur	0.1	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.05	0.10	15	16
Housing conditions	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.02	0.07	16	17
Maintaining children	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.02	0.05	16	18
Class of place of residence	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.03	18	19
Being a pensioner	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.02	16	20
Total % of variation explained (adjusted $R^2 \times 100$ )	16.7	18.9	14.0	15.9	3.9	4.2	7.7	8.9	8.2	7.7	46.1	47.7				

<sup>471</sup> Percentage of variance was counted as the square of partial correlation multiplied by 100.



NOTES: the scale of assessment of life as a whole: 1 – my life is wonderful, 7 – my life is horrible; the main effect of physical activity  $F(4, 21637)=86.468, p<0.000, \eta^2=0.016$ ; the effect of gender  $F < 1$ , the interaction effect of physical activity and gender  $F < 1, \eta^2 = 0.001$ ; co-variable was the age.

Figure 5.3.2. Assessment of life as a whole by number of physical activities and gender with the control of age

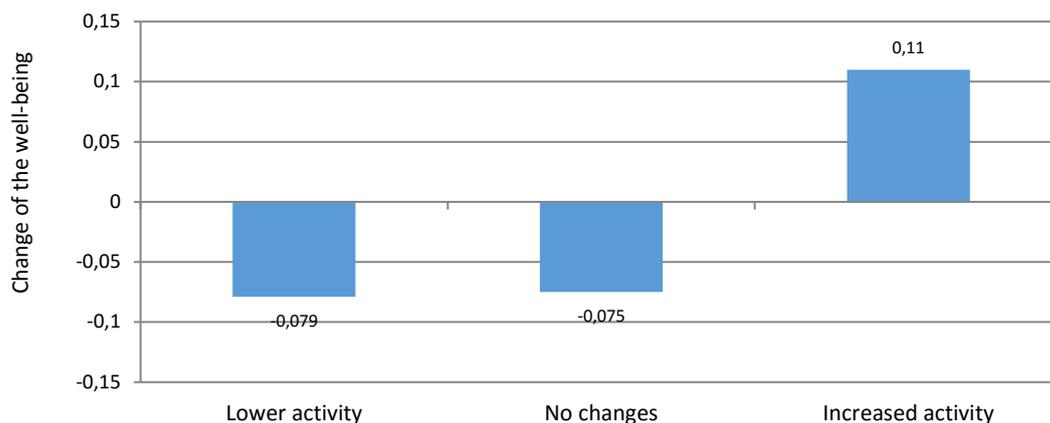


NOTES: the effect of the main physical activity  $F(4, 19947)=112.311, p<0.000, \eta^2=0.022$ ; the effect of gender  $F(1, 19947)=4.987, p<0.05, \eta^2=0.000$ ; the interaction effect of physical activity and gender  $F(4, 19947)=3.731, p<0.01, \eta^2=0.001$ ; co-variable was the age.

Figure 5.3.3. Assessment of life as a whole by number of physical activities and gender with the control of age

Table 5.3.2. Results of multiple regression analysis for general well-being between 2011 and 2015

Model	Predictor	Non-standardised factors		Standardised factors	t	p
		B	Standard error	Beta		
1	(Constant)	-0.064	0.010		-6.656	0.000
	Well-being in 2011.	-0.493	0.009	-0.494		
	Number of activities in 2011	0.066	0.008	0.068		
2	(Constant)	-0.087	0.010		-8.632	0.000
	Well-being in 2011.	-0.498	0.009	-0.500		
	Number of activities in 2011	0.106	0.010	0.109		
	Changes in number of activities 2011 and 2015	0.079	0.010	0.078		

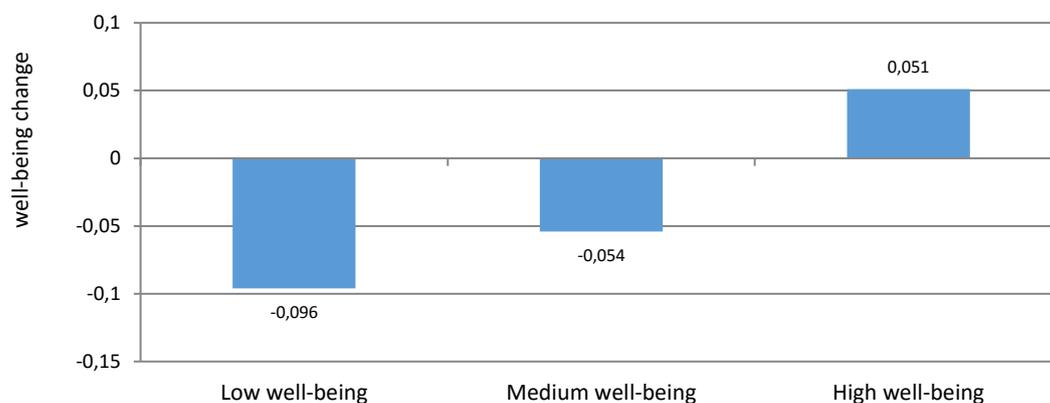


NOTES: the effect of major changes in activity  $F(1, 10328)=37.524, p<0.000, \eta^2=0.007$ .

Figure 5.3.4. Changes in the standardised general subjective well-being indicator between 2011 and 2015 due to changes in the number of physical activity with control of their number and level of well-being in 2011 and gender

Table 5.3.3. Results of multiple regression analysis for physical activity changes between 2011 and 2015

Model	Predictor	Non-standardised factors		Standardised factors	t	p
		B	Standard error	Beta		
1	(Constant)	0.278	0.009		31.193	0.000
$R^2=0.238$	Number of 2011	-0.507	0.008	-0.529	-66.336	0.000
2	(Constant)	0.281	0.009		31.622	0.000
$R^2=0.243$	Number of 2011	-0.517	0.008	-0.540	-67.150	0.000
	Well-being in 2011	0.070	0.008	0.072	8.907	0.000



NOTES: the effect of major changes in activity  $F(1, 11045)=34.224, p<0.000, \eta^2=0.006$ .

Figure 5.3.4. Changes in the standardised general subjective well-being indicator between 2011 and 2015 due to changes in the number of physical activity with control of their number and level of well-being 2011 and gender

## 5.4. Happiness theories in the light of *Social Diagnosis* data

### 5.4.1. Hedonism and eudaimonism

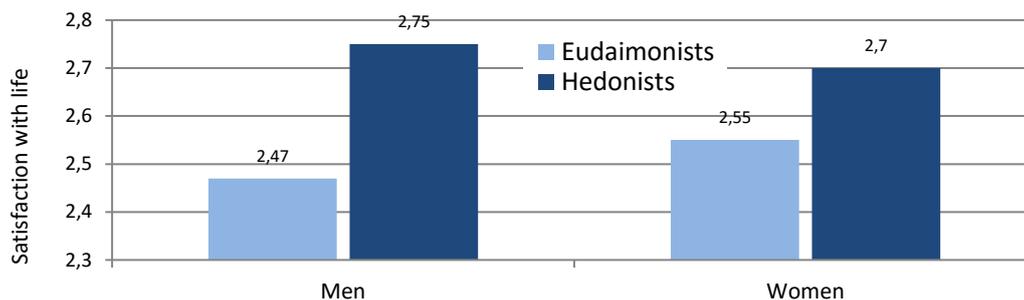
There are currently two currents in the history of the considerations on happiness. One, known as the hedonistic, refers to the Cyrenaic School in the 4th century BC, and the second is eudaimonic and hails back to the Aristotelian definition of the good life (Czapiński, 2004). Both these currents are active in the empirical studies of dynamically developing positivistic psychology<sup>57</sup>. They offer differing views on what in fact is a happy, successful life. Advocates of the hedonistic approach do not delve into life aims and how they are realized. Of importance is only whether one is pleased with one's life and whether it gives more joy than pain. The measure of the good life is here an account of pleasure and sadness. However, for Aristotle and in particular the Stoics, happiness was identified with an eudaimonia not connected to a balance of pleasure or sadness. Its measure is to be not positive emotional experiences but achievement of what is worth the effort, that what gives a feeling of the sense of life whatever experiences of suffering or disappointment.

In current popular thinking there are also two life orientations, with those for whom most important is achieving goals that give life a meaning, and others for whom the measure of happiness is the maximization of pleasant experiences.

In this year's edition of *Diagnosis*, as two, four, six and eight years ago, we posed three questions that allowed us to identify the declared supporters of eudaimonism and hedonism. The first criteria question was: What is more important in life - pleasure, prosperity and a lack of stress or a feeling of sense, the achievement of important goals despite obstacles, pain and self-denial. We also asked respondents to assess to what extent they agree with two additional statements: 1. My life, despite its painful experiences, has meaning and great value and 2. It is most important that in life there is a lot of pleasure and little pain. We treated as declared eudaimonists those who chose a feeling of sense as most important in life and who either agreed or definitely agreed that their life had meaning despite painful experiences. Declared hedonists were people who were in favour of a life full of pleasure free of unhappiness and who agreed or definitely agreed that the maximization of pleasure is the most important thing in life. We also created the categories of moderate eudaimonists and moderate hedonists (answers to the criteria question and the two additional questions that were not entirely consistent), but let us here concentrate on the differences only between declared life eudaimonists and hedonists.

There were slightly more so defined clear eudaimonists than two years ago (40.7%, in 2013 41.2%), and distinct hedonists slightly less than in 2013 (21.2% and 21.3% respectively).

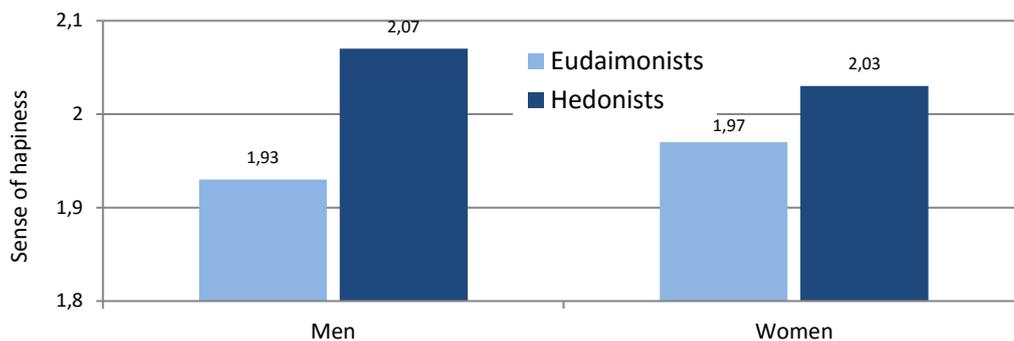
Let us see what are the differences between the representatives of those two opposed life orientations. The difference is in the satisfaction with the whole life, especially among men: people with the eudaimonic orientation are more satisfied with their lives (Figure 5.4.1.). Another differentiating factor, this time regardless of the gender, is the sense of happiness: the people with the eudaimonic orientation feel more happy (5.4.2.). People with the eudaimonic orientation are also less prone to suicidal tendencies, they have more will to live and lower occurrence of the depression symptoms. Therefore, the psychological well-being of eudaimonists is better, despite the fact they do not strive at maximising pleasures.



Note: the scale of satisfaction with life: 1-my life is wonderful, 7-my life is horrible; the main effect of the orientation of  $F(1, 13369)=163.213$ ,  $p<0.000$ ,  $\eta^2=0.012$ ; gender effect of  $\eta^2$ ; the effect of the interaction of the orientation and gender  $F(1, 13369)=16.684$ ,  $p<0.000$ ,  $\eta^2=0.001$ ; co-variable was age.

Figure 5.4.1. Satisfaction with life according to gender

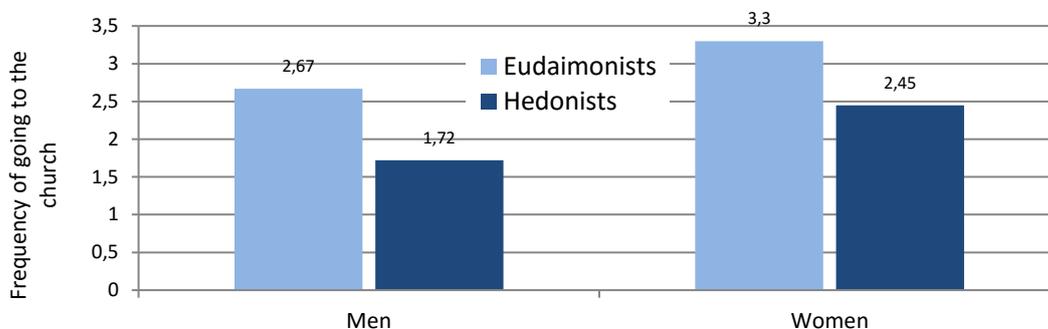
<sup>57</sup> Leading representatives of the hedonistic approach are Ed Diener (Diener, Biswas-Diener, 2008; Diener, Lucas, Oishi, 2004), Daniel Kahneman (1999) and Ruut Veenhoven (1984, 2007). The eudaimonic tradition was present in the works of humanistic psychologists, for example Rogers (1961) and Maslow (1986, 1990), and currently it is represented, among others, by Carol Ryff (1989; Ryff, Singer, 2004), Martin Seligman (2004, 2005) and Baltes (Baltes, Glück, Kunzmann (2004); for an overview of research and concept of happiness see: Aspinwall, Staudinger (2003), Czapiński (2004b), Eid, Larsen (2008), Kahneman, Diener, Schwarz (1999), Linley, Joseph (2007), Lopez (2009), Snyder, Lopez (2002, 2007).



Notes: scale sense of happiness: 1 – very happy 4-unhappy; the main effect of the orientation of  $F(1, 13375)=97.798, p<0.000, \eta^2=0.007$ ; gender effect.; the effect of the interaction of the orientation and gender  $F(1, 13375)=20.407, p<0.000, \eta^2=0.002$  ; co-variable was the age.

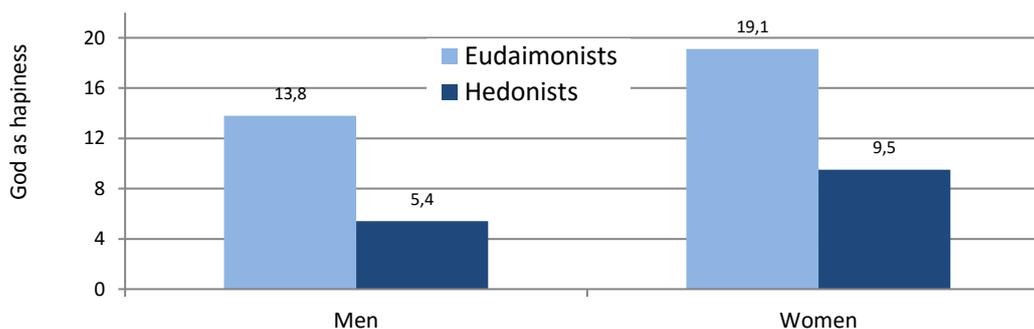
Figure 5.4.2. Eudaimonists' and hedonists' satisfaction with their whole life up to now by gender

Those with an eudaimonic approach are more religious than the hedonists - they go to church more often and include God in the three main conditions of a happy, successful life (Figures 5.4.3., 5.4.4.).



NOTES: the effect of the main orientation of  $F(1, 13335)=215.524, p<0.000, \eta^2=0.016$ ; gender effect  $F(1, 13335)=128.435, p<0.000, \eta^2=0.010$ ; the effect of the interaction of gender and orientation n.; co-variable was the age.

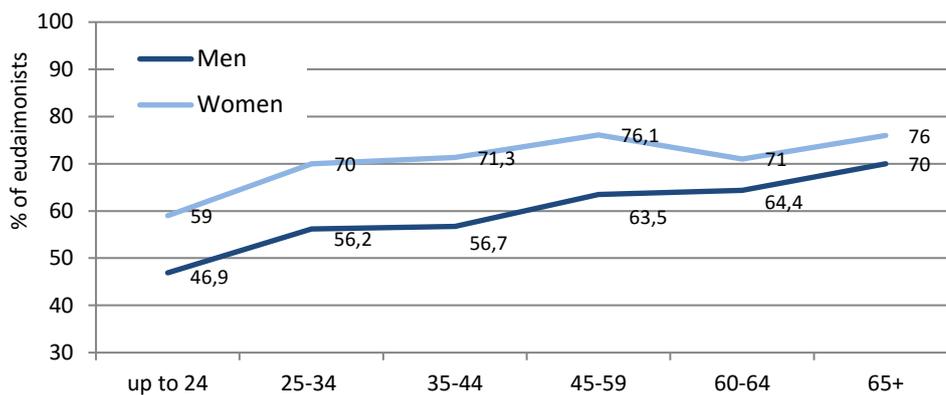
Figure 5.4.3. Frequency of church attendance among eudaimonists and hedonists by gender with the control of age



NOTES: the effect of the main orientation of the  $F(1, 13060)=206.861, p<0.000, \eta^2=0.016$ ; gender effect  $F(1, 13060)=57.501, p<0.000, \eta^2=0.004$ ; the effect of the interaction of the orientation and gender  $F < 1, ni$ ; co-variable was age.

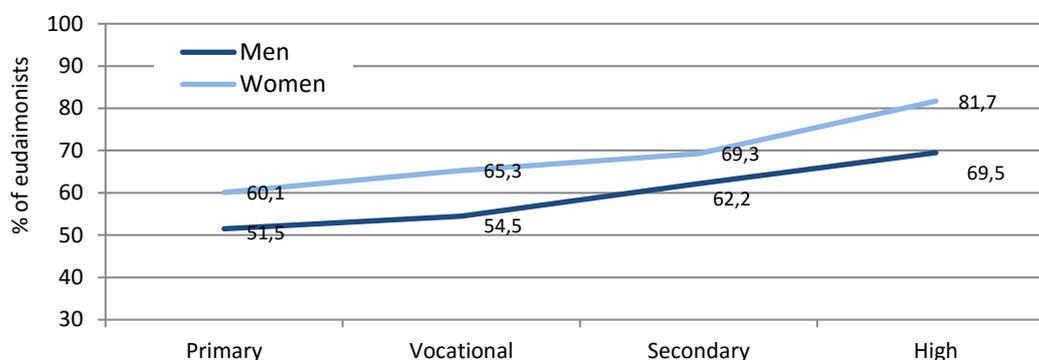
Figure 5.4.4. The percentage of persons for whom God/providence is one of three conditions of a successful, happy life among eudaimonists and hedonists by gender and with the control of age

Who are the eudaimonists and the hedonists? What are the differences between them in terms socio-demographic variables? There are significantly more eudaimonists among women and the elderly (Figure 5.4.5.), and the share rises with education (Figure 5.4.6.).



Notes: the main effect of age,  $F(5, 13378)=45.590, p<0.000, \eta^2=0.017$ ; gender effect  $F(1, 13378)=159.756, p<0.000, \eta^2=0.012$ ; the effect of the interaction of age and gender,  $F(1, 13378)=3.149, p<0.01, \eta^2=0.001$ .

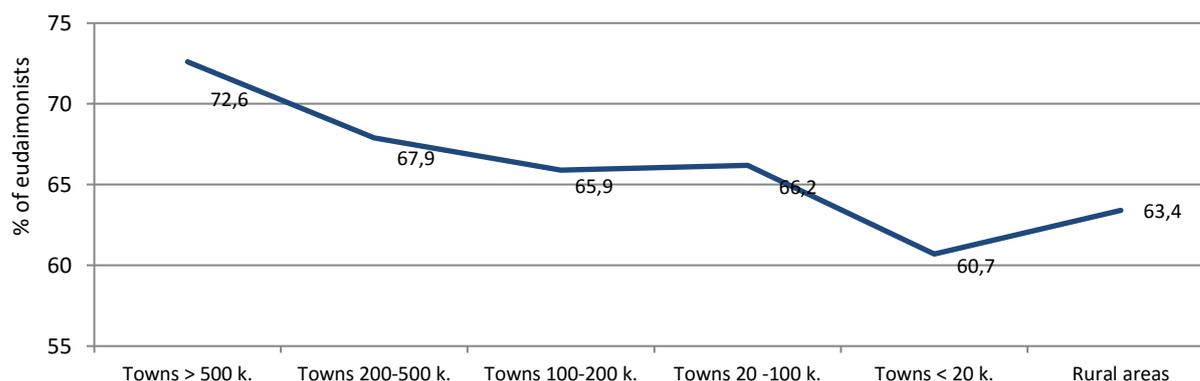
Figure 5.4.5. Percentage of eudaimonists in various age groups among men and women



Notes: the main effect of education  $F(3, 13358)=93.171, p<0.000, \eta^2=0.020$ ; gender effect  $F(1, 13358)=121.549, p<0.000, \eta^2=0.009$ ; the effect of the interaction of education and gender  $F < 1, n_i$ ; co-variable was the age.

Figure 5.4.6. Percentage of eudaimonists according to education and gender with the control of age

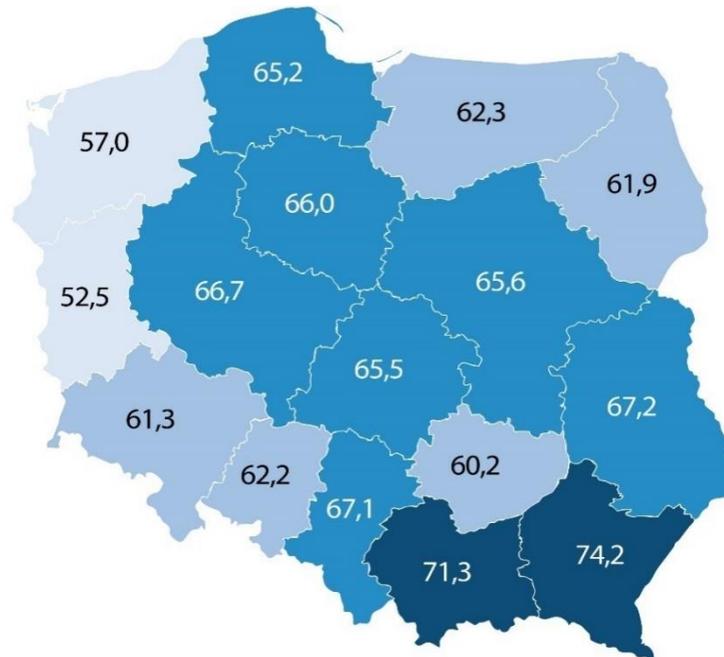
Life orientation depends also on place of residence class, with the most eudaimonically orientated in the largest cities and the least in the middle-sized (5.4.7.).



NOTES: the effect of the main class of  $F(5, 13372)=13.790, p<0.000, \eta^2=0.005$ ; co-variable were age and gender.

Figure 5.4.7. Percentage of eudaimonists according to class of residence

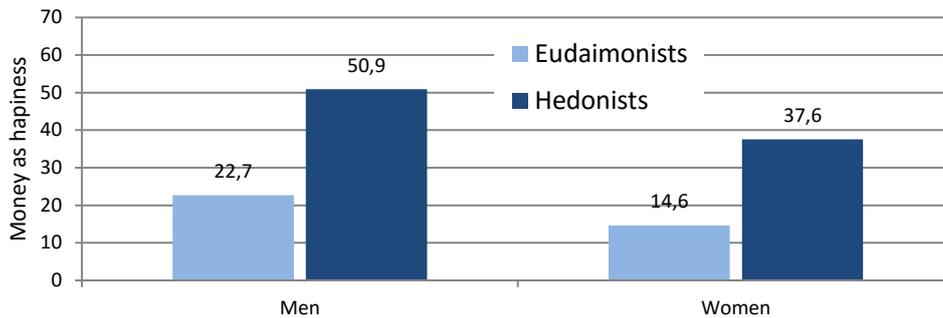
In terms of Voivodship, the differentiation is relatively small. The most of eudaimonic orientation live in South-Eastern Voivodships and the least in Lubuskie and Zachodniopomorskie, where the religiousness is lower than in Małopolskie and Podkarpackie Voivodships (see chapter 5.10.3.) (Figure 5.4.8.). That means that North-West of Poland is more hedonistic than South East.



Notes: the main effect of  $F(15, 13352)=6.995, p<0.000, \eta^2=0.008$ ; co-variables were the age and level of education.

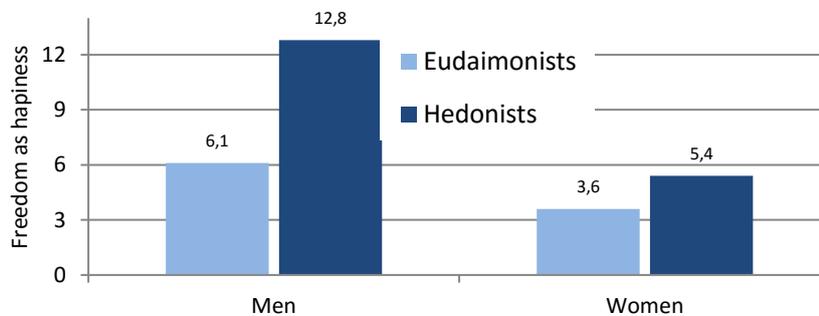
Figure 5.4.8. Percentage of eudaimonists by Voivodship

Hedonists, who are oriented towards pleasure out to more often than eudaimonists consider money and freedom as conditions of a successful life, and eudaimonists that what limits the quest for pleasure, such as family values (e.g. children) and honesty. It is significant that it is exactly these differences that are revealed between the advocates of these two life orientations (Figures 5.4.9.-5.4.11.).



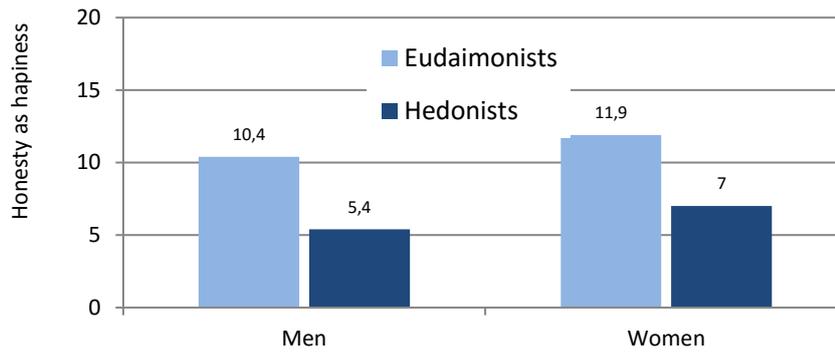
NOTES: the effect of the main orientation of  $F(1, 13116)=1062.163, p<0.000, \eta^2=0.075$ ; the effect of gender  $F(1, 13116)=188.799, p<0.000, \eta^2=0.014$ ; the effect of the interaction of the orientation and gender  $F(1, 13116)=11.487, p<0.001, \eta^2=0.001$ ; co-variable was the age.

Figure 5.4.9. Percentage indicating money as one of the three most important conditions of a successful, happy life among eudaimonists and hedonists by gender



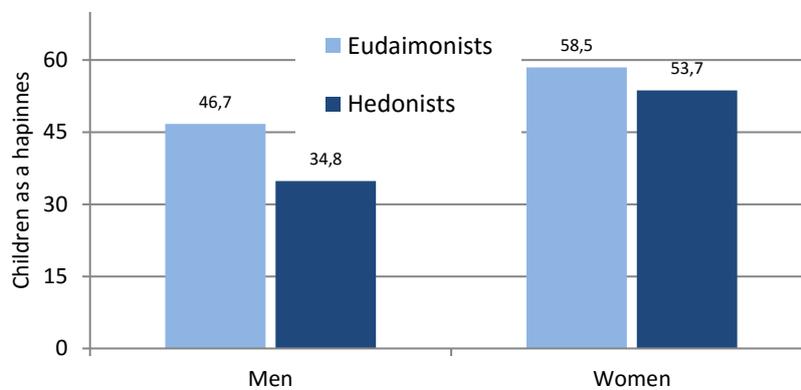
NOTES: the effect of the main orientation of  $F(1, 13058)=90.345, p<0.000, \eta^2=0.007$ ; gender effect  $F(1, 13058)=124.659, p<0.000, \eta^2=0.009$ ; the effect of the interaction of the orientation and gender  $F(1, 13058)=29.734, p<0.000, \eta^2=0.002$ ; co-variable was the age.

Figure 5.4.10. Percentage indicating freedom as one of the three most important conditions of a successful, happy life among eudaimonists and hedonists by gender



NOTES: the effect of the main orientation of the  $F(1, 13067)=82.785, p<0.000, \eta^2=0.006$ ; gender effect  $F(1, 13067)=8.005, p<0.000, \eta^2=0.001$ ; the effect of the interaction of the orientation and gender than; co-variable was the age.

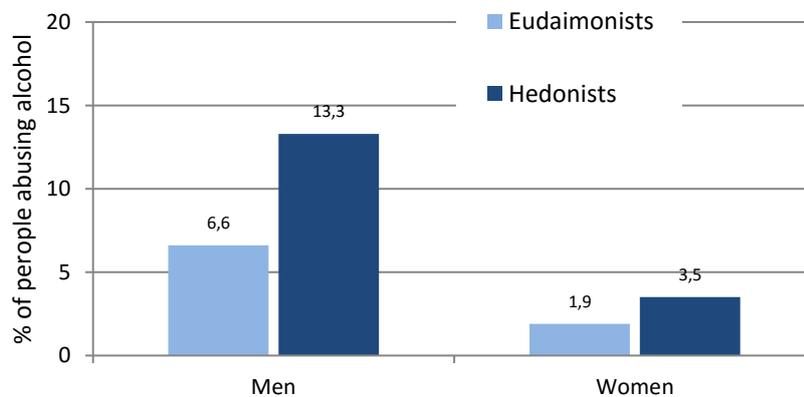
Figure 4.11. Percentage indicating honesty as one of the three most important conditions of a successful, happy life among eudaimonists and hedonists by gender



NOTES: the effect of the main orientation of the  $F(1, 13206)=86.994, p<0.000, \eta^2=0.007$ ; the effect of gender  $F(1, 13206)=296.834, p<0.000, \eta^2=0.022$ ; the effect of the interaction of the orientation and gender  $F(1, 13206)=16.173, p<0.000, \eta^2=0.001$ ; co-variable was the age.

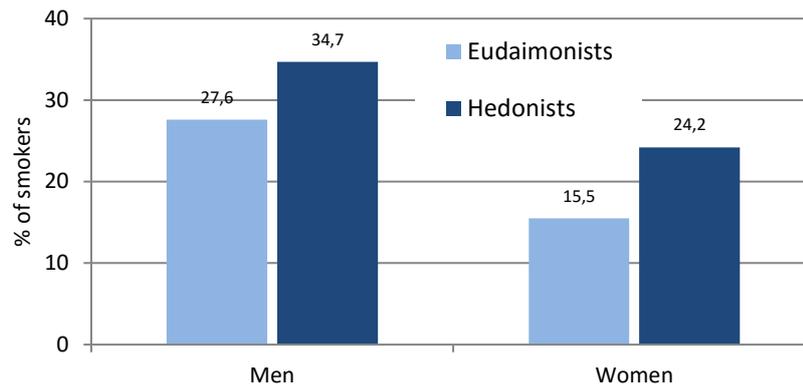
Figure 5.4.12. Percentage indicating honesty as one of the three most important conditions of a successful, happy life among eudaimonists and hedonists by gender

If the purpose of stimulants is pleasure, then we can suppose that those who abuse alcohol, take drugs and smoke cigarettes are declared hedonists rather than eudaimonists. In the case of drugs, the relation is insignificant, but orientation does determine frequency of alcohol abuse (Figure 5.4.13.) and smoking cigarettes (Figure 5.4.14.).



NOTES: the effect of the main orientation of  $F(1, 13374)=98.923, p<0.000, \eta^2=0.007$ ; the effect of gender  $F(1, 13374)=301.765, p<0.000, \eta^2=0.022$ ; the effect of the interaction of the orientation and gender  $F(1, 13374)=38.095, p<0.000, \eta^2=0.003$ ; co-variable was the age.

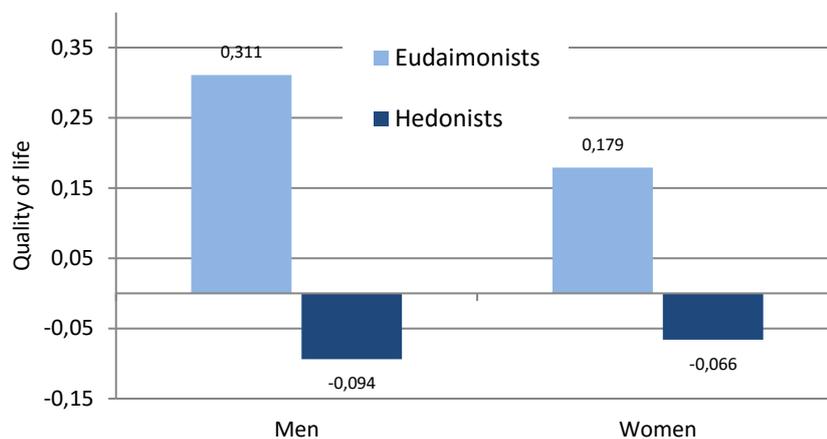
Figure 5.4.13. Percentage of eudaimonists and hedonists who abused alcohol by gender



NOTES: the effect of the main orientation of  $F(1, 13371)=104.390$ ,  $p<0.000$ ,  $\eta^2=0.008$ ; the effect of gender  $F(1, 13371)=212.634$ ,  $p<0.000$ ,  $\eta^2=0.016$ ; the effect of the interaction of the orientation and gender  $F, 1$ ; co-variable was the age.

Figure 5.4.14. Percentage of eudaimonists and hedonists who smoke by gender

The basic question is which orientation offers the greater probability of a successful life? Taking into account the general indicator of life quality (see chapter 9.2.), the differentiation is clearly in favour of the eudaimonists both among women and men (Figure 5.4.15.).



NOTES: the effect of the main orientation of  $F(1, 9893)=282.395$ ,  $p<0.000$ ,  $\eta^2=0.028$ ; gender effect  $F(1, 9893)=7.215$ ,  $p<0.01$ ,  $\eta^2=0.001$ ; the effect of the interaction of the orientation and gender  $F(1, 9893)=17.279$ ,  $p<0.05$ ,  $\eta^2=0.002$ ; co-variable was the age.

Figure 5.4.15. Quality of life among eudaimonists and hedonists by gender

The proportion of declared eudaimonists and hedonists differs according to many socio-economic aspects. Earlier we showed the effect of place of residence class, Voivodship, education and gender. A more systematic analysis by repeated logistical regression confirms the differences presented above in the frequency of a clear hedonistic attitude in the whole sample with mutual control of the meaning of each socio-demographic criteria and reveals marked differentiation in terms of still other criteria (Table 5.4.1.). The coefficient  $\text{Exp}(B)$  shows the relation of the probability of being a declared hedonist in a given group to the chances of relation in the group under the assumption that the groups do not differ in terms of all remaining predictors. The chance of a woman being a hedonist is 1/5 that of a man. In comparison to singles, the chance of being a hedonist is the same as among married couples and higher by 75% for the widowed people and more than twice and a half times among the divorced and separated people. It would appear that hedonism is the main features selecting the divorced people. The chances of hedonism fall with age. People with higher personal income become hedonists more often than the once that are poor. Abuse of alcohol increases the chances of being a hedonist five times, even more so because a materialistic attitude increases the probability of hedonistic orientation by two and a half. The higher the educational level, the lower chances of becoming a hedonist. Religious people (attending the religious ceremonies) have lower chances of becoming hedonists than non-believers.

Generally, in the model without the eight regression predictors always considered in the equation, around 43% of the probability differentiation of being a hedonist is explained.

Table 5.4.1. Results of logistical regression for declared hedonists

Predictor	B	Standard error	Validity	df	Significance	Exp(B)
Women	-0.221	0.040	31.103	1	0.000	0.801
Education (primary*)			93.440	3	0.000	
basic vocational	-0.250	0.060	17.169	1	0.000	0.779
secondary	-0.357	0.061	33.903	1	0.000	0.700
higher	-0.651	0.070	87.195	1	0.000	0.521
Civil state (unmarried*)			277.594	3	0.000	
married	-0.035	0.054	0.407	1	0.523	0.966
widowed	0.565	0.082	47.502	1	0.000	1.759
divorced/separated	0.971	0.082	139.443	1	0.000	2.642
Personal income (1 quartile*)			32.670	3	0.000	
2 quartile	0.265	0.051	27.385	1	0.000	1.304
3 quartile	0.194	0.053	13.432	1	0.000	1.214
4 quartile	0.228	0.055	17.367	1	0.000	1.257
Age (16-24 y.o.*)			179.219	5	0.000	
25-34 y.o.	-0.390	0.072	29.144	1	0.000	0.677
35-44 y.o.	-0.483	0.080	36.202	1	0.000	0.617
45-59 y.o.	-0.806	0.080	102.712	1	0.000	0.447
60-64 y.o.	-0.440	0.093	22.410	1	0.000	0.644
65+	-1.004	0.090	125.293	1	0.000	0.367
Alcohol abusers	1.627	0.046	1250.558	1	0.000	5.087
Materialists	0.888	0.037	577.689	1	0.000	2.430
Religious	-0.469	0.038	152.832	1	0.000	0.625
General percentage of explained variance		32.1				
Cox & Snell R <sup>2</sup> x 100						
General percentage of explained variance		42.8				
Nagelkerke R <sup>2</sup> x 100						

\* Reference group

In summary, it is possible to say that hedonistic attitudes in the search for happiness do not favour its achievement, or that of a better quality of life. The better course is the orientation to realize aims and the search for a sense to life. Fortunately, there are almost twice as many declared eudaimonists in Poland than there are hedonists.

### 5.4.2. Verification of the Onion Theory of Happiness

A panel study is a perfect opportunity for verifying the accuracy of the basic tenets of the onion theory of happiness (Czapiński, 1992, 2001a, 2004b, 2011a, Czapiński, Peeters, 1991). It assumes that psychological well-being is stratified: the layers that lie 'deeper', closer to the core of the "onion", are more strongly conditioned by the DNA; other layers, more peripheral and less essential for survival in critical situations in life, are more easily influenced by the situation, although these too have a sort of hierarchy; overall satisfaction is less "realistic" than domain satisfactions. According to that theory, everyone has an innate "attractor of happiness", which is characterised by its pursuit of a "predetermined" level of well-being characteristic of a particular individual. It is not resistant to negative developments; i.e. it does not guarantee good psychological well-being under all circumstances. Rather, it spontaneously restores the level of well-being "typical" of a given individual, irrespective of whether or not the person objectively managed to cope with the difficult situation. The attractor of happiness should in the first place restore the "proper" level of the most important aspect of well-being, its core, referred to as the will to live, as it latter determines the subjective response to the fundamental question of "to be or not to be" and radiates (positively or negatively, in line with the "top-down" model) to the more peripheral layers of well-being - the overall satisfaction with life, a sense of the purposefulness of life, the balance of emotions experienced, ability to mobilize, etc. ("overall subjective well-being") and further on to the satisfaction with particular areas or aspects of life ("domain satisfactions").

The "onion" theory of happiness presents four hypotheses, which we would like to verify now against the data from the Diagnosis:

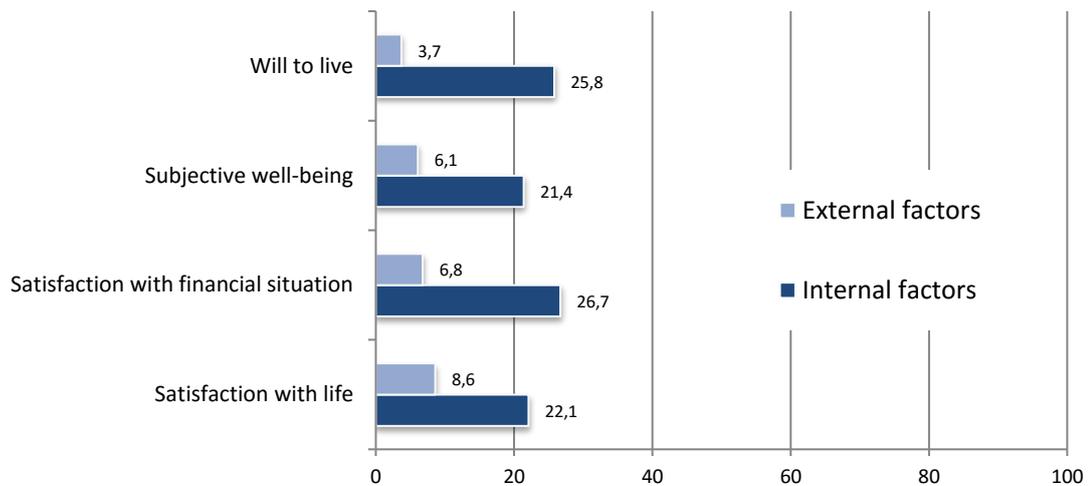
1. external factors (life events, change in the standard of living, change in the level of stress, in health condition and other factors) exert a smaller degree of influence on the positive change in psychological well-being than the internal mechanism of the attractor, and the deeper the layer of well-being, the greater the disproportion. It is the greatest for the will to live, and the smallest for domain satisfactions.

2. external factors have a greater influence on decline than on improvement of psychological well-being, and the disproportion becomes greater for deeper layers of well-being. It is the greatest for the will to live and the smallest for domain satisfactions.
3. the weakening of the internal mechanism of the attractor, which progresses with age, is less intensive for the deepest layer of well-being - the will to live - than for the intermediate layer of overall subjective well-being. For domain satisfactions, changes in which are the most sensitive to changes in external circumstances, the internal mechanism of the attractor is generally much weaker.
4. the improvement in living conditions that depend on the individual (e.g. increase in income, finding a partner, divorce) influences the level of psychological well-being to an extent that is not greater than the reverse; i.e. the influence of psychological well-being on the improvement in the living conditions that depend on the individual.
5. Negative life events have a greater influence on psychological well-being than the positive. The adaptation process to negative change is more difficult than that for the positive (this hypothesis derives from the theory of positive/negative asymmetry - see Peeters, Czapiński, 1990).

These hypotheses have already been partially verified by the results of the previous panel surveys (Czapiński, 2004c, Czapiński, Panek, 2007, 2009, 2011, 2013), though the present edition of the Diagnosis provides data for much larger panel samples over a longer period of time, which enhances the reliability of verification.

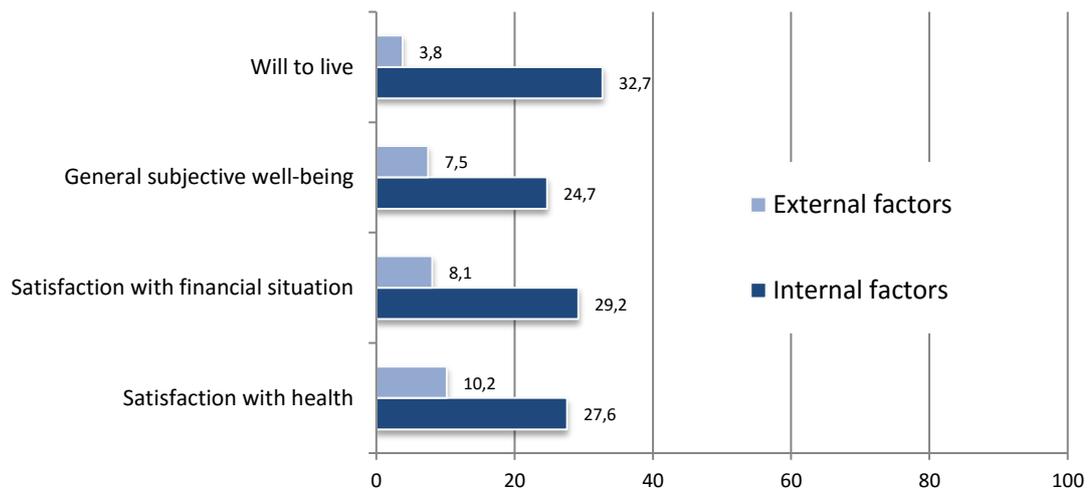
The first hypothesis is fully supported (Figures 5.4.16.-5.4.17.). Given a two-year and six-year time span, the change in well-being indicators depends more on the internal mechanism (a greater proportion of variance is explained by the initial level of well-being indicators) than on external factors such as the initial level of stress in life, the incidence of pathological symptoms, serious illness, equivalent household income and changes in those factors between the two waves. The internal mechanism plays a greater role for the will to live than for domain satisfactions, while the above-mentioned factors more strongly influence domain satisfactions than the will to live and the general subjective well-being.

With a six-year delay (between 2007 and 2013), the dominance of the internal mechanism is also apparent, and also even more clearly evident is the role of external factors in the determination of changes in partial satisfactions.



NOTES: will life is standardized total standardized value scales life desires and suicidal tendencies; the General index of subjective well-being is standardized total standardized value scales a sense of happiness, the evaluation of the whole past life and evaluate the past year; important are larger than 0.5.

Figure 5.4.16. Predictive value (percentage of specifically explained variance) of external factors (change in life stress intensity, stress level in 2013, change in income and its level in 2013, change in the incidence of somatic symptoms and their level in 2013, change in number of negative events in 2013, hospitalisation in 2014 and of internal factors (the level of the relevant well-being indicators in 2013) for the decrease and increase in two synthetic indicators of psychological well-being (will to live and overall subjective well-being) and for domain satisfactions (satisfaction with the family's financial situation and one's health) between 2013 and 2015 for the panel sample (N=13006) (internal factors as first in regression equation)



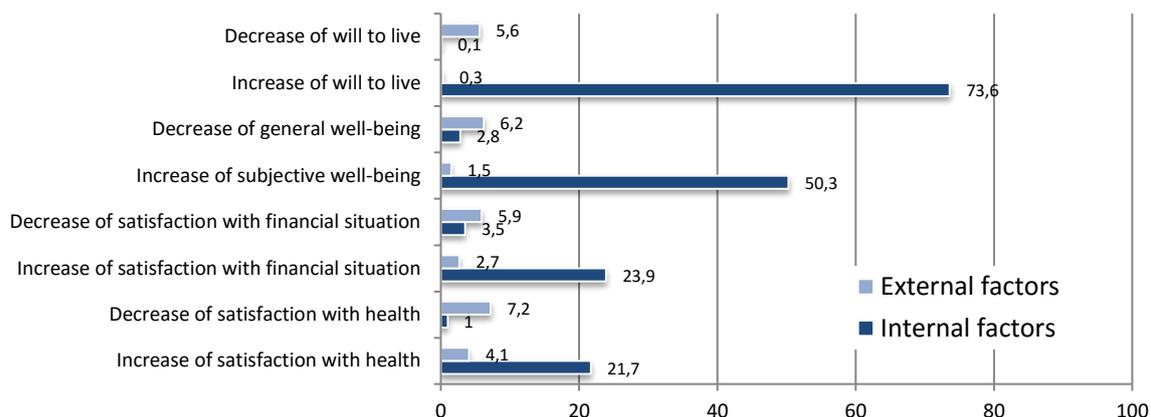
NOTES: the will to live indicator is the sum of standardised values of the desire to live and suicidal tendency scales. The general subjective well-being indicator is the sum of standardised values of the sense of happiness, assessment of one's whole life up to now and that of the last year. Values over 0.5 are significant.

*Figure 5.4.17. Predictive value (percentage of specifically explained variance) of external factors (change in life stress intensity, stress level in 2009, change in income and its level in 2009, change in the incidence of somatic symptoms and their level in 2009, change in number of negative events in 2009, hospitalisation in 2014) and of internal factors (the level of the relevant well-being indicators in 2009) for the decrease and increase in two synthetic indicators of psychological well-being (will to live and overall subjective well-being) and for domain satisfactions (satisfaction with the family's financial situation and one's health) between 2009 and 2015 for the panel sample (N=6727) (internal factors as first in regression equation)*

However, the basic test of the first hypothesis requires the separation of the positive and negative changes in the indicators of the three layers of well-being. Once we have appropriately divided the panel samples based on the direction of the well-being change indicators, it turned out that with the two year postponement between 2013 and 2015 in 74% the deciding factor regarding the increase of the will to live indicator was the baseline of that indicator (the lower it was, the higher the increase), and regarding the negative change, only the external factors (Figures 5.4.18.). The correlations are similar with the six year postponement (Figures 5.4.19.).

This proves the extreme efficiency of the mechanism of the internal attractor at the deeper levels of well-being, most effective is at the level of will to live responsible for 60-70% of positive change. At the intermediate level - that of the overall subjective well-being - the mechanism proves much less efficient, as it accounts for 34-36% of positive changes, and at the most peripheral level (that of satisfaction with health and the family's financial situation), the one-directional adaptation mechanism of the "happy" attractor changes into a two-directional mechanism of adaptation and motivation. Therefore, greater satisfaction with the family's financial situation depends on its initial level to a much lesser extent than does the increase in overall subjective well-being and the will to live, and to a much greater extent on external factors than the deeper layers of well-being. This two-directional mechanism is even more visible for satisfaction with health; its decline is mostly conditioned by external factors (disease), while its growth by the internal mechanism, aided to a considerable extent by external factors (improved health condition).

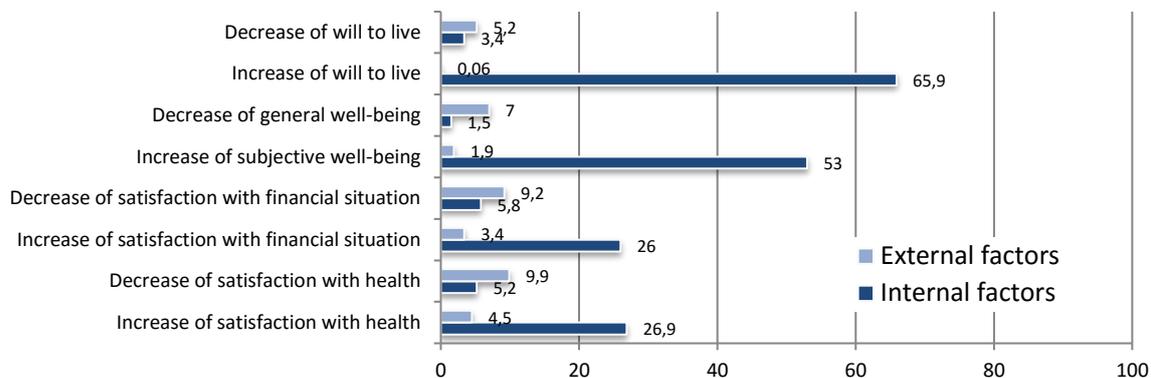
The second hypothesis was also confirmed. Both with a two and a six-year delay, external factors have a greater influence on the fall than the rise of psychological well-being in the two deeper layers. In the inner layer of the happiness "onion", the disproportion between the influence of external and internal factors is smaller, though also here it is the inner factors that have a greater influence on rises in satisfaction (with the family financial situation and health) than the outer (5.4.18. and 5.4.19.).



NOTES: will life is the sum of the standardized values of the scales of life desires and suicidal tendencies; the General index of subjective well-being is the sum of the standardized scale value a sense of happiness, the evaluation of the whole past life and evaluate the past year; important are larger than 0.5.

Figure 5.4.18. Predictive value (percentage of specifically explained variance) of external factors (change in life stress intensity, stress level in 2137, change in income and its level in 2013, change in the incidence of somatic symptoms and their level in 2013, change in number of negative events in 2013, hospitalisation in 2014 and of internal factors (the level of the relevant well-being indicators in 2013) for the decrease and increase in two synthetic indicators of psychological well-being (will to live and overall subjective well-being) and for domain satisfactions (satisfaction with the family's financial situation and one's health) between 2013 and 2015 for the panel sample (N=12890) (internal- factors as first in regression equation)

Thus, the change in well-being at its deeper levels, especially in the will to live, has an internal source and depends on external factors only to a limited extent, yet the decline in well-being here is mainly determined by the deterioration in personal life situation. Domain satisfactions are less “protected” by the attractor, and their change reflects the changes in external circumstances to a much greater extent. Owing to the fact that for domain satisfactions the attractor works in two directions, both weakening their unusually high level and raising their unusually low level, it prevents dissatisfaction with important areas of life from persisting for too long, which could permanently diminish well-being also at deeper levels. On the other hand, it motivates raised aspirations and action to fulfil them, being thus responsible for the illusion of hedonistic progress (“you will be happier when you achieve even more”).

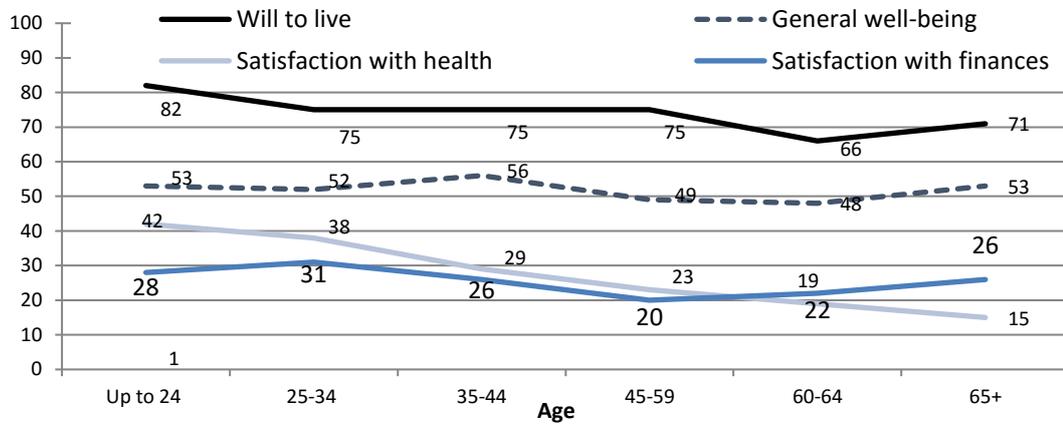


NOTES: will to live is a standardized value of life desires and suicidal tendencies; the General index of subjective well-being is a standardized value covering a sense of happiness, the evaluation of the whole past life and evaluation of the past year; significance: values over 0.5.

Figure 5.4.19. Predictive value (percentage of specifically explained variance) of external factors (change in life stress intensity, stress level in 2009, change in income and its level in 2009, change in the incidence of somatic symptoms and their level in 2009, change in number of negative events in 2009, hospitalisation in 2014 and of internal factors (the level of the relevant well-being indicators in 2009) for changes in synthetic psychological well-being indicators of (will to live and overall subjective well-being) and for domain satisfactions (satisfaction with the family's financial situation and one's health) between 2009 and 2015 for the panel sample (N=6270) (internal factors as first in regression equation)

Diagnosis data provide full support for hypothesis No. 3. Figure 5.4.20. proves that in principle, the effectiveness of the internal attractor mechanism does not subside with age for the deepest level of psychological well-being, the will to live. This is lower though still stable throughout life in respect to overall subjective well-

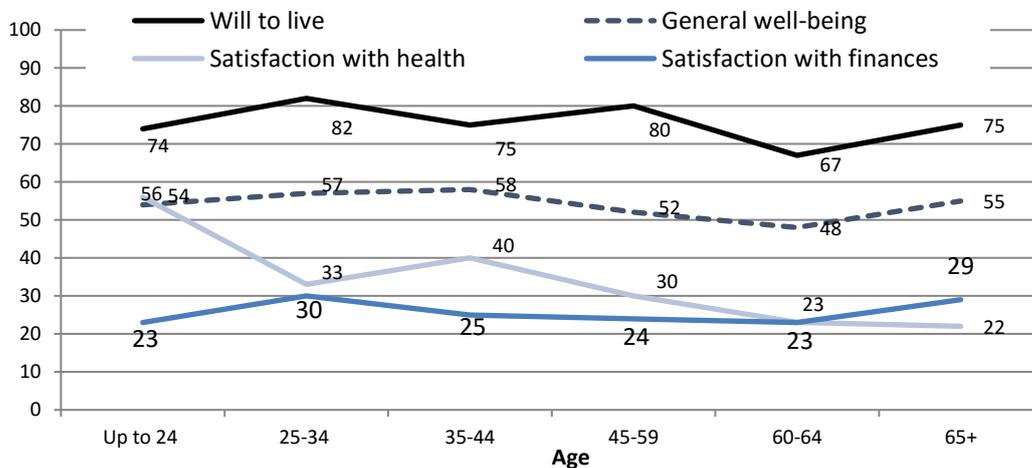
being. Domain satisfactions (satisfaction with one's health and the family's financial situation) are much less influenced by the internal attractor mechanism throughout life, and in the case of satisfaction with one's health, the effectiveness of the attractor rapidly declines with age. This is obviously a result of accumulating somatic disorders of all kinds, the influence of which on satisfaction with life becomes increasingly stronger than that of the internal attractor of psychological adaptation.



NOTE: The indicator of the will to live is the sum of standardized values for the scales of the desire to live and suicidal tendencies; the indicator of overall well-being is the sum of standardized values for the scales of the sense of happiness, assessment of one's whole life up to now and that of the past year.

Figure 5.4.20. Effectiveness of the "happy" attractor in terms of various psychological well-being indicators, that is the predictive value (percentage of variance explained) of the initial readings of well-being level for the positive change of four well-being indicators (will to live, general subjective well-being, satisfaction with health and with the family's financial situation) between 2013 and 2015 in different age groups (by age in 2015) (N= 1 age group 670, 2 - 984, 3 - 1343, 4 - 2225, 5 - 853, 6 - 1946)

With a longer delay of six years the breakdown of the dependency on age of the effectiveness of the "happiness" attractor's internal mechanisms remains similar, though in terms of all indicators this mechanism turns out to be slightly less effective (Figure 5.4.21.). In nearly all age groups the differences between particular well-being indicators remain almost exactly the same as with a three-time shorter reading delay.



NOTE: the will to live indicator is the sum of standardised values of the desire to live and suicidal tendency scales. The general subjective well-being indicator is the sum of standardised values of the sense of happiness, assessment of one's whole life up to now and that of the last year.

Figure 5.4.21. Effectiveness of the "happy" attractor in terms of various psychological well-being indicators, that is the predictive value (percentage of variance explained) of the initial readings of well-being level for the positive change of four well-being indicators (will to live, general subjective well-being, satisfaction with health and with the family's financial situation) between 2013 and 2015 in different age groups (by age in 2013) (N= 1 age group of 107, 2 - 393, 3 - 617, 4 - 1200, 5 - 432, 6 - 1109)

As we recall the last hypothesis predicts that the improvement in living conditions on which the individual has an influence (e.g. higher income or finding a partner) influences the level of psychological well-being to an extent that is not larger than the reverse - the influence of psychological well-being on the improvement of those

circumstances. In other words, the life of the happy is better than that of the unhappy precisely because the former are happy.

We checked whether the level of well-being (sense of happiness) determines the chances of unmarried persons getting married within 6 years<sup>58</sup>. A regression analysis proved that the happier are significantly more likely to get married. A reverse relation proves to be also significant as marriage increases this feeling<sup>59</sup> (Tables 5.4.2. - 5.4.3.). The level of well-being in 2009 explains 1.4% of the differences in marital status between 2009 and 2015 among those unmarried in 2009, and getting married explains 1.7% of the increase in well-being.

Table 5.4.2. Predictive value of sense of happiness in 2007 for marrying within the next 6 years

Predictors	Non-standardized indicators		Standardized indicators	t	p
	B	Standard error.	Beta		
Constant	0.247	0.028		8.901	0.000
Sense of happiness 2007	-0.063	0.012	-0.118	-5.039	0.000
Constant	0.185	0.038		4.916	0.000
Sense of happiness 2007	-0.051	0.013	-0.096	-3.945	0.000
Age	-0.001	0.001	-0.056	-2.287	0.022
Gender	0.056	0.015	0.089	3.811	0.000

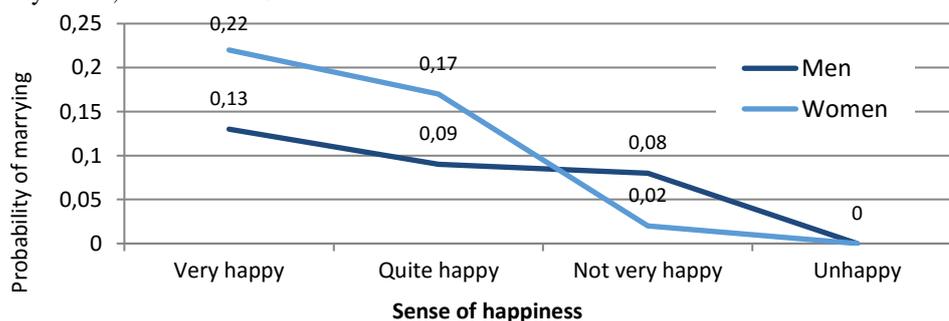
$R^2$  for well-being = 0.014

Table 5.4.3. Predictive value of marriage in 2009 for change of sense of happiness in the next 6 years (2009-2015)

Predictors	Non-standardised factors		Standardised factors	t	P
	B	Standard deviation	Beta		
Constant	-1.363	0.058		-23.609	0.000
Sense of happiness 2009	0.658	0.026	0.569	25.385	0.000
Constant	-1.435	0.059		-24.508	0.000
Sense of happiness 2009	0.677	0.026	0.585	26.178	0.000
Marrying	0.259	0.047	0.124	5.562	0.000
Constant	-1.309	0.077		-17.066	0.000
Sense of happiness 2009	0.731	0.027	0.632	27.397	0.000
Marrying	0.229	0.046	0.110	4.970	0.000
Age	-0.007	0.001	-0.156	-6.776	0.000
Gender	0.022	0.030	0.016	0.724	0.469

$R^2$  for marriage = 0.017

Figure 5.4.22 illustrates the size of the psychological well-being effect in terms of the chances of finding a life partner. Those who were very happy in 2009 were over 4 times more likely to marry in the next 6 years than those who felt rather unhappy in 2009. None of the people who felt unhappy got married in that period. The interesting thing is the relationship between the genders. For women, the psychological well-being is more important condition for the marriage than for men. The probability of getting married for women who felt very happy is 10 times higher than for those, who are not very happy. As far as men are concerned, the probability relationship is significantly lower, at level of 1.6.



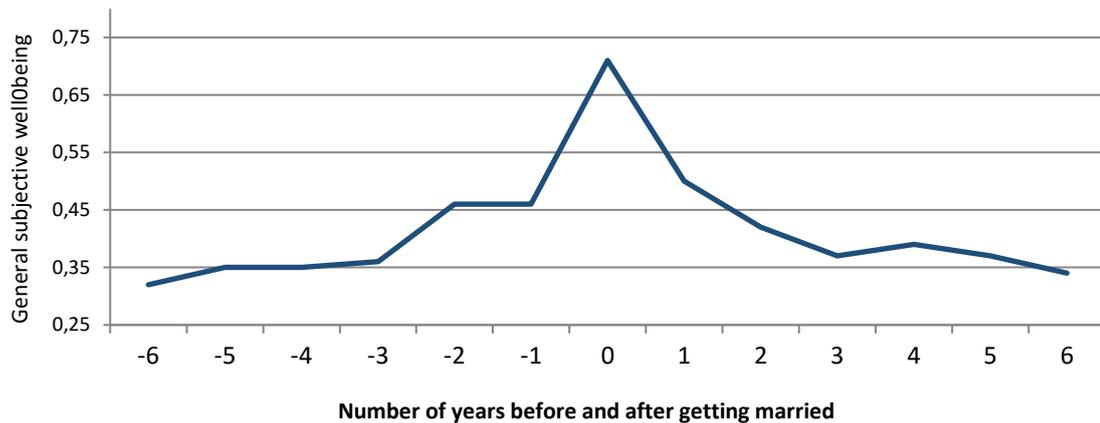
NOTES: the effect of the main welfare  $F(3, 1794) = 9.514$ ,  $p < 0.000$ ,  $\eta^2 = 0.016$ ; the effect of the interaction level of welfare and gender  $F(3, 1794) = 4.995$ ,  $p < 0.000$ ,  $\eta^2 = 0.008$

Figure 5.4.22. Probability of getting married between 2009 and 2015 for those who stayed unmarried in 2009, by gender and sense of happiness in 2009 in the panel sample

<sup>58</sup> The causal relation between psychological well-being and later interpersonal relations, including the chances of getting married, was detected earlier by other researchers (Harker, Keltner, 2001; Stutzer, Frey, 2006). However, Russian panel study research in five-year interval readings did not detect a statistically significant influence of well-being on the probability of getting married (Graham, Eggers and Sukhtankar, 2004).

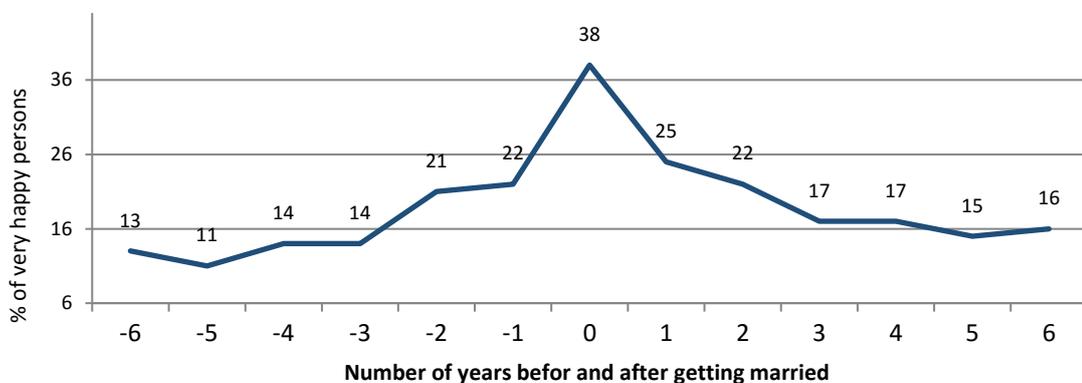
<sup>59</sup> Also, by adopting the complex standardised psychological well-being indicator (see: chapter 9) the only relationship that is statistically important is of a change in the marital status from the baseline of the well-being level.

The effect of getting married in terms of psychological well-being is not permanent as has already been shown by other studies (Easterlin, 2005). The general pattern is that psychological well-being improves as the date of the wedding approaches, then declines in the subsequent years to that from many years before the wedding (Figure 5.4.23. - 5.4.24.). The level of well-being declines rapidly within the first three years of marriage, and then stabilises. In other words, there is an almost full symmetry of change in psychological well-being before and after getting married, even though for six years before the marriage the psychological well-being is significantly higher than for people who do not get married in that period. This suggests that the significant difference in terms of various psychological well-being indicators between those who are married and those who did not get married or got divorced consistently found in many surveys (Myers, 2004), may follow not from the “happiness-giving” role of marriage but rather from individual differences in the level of psychological well-being. Those who are happy get married more often and get divorced less often than those who are unhappy (cf. Stutzer, Frey, 2006).



NOTES: welfare was the sum of the standardized assessment of the value of the whole past life, a sense of happiness and the assessment of the past year; the main effect of the number of years  $F(12, 3263) = 3.104, p < 0.000, \eta^2 = 0.011$ ; the differences of all groups with 0 and 1 with 3, 4, 5 and 6 are statistically significant in the NIR;  $N = -6 - 35, -5 - 49, -4 - 69, -3 - 85, -2 - 98, -1 - 164, 0 - 145, 1 - 351, 2 - 495, 3 - 478, 4 - 427, 5 - 436, 6 - 444$ .

Figure 5.4.23. General subjective well-being before and after getting married



Notes: the main effect of the number of years  $F(12, 3389) = 4.477, p < 0.000, \eta^2 = 0.016$ ; the differences of all groups with 0 and 1 with 3, 4, 5 and 6 and 2 groups of 4, 5 and 6 are statistically significant in the NIR;  $N = -6-47-5-54-4-78-3-77-2-131-1-170, 0-106, 1-370, 2-526, 3-4 493-461, 5-450, 6-439$ .

Figure 5.4.24. Percentage of very happy persons before and after getting married

In the case of divorce, the breakdown of relations is somewhat different. Not only does poorer psychological well-being increase the likelihood of divorce, also divorce causes a relatively permanent negative effect as far as subjective well-being is concerned (Table 5.4.4.-5.4.5.). While separation is taking place, subjective well-being falls slightly, and then remains at a lower level in the following years. The effect of adaptation to the situation after the divorce is weaker than in case of a marriage. Supposedly, marriage brings with it both positive and negative changes in the subjective quality of life, while the consequences of divorce tend to be almost entirely negative, at least in the horizon of two years, and their painful effects may even sometimes increase (impoverishment, problems with parenting, alcoholism etc.). However, it does not affect the deepest levels of well-being, which is the will to live. This is weaker compared to the married, who in following years do not divorce, even 6 years before divorce, and does not suffer further reduction after divorce (Figures 5.4.25. and 5.4.26.).

Table 5.4.4. Predictive value of well-being in 2009 for divorce the next 6 years

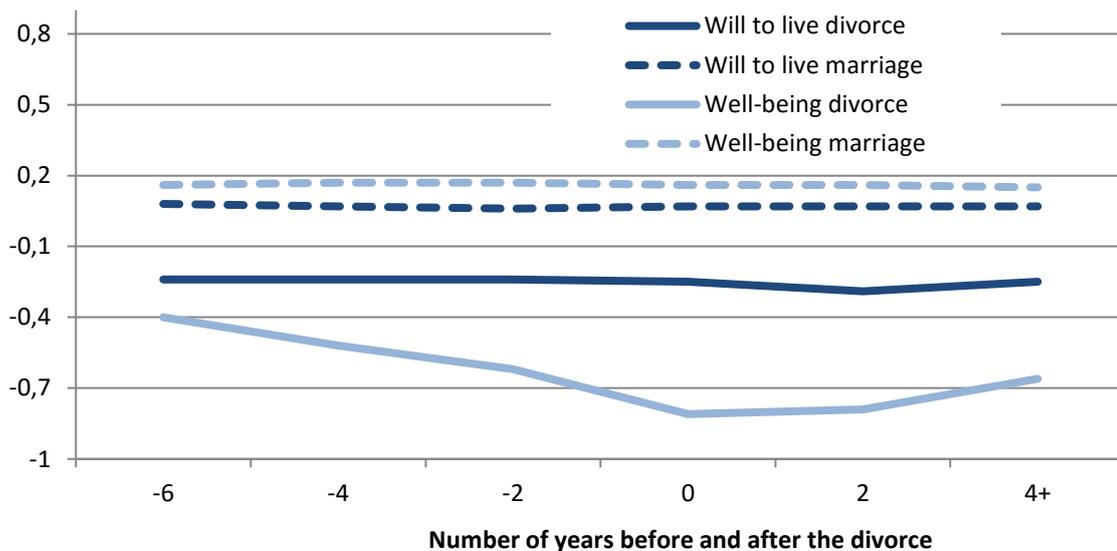
Predictors	Non-standardised factors		Standardised factors	t	p
	B	Standard error	Beta		
Constant	0.017	0.002		10.460	0.000
Sense of happiness in 2009	-0.009	0.002	-0.066	-5.100	0.000
Constant	0.040	0.009		4.441	0.000
Sense of happiness in 2009	-0.011	0.002	-0.076	-5.850	0.000
Age	-0.001	0.000	-0.073	-5.557	0.000
Gender	0.010	0.003	0.040	3.129	0.002

R<sup>2</sup> for well-being = 0.004

Table 5.4.5. Predictive value of divorce after 2009 for change in sense of happiness between 2009 and 2015

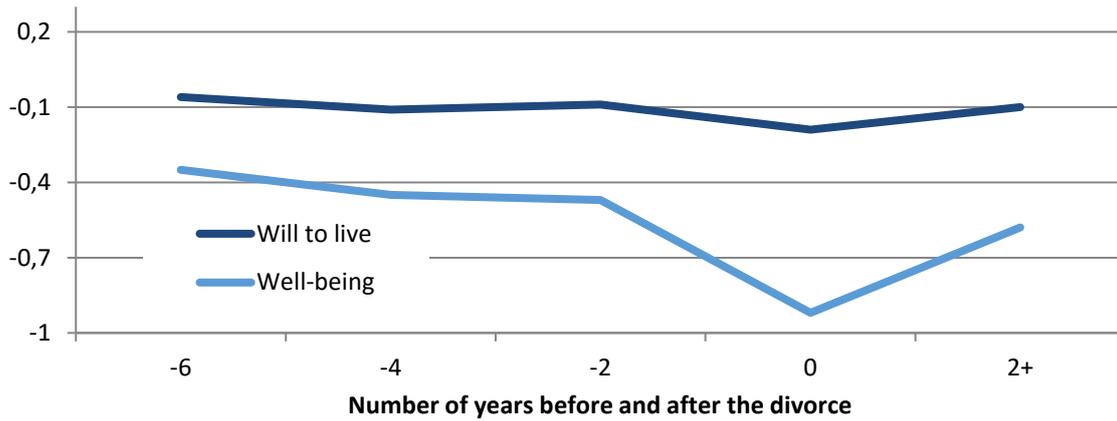
Predictors	Non-standard factors		Standard factors	t	p
	B	Standard error	Beta		
Constant	-0.009	0.012		-0.743	0.457
Well-being in 2009	-0.564	0.014	-0.514	-41.322	0.000
Constant	0.001	0.012		0.095	0.924
Well-being in 2009	-0.571	0.014	-0.521	-41.854	0.000
Divorce	-0.606	0.097	-0.078	-6.256	0.000
Constant	0.256	0.067		3.832	0.000
Well-being in 2009	-0.577	0.014	-0.526	-41.978	0.000
Divorce	-0.620	0.097	-0.080	-6.378	0.000
Age	-0.054	0.023	-0.029	-2.324	0.020
Gender	-0.003	0.001	-0.042	-3.354	0.001

R<sup>2</sup> for divorce = 0.006



NOTES: the main effects of divorce in a welfare-for 6 years before the divorce  $F(1, 878) = 100.581, p < 0.000, \eta^2 = 0.103$ ; for 4 years before the divorce  $F(1, 878) = 100.581, p < 0.103, \eta^2 = 0.103$ ; for 2 years before the divorce  $F(1, 970) = 153.474, p < 0.000, \eta^2 = 0.137$ ; for the period of divorce,  $F(1, 878) = 197.460, p < 0.000, \eta^2 = 0.184$ ; for 2 years after the divorce,  $F(1, 728) = 144.982, p < 0.000, \eta^2 = 0.166$ ; for 4 or more years after the divorce,  $F(1, 656) = 69.930, p < 0.000, \eta^2 = 0.096$ ; the main effects of divorce in respect of the will of life – for 6 years before the divorce  $F(1, 824) = 15.820, p < 0.000, \eta^2 = 0.020$ ; for 4 years before the divorce  $F(1, 938) = 18.783, p < 0.000, \eta^2 = 0.020$ ; for 2 years prior to the divorce without going to court  $F(1, 1032) = 20.308, p < 0.000, \eta^2 = 0.020$ ; for the period of divorce,  $F(1, 941) = 22.124, p = 0.000, \eta^2 = 0.023$ ; for 2 years after the divorce,  $F(1, 788) = 17.762, p < 0.000, \eta^2 = 0.022$ ; for 4 or more years after the divorce,  $F(1, 716) = 10.390, p < 0.000, \eta^2 = 0.014$ ; co-variables were age and gender

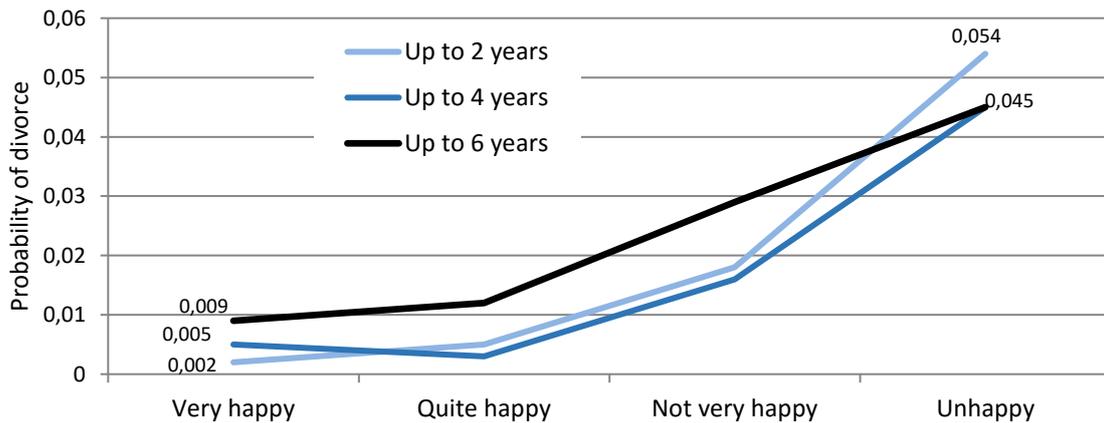
Figure 5.4.25. Will to live and general subjective well-being before and after divorce in the group of people who divorced, did not marry again in comparison to those who remained married



NOTES: the main effects of the measurement date for welfare  $F(4, 312) = 6.511, p < 0.000, \eta^2 = 0.077$ ; for the will of life  $F(4, 316) 2., ni <$  testing contrasts -for welfare: level 0-level 2 +  $F(1, 78) = 4.099, p < 0.05, \eta^2 = 0.05$ ; level 0-level-2  $F(1, 79) = 11.699, p < 0.01, \eta^2 = 0.13$ ; level 0-level-4  $F(1, 78) = 11.852, p < 0.01, \eta^2 = 0.132$ ; level 0-level-6  $F(1, 78) = 16.131, p < 0.001, \eta^2 = 0.171$ ; for the will of life: level 0-level 2 +  $F(1, 79) < 1, ni.$ ; level 0-level-2  $F(1, 79) < 2, ni.$ ; level 0-level-4  $F(1, 79) < 2, ni.$ ; level 0-level-6  $F(1, 79) = 4.491, p < 0.05, \eta^2 = 0.054$ ; co-variables were age and gender

Figure 5.4.26. Will to live and general subjective well-being before and after divorce in the group of people who divorced and did not remarry in the panel sample.

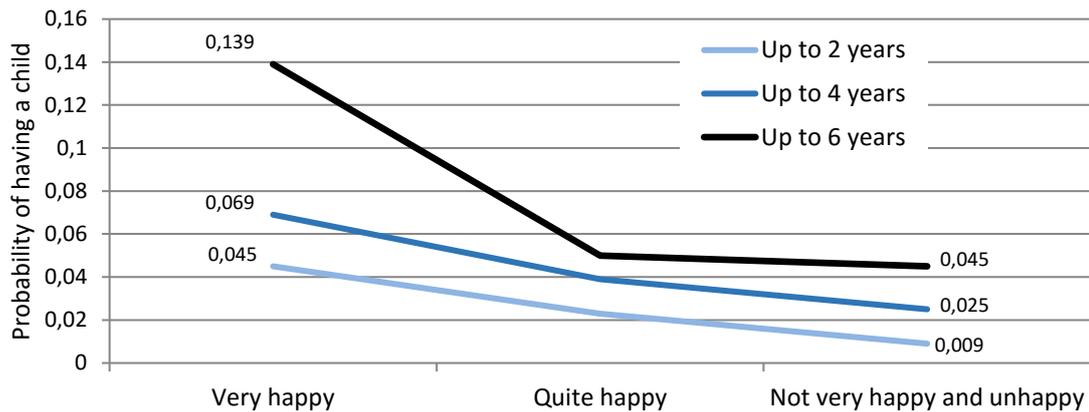
Therefore, divorce, like marriage, depends on individual features linked to psychological well-being. Among the unhappily married the likelihood of divorce after two years is twenty-seven times, and after up to 6 years – five times that among the happily married (Figure 5.4.27).



NOTES: the main effect of welfare: up to 2 years before the divorce  $F(3, 11029) = 21.568, p < 0.000, \eta^2 = 0.006$ ; up to 4 years prior to the divorce  $F(3, 8281) = 14.785, p < 0.000, \eta^2 = 0.005$ ; up to 6 years before the divorce  $F(3, 6038) = 7.743, p < 0.000, \eta^2 = 0.004$ ; the control variables were age and gender.

Figure 5.4.27. Probability of divorce between 2009 and 2015 depending on the sense of happiness before the divorce in the panel sample

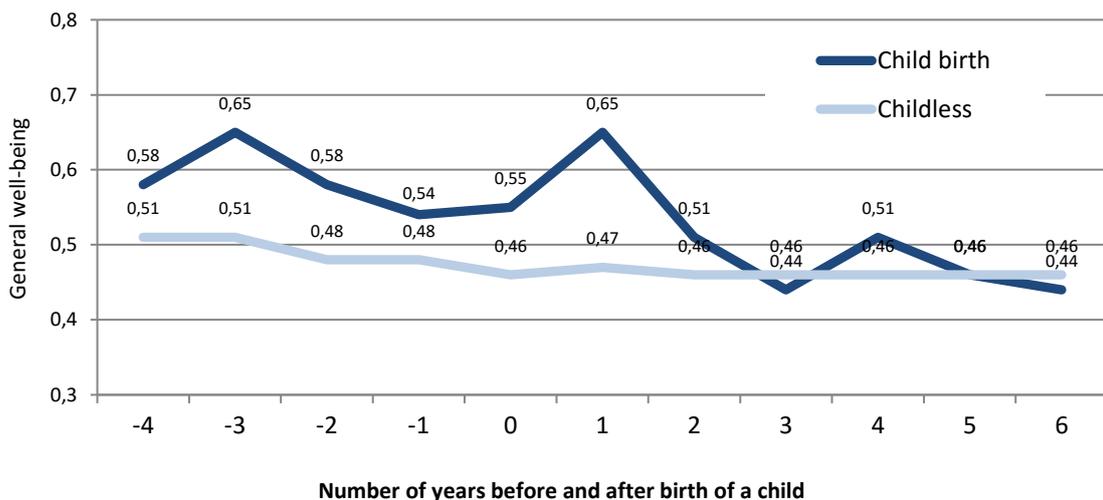
Psychological well-being is also a factor that differentiates the probability of a childbirth (Margolis, Myrskylä, 2015; Myrskylä, Margolis, 2014). The relation between childbirth and well-being is two-sided; the arrival of a child changes parents' well-being, though it does not allow prediction of whether someone is going to have a child in the next six and two years (Figure 5.4.28.). The child birth also increases the general psychological well-being, including the sense of happiness (Figures 5.4.29. - 5.4.30.). Two years after birth, both the feeling of happiness and the general psychological well-being fall and never in the period of the four following years does it go back to the level before the childbirth. Thus, the happiness encourages having a child, but having a child does not encourage happiness in the long run.



NOTES: the main effect of wellbeing: up to 2 years before the birth of a child  $F(2, 3317) = 5.152, p < 0.01, \eta^2 = 0.003$ ; up to 4 years before the birth  $F(2, 2182) = 3.085, p < 0.05, \eta^2 = 0.003$ ; up to 6 years before the birth  $F(2, 1540) = 7.373, p < 0.01, \eta^2 = 0.009$ ; due to too few respondents the unfortunate category of this category is combined with the not very happy.

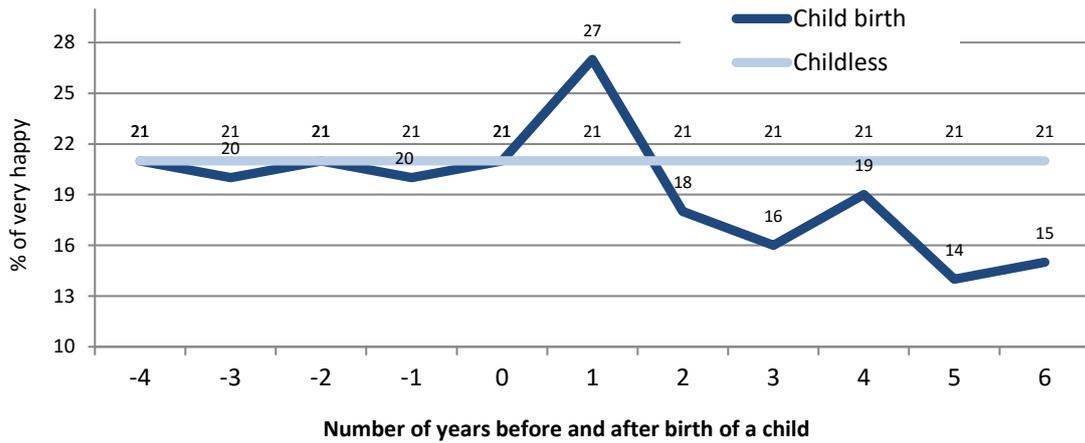
Figure 5.4.28. Probability of having a child in a marriage between 2009 and 2015 depending on the sense of happiness during different periods before the birth in the panel sample

Although the research results in the subject literature are not wholly unambiguous, the majority shows a weak negative effect of children in terms of the various measures of psychological well-being (satisfaction with life, sense of happiness e.g. Alesina et al., 2004; Ball, Chernova, 2008; Clark et al., 2008; Di Tella et al., 2003; Haller & Hadler, 2006; Margolis & Myrskylä, 2011; McLanahan & Adams, 1989; Pollmann-Schult, 2014; Stanca, 2012). This negative effect falls in the face of the general opinion that children bring happiness (Hansen, 2012). Also in *Social Diagnosis*, nearly half the respondents indicate children among the three most important conditions of a successful, happy life. However, our results do not, despite appearances, actually disagree with those that dominate the subject literature. Also in the *Diagnosis*, when children supported of any age are factored into the analysis, the effect turns out to be, though weak, statistically significant as negative both in terms of general subjective well-being and sense of happiness with control for gender, age, education and prosperity (Figure 5.4.31. and 5.4.32.). Parents' well-being depends not only on the child's age, but also on the number of children (Figure 5.4.33.) but this negative correlation results largely from the fall of material condition of life proportionally to the number of children. However, if the effect of the income per equivalent unit is omitted, the negative effect of larger number of children decreases significantly (Figure 5.4.34.). One matter is the rise in well-being just before the birth of a first child and in the first years of their life, and another the long-term effect in the whole period of bringing up a child.



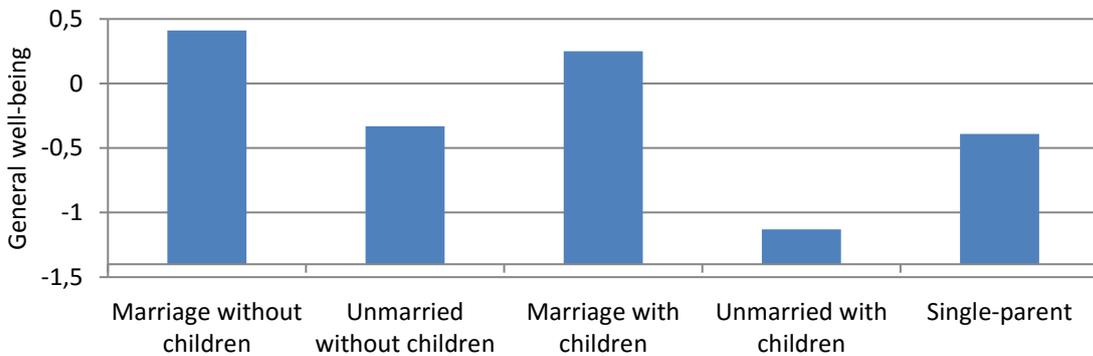
NOTES: welfare was the sum of the standardized assessment of the value of the whole past life, a sense of happiness and the assessment of the past year; statistically significant are the differences between individuals, where the child is born, and childless in groups 3 and 1

Figure 5.4.29. The overall subjective well-being at various times before and after the birth of a child living in a marriage in single-family households compared with people living in childless marriage in single-family households in a similar age in the same periods



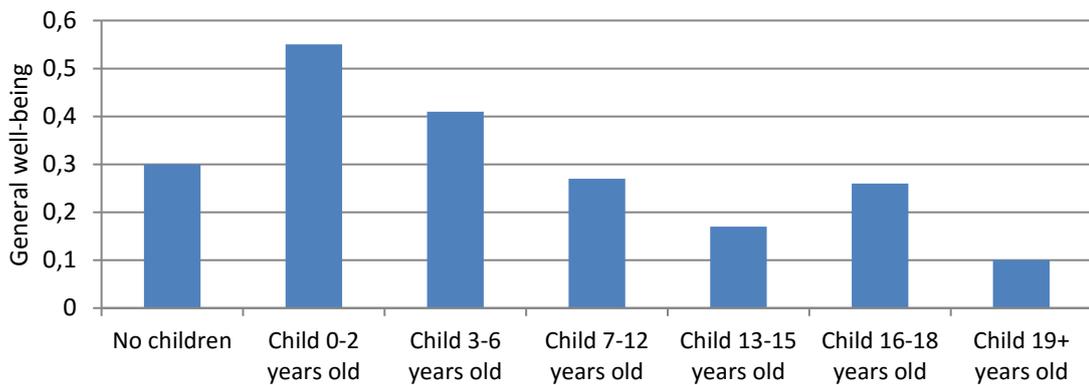
NOTES: statistically significant are the differences between individuals, where the child is born, and childless in groups 1, 3, 5 and 6

Figure 5.4.30. Percentage of the people very happy at various times before and after the birth of a child living in a marriage in single-family households compared with people living in childless marriage in single-family households in a similar age in the same periods



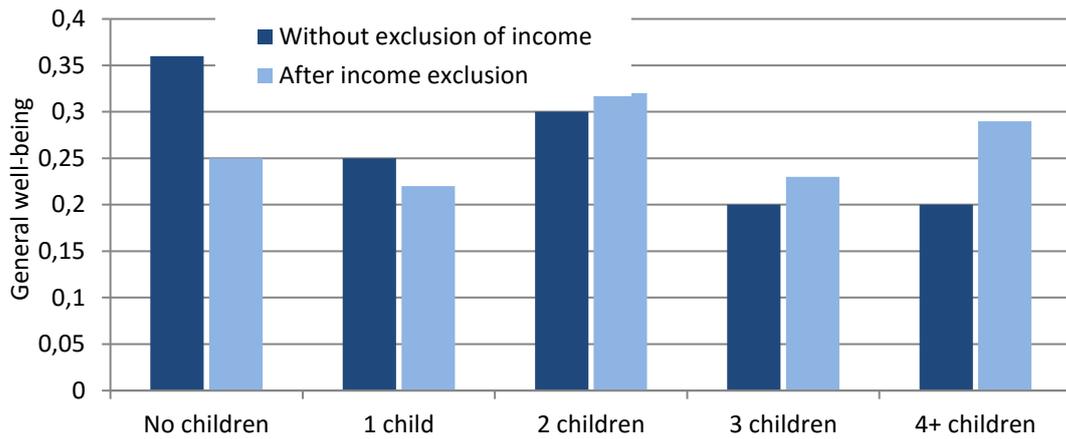
NOTES: in the case of informal couples and single parents, only the formally single were considered (the divorced, widowed and separated were not included). The main effect of family type was  $F(4, 11771) = 27.491, p < 0.000, \eta^2 = 0.009$  and the result of all groups is different to a statistically significant extent to that of couples without children. As far as the remaining comparisons are concerned, the insignificant pairs are the differences between informal couples with children and single parents as well as childless informal couples and single parents.

Figure 5.4.31. The overall subjective welfare due to the family type with control of age, gender, educational level and income per unit equivalent



NOTES: only individuals with one child have been taken into account; the main effect of having children and their age  $F(6, 2524) = 6.891, p < 0.000, \eta^2 = 0.016$ ; compared to people without children, people with children aged 0-2, 3-6 and 13-15 years and 19+ years differ statistically significantly

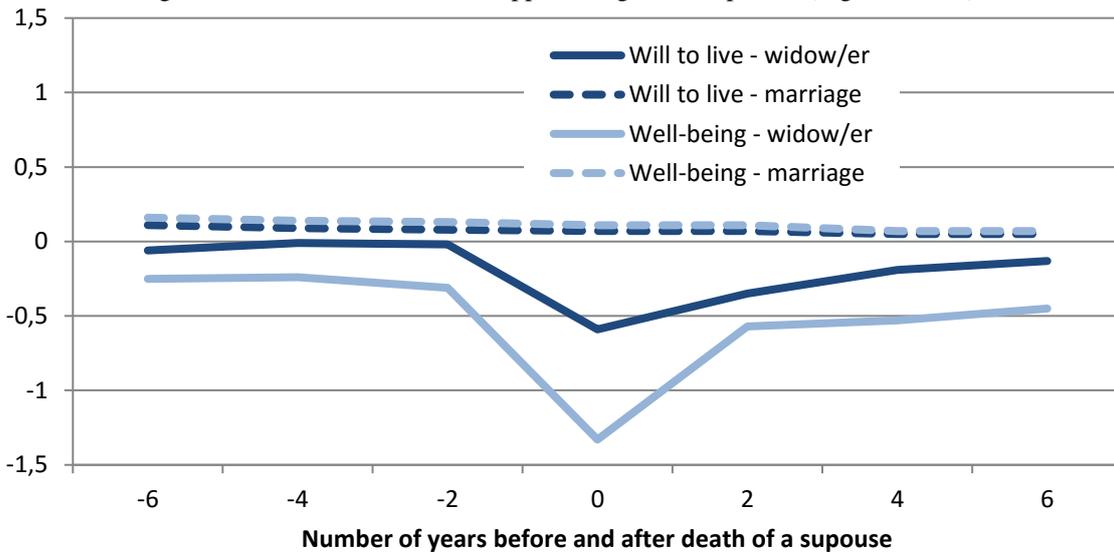
Figure 5.4.32. The overall welfare of the respondents aged up to 57 due to having children and the age of the child with control of the parents' age and gender



NOTES: in the case of a lack of control of income level per equivalent unit, the main effect of number of children is  $F(4, 9812) = 7.899$ ,  $p < 0.000$ ,  $\eta^2 = 0.003$ , statistically significant differences are between the group without children and those with one, three or a greater number. With income level control, the main effect of child number is  $F(4, 8922) = 5.873$ ,  $p < 0.000$ ,  $\eta^2 = 0.003$ , with the only significant difference between the group without children and that with one child.

Figure 5.4.33. General subjective well-being in terms of number of children with control for age, gender and, optionally, income per equivalent unit

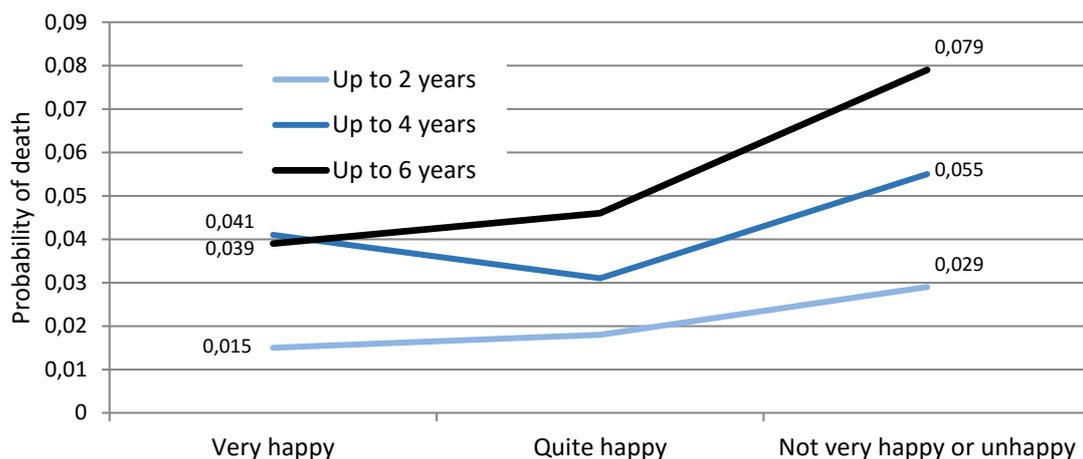
In the case of the death of a spouse, the effect of the negativity expressed in hypothesis 5 is clearly visible. As opposed to marriage, the loss of a partner gives a more long-term effect in terms of various measures of well-being (Figure 5.4.34.), with the adaptation process in this case being less full. Like with divorce in terms of general subjective well-being, where with time there are no apparent signs of adaptation (Figure 5.4.25.).



NOTES: for will to live statistically significant are the differences between marriage and widowhood for periods -4, -2, 0 and 2; for the well-being statistically significant are the differences between marriage and widowhood for all periods.

Figures 5.4.34. Will to live and general welfare of subjects at various times before and after the death of a spouse in a group of widows and among those living in a marriage in the same periods

As it has been already mentioned, the subjective well-being allows to some extent predict the probability of the death of the spouse during the subsequent 6, 4 and 2 years (Figure 5.4.35.). However, in contrast to the marriage and the birth of a child in the relationship is not so much due to the fact that the well-being affects the death of a partner but that partner's death precedes his disease, which causes a reduction in future welfare of the widow or widower.



NOTES: the effect of the main level of welfare: up to 2 years before the birth of  $F(2, 11172) = 5.425, p < 0.01, \eta^2 = 0.001$ ; up to 4 years before the birth of  $F(2, 8546) = 9.479, p < 0.000, \eta^2 = 0.002$ ; up to 6 years before widowhood  $F(3, 6175) = 12.173, p < 0.000, \eta^2 = 0.004$ ; due to too few number of respondents unhappy category this is combined with the category very happy; coverable was the age.

Figure 5.4.35. The probability of the death of your spouse between 2009 and 2015 year depending on the sense of happiness in different times before widowhood with the control panel in the trial of the century.

Since a long time, mainly among economists, there has been a dispute about whether the money happiness (Easterlin, 1974, 1995; Czapiński, 2012; Stevenson B, Wolfers, j. (2008). Much later they began to look for answers if money gives luck or does luck gives money (Diener et al., 2002; Graham, Eggers, Sukhtankar, 2004; Marx, Fleming, 1999; Roberts et al., 2003)<sup>60</sup>.

In the Diagnosis, the relationship between welfare and income is asymmetrical. Well-being must be a change in personal income in all periods of postponement of the measurements (2-, 4- and 6-year-old) to a much greater extent than income change affects welfare (Figure 5.4.36). The discrepancy between the strength of the determination in these two directions increases with the length of the period of postponement: the importance of animal welfare for getting rich increases with time more than the importance of money for welfare. Thus, a person in a better mental health have chances of getting rich faster in compared with people in poorer mental health, but the increase in prosperity too, though less, entails an increase in well-being. Money gives happiness to a lesser extent than happiness gives money.<sup>61</sup>

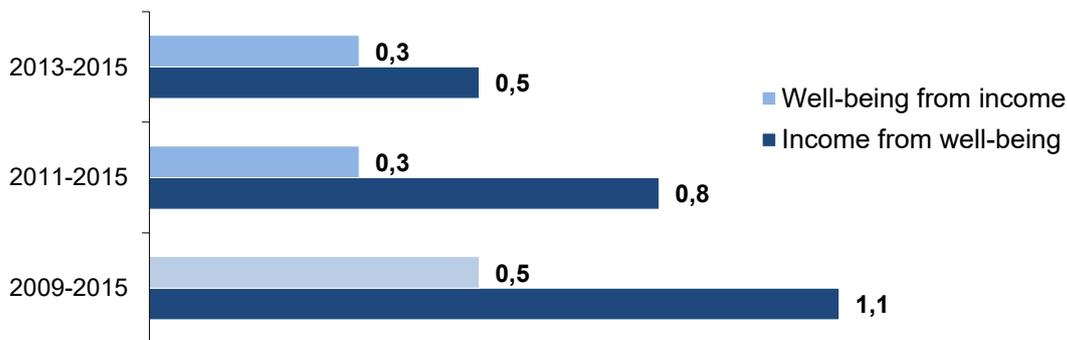


Figure 5.4.36. Percentage of variance in terms of changes to the overall welfare of the subjective explained by changing personal income after you turn off the effect of the level of well-being in the first measurement and the percentage of the variance in personal income change explained by the psychological welfare of the first measurement after turning off the income in the first measurement in the 2009-2015, 2011-2015 and 2013-2015 (all values are statistically significant)

<sup>60</sup> In one of the studies (Staw, Sutton, Pelled, 1994) the positive emotions of 272 were measured and it was checked how they manage to complete their professional duties in the next 18 months. The happier ones were evaluated as better by their bosses and reached higher incomes. In the large studies of the Australian youth (Marks, Fleming, 1999) the lots of the respondents had been followed for 15 years: as it turned out the happy ones had much higher chances than the less happy ones of getting better paid and more interesting job. Another longitudinal study indicated that the happier American students had been earning 30% more after 20 years than their less happy friends (Diener, Biswas-Diener, 2010).

<sup>61</sup> There is, however, a lot of data proving that money gives a sense of happiness, however, but mostly to the poor. Beyond a certain threshold of wealth there only remains the dependency from the welfare to money (Czapiński, 2004c, 2008c, 2012)

## 5.5. Personal finance

### 5.5.1. Personal income: present and expected in two years

Average monthly net personal income reported for the last quarter was PLN 2034 (median PLN 1700, standard deviation 1558) in the entire sample, and in the panel sample somewhat less at PLN 1965. In comparison to 2013 it increased by 8.2% in the entire sample (a fall of 10.1% in real terms). These are the first real-terms falls in personal income since the beginning of the study in 2009.

The distribution of average income in terms of social cross-sections is very diverse (Table 5.5.1.). Personal income reported by men is 1/3 higher than that of women (in 2013 the difference was 30.5%); people with higher and post high-school education declare income over twice that of people with basic education. Personal income increases with age until 35-44 y.o., and then systematically decreases. The growth is linear in terms of the size of place of residence; residents of rural areas earn 58% (in 2013 the difference was also 57%) of the income of those in the largest cities. Income is the highest in the Mazowieckie, Pomorskie, Dolnośląskie and Zachodniopomorskie Voivodships, and the lowest in Podkarpackie, Lubelskie and Świętokrzyskie.

In terms of social and professional status, entrepreneurs earn best with unemployed persons, receivers of welfare benefits and other professionally inactive persons, not counting school and university students, earning the least. Retirees' incomes are higher than those of farmers.

It therefore comes as no surprise that the personal income of upper quartile income households by household equivalent unit are double that of the lower income quartile as personal incomes are an element of household income. It is also worth noting that, compared to 2013, real incomes increased in all groups (most among other entrepreneurs, and least in retired people).

We also asked about net income expected in two years' time, and respondents expected their income to grow by an average of 37% (Table 5.5.2.). Two years ago expectations were slightly higher at 43% and four years ago at 48%. 2013 was the first year of crisis in finances - the personal income dropped by several %. Surely that lowered the optimism. There are, however a few social and demographic groups, the financial expectations of which for 2015 are higher than in 2013, and even than in 2011. Those are school children and students, the youngest residents of Podkarpackie and Pomorskie Voivodships.

The amount of expected income is mainly determined by the current level of income and by factors that are strongly correlated to it; the higher the present income, the higher the income expected. However, the size of the difference between the current and expected income in percentage terms depends on slightly different socio-demographic factors, while in relation to the current financial situation this relation is partially reversed; the lower the current income, the higher its expected growth in percentage terms ( $r=-0.099$ ). Similarly to previous years, in general unemployed persons, school and university students, and the youngest expect the greatest financial improvement in percentage terms (by over 100%). The expectations of entrepreneurs and farmers are greater than those of employees, especially of those who work in the public sector. The smallest growth in income is expected by retirees (12% similarly as two years ago) and public sector workers (by 26%, by 29% in 2013) and welfare benefit receivers (by 21%, by 34% two years ago). In terms of the class of the place of residence and Voivodship, expectations are rather similar with the exception of Kujawsko-Pomorskie, where they do not exceed 30%. A factor that strongly differentiates expected income growth is age as the older the respondent is, the lower is the expectation. Men expect slightly larger rises than women.

In terms of particular occupations, the most optimistic are, similarly as two years ago, artists, writers and journalists. Professional soldiers, railway workers, representatives of the authorities and other personal services workers were the most modest in their expectations of less than 20% (Table 5.5.3.).

We are able to check the accuracy of expectations from two years ago. It turns out that this time they proved more unrealistic than in the previous editions of the Diagnosis (Table 5.5.3.). This is due to a significant decrease in the growth of personal income in the past two years. The nominal increase in personal income between 2011 and 2013 was by more than eight times less than respondents' expectations, and it was much greater the expectation for two years ago which was only double that actually received.

Let us see who was right and who was wrong in their expectations of income change in 2013 (Table 5.5.1. – last column). School children and students, the youth, the unemployed, other professionally passive people, farmers – those are the groups that were over optimistic in their predictions ( respectively by 257%, 106%, 141%, 89% and 82%). The most realistic people turned out to be the oldest and retired people (error not higher than 10%); those are the group that already finished their careers.

Around 30% of respondents had a chance to be positively disappointed as they managed to earn more than they expected. However, they are not shown in our comparisons as all of the groups are overbalanced by the non-realistic optimists.

*Table 5.5.1. Personal net income in separate social and demographic categories in the whole samples in 2013 and 2015 and the change in personal income level expressed in % between 2013 and 2015, and the difference expressed in % between the expected in 2013 change in personal income in 2015 and the real change for the people the belong to the particular category in the panel sample.*

Social category	2013		2015		Percentage change between 2013-2015 in the panel sample*	Percentage difference between foreseen and real change n 2013
	Average	Standard deviation	Average	Standard deviation		
Total	1880	1522	2034	1558	22.4	32.3
Gender						
Men	2136	1739	2339	1818	24.4	35.4
Women	1637	1235	1750	1201	20.6	29.7
Age						
Under 24	1248	776	1327	787	78.8	105.8
25-34 y.o.	2031	1351	2219	1630	43.8	60.7
35-44 y.o.	2356	1756	2531	1845	24.4	41.2
45-59 y.o.	1964	1959	2127	1766	19.2	33.7
60-64 y.o.	1629	1068	1801	1339	15.4	17.5
65+ y.o.	1523	850	1632	908	11.5	6.2
Place of residence						
Towns over 500k residents	2700	2416	2876	2377	19.6	28.7
Towns 200-500k	2195	2045	2355	1551	22.7	23.6
Towns 100-200k	1884	1018	2186	1333	20.6	53.5
Towns 20-100k	1826	1128	1998	1235	20.8	23.1
Towns up to 20k	1823	1378	2028	1654	19.5	30.6
Rural areas	1549	1070	1676	1243	25.1	37.0
Voivodship						
Dolnośląskie	1980	1345	2169	1855	22.5	26.4
Kujawsko-pomorskie	1751	2198	1861	1236	27.3	22.8
Lubelskie	1576	1153	1678	1240	30.0	34.5
Lubuskie	1762	1097	2101	1503	29.0	32.3
Łódzkie	1737	1334	1822	1075	26.0	41.0
Małopolskie	1858	1275	2128	1543	19.3	33.0
Mazowieckie	2245	2270	2408	2264	20.8	33.1
Opolskie	1790	1317	1874	1145	23.7	31.1
Podkarpackie	1536	982	1642	978	22.4	31.5
Podlaskie	1770	1268	1832	1365	17.0	20.8
Pomorskie	2027	1433	2193	1537	26.1	26.5
Śląskie	1973	1127	2106	1220	18.1	27.9
Świętokrzyskie	1530	938	1702	1334	23.8	32.2
Warmińsko-mazurskie	1710	1153	1790	1239	19.3	21.4
Wielkopolskie	1841	1339	1952	1318	17.8	60.1
Zachodnio-pomorskie	1976	1537	2190	1622	21.9	23.4
Educational attainment						
Primary and lower	1200	707	1271	707	16.7	22.2
Basic vocational/lower secondary	1579	1006	1695	1061	24.2	42.9
Secondary	1858	1456	2001	1446	23.7	30.2
Secondary	2682	2040	2839	2026	22.7	30.0
Higher and post-secondary						
Income per capita	1121	694	1182	670	21.2	57.8
Lower quartile	1501	830	1592	841	20.0	35.3
2 <sup>nd</sup> quartile	1829	881	1952	934	20.8	21.4
3 <sup>rd</sup> quartile	2913	2309	3082	2167	26.8	20.5
Upper quartile						
Social and professional status						
Public sector	2425	1494.3	2582	1546	17.8	21.7
Private sector	2191	1593.5	2294	1520	32.6	32.8
Private entrepreneurs	3048	2986.0	3627	3123	52.9	31.9
Farmers	1442	1233.2	1516	1470	25.3	82.4
Pensioners	1137	563.1	1265	864	14.6	46.3
Retirees	1577	835.4	1675	907	11.6	7.2
Students	935	777.8	1059	840	34.6	257.4
Unemployed	940	840.0	1104	1089	23.6	141.6
Others professionally inactive	1041	1810.2	1066	799	29.8	88.8

\* These are averages of individual percentage differences between personal income in 2013 and 2015 of people, who had their personal income in both years higher than PLN 0. The percentage change of the average personal income in this whole category is much lower, e.g. for men it is 9.5%, which is lower by 14.9 percentage point than the average percentage of the individual changes for the incomes of the particular men. This happens because individual average difference is overestimated by the cases of very low base of nominally large changes.

Table 5.5.2. Expected income increase in the next two years in 2011, 2013 and 2015

Social category	Expected income increase in 2011*	Expected income increase in 2013*	Expected income increase in 2015*
Total	48	43	37
Gender			
Men	54	47	39
Women	43	40	36
Age			
Under 24	148	113	171
25-34 y.o.	65	69	52
35-44 y.o.	54	53	36
45-59 y.o.	41	37	31
60-64 y.o.	20	15	15
65+ y.o.	16	12	12
Place of residence			
Towns over 500k residents	51	41	35
Towns 200-500k	41	47	50
Towns 100-200k	49	44	33
Towns 20-100k	42	34	32
Towns up to 20k	53	38	42
Rural areas	50	49	37
Voivodship			
Dolnośląskie	46	44	34
Kujawsko-pomorskie	40	40	29
Lubelskie	57	41	34
Lubuskie	59	46	43
Łódzkie	43	47	32
Małopolskie	51	48	38
Mazowieckie	51	47	36
Opolskie	62	43	35
Podkarpackie	55	43	32
Podlaskie	37	35	43
Pomorskie	51	43	54
Śląskie	41	36	45
Świętokrzyskie	40	45	41
Warmińsko-mazurskie	38	29	33
Wielkopolskie	54	47	35
Zachodnio-pomorskie	42	43	32
Educational attainment			
Primary and lower	30	27	25
Basic vocational/lower	57	53	42
secondary	47	42	40
Secondary	51	44	36
Higher and post-secondary			
Income per capita	67	62	57
Lower quartile	43	41	33
2 <sup>nd</sup> quartile	40	36	29
3 <sup>rd</sup> quartile	37	33	30
Upper quartile			
Social and professional status			
Public sector	33	29	26
Private sector	50	45	40
Private entrepreneurs	76	61	44
Farmers	70	81	53
Pensioners	31	34	21
Retirees	16	13	12
Students	194	178	325
Unemployed	168	153	119
Others professionally inactive	102	88	109

\* see the footnote below 5.5.1

Table 5.5.3. Personal net income at present and as expected in two years in the whole 2015 sample, and expected percentage personal income growth in 2013 and 2015 in chosen 55 professional groups (by the difference between the real and expected income increase in 2015 and 2013).

Current profession	Average w 2015 r.		Expected increase of the income in 2013: *		Difference between 2015 and 2013
	Current income	Expected income	2015.	2013	
Doctors, vets and dentists	5542	6923	50	32	18
Mining and construction assistants	1847	2519	65	47	18
Other health protection specialists	2415	2994	43	30	13
Primary school teachers	2436	3231	33	24	9
Administration and management specialists	2726	3897	44	35	9
Security workers (fireman, policemen and similar)	2311	2900	35	26	9
Blacksmiths and locksmiths	2231	2863	33	28	5
Operators of other machines and equipment	2048	2848	36	32	4
Professional soldiers	3099	3382	18	15	3
Academic teachers	4360	7507	25	22	3
Painters and similar	2118	3000	42	40	2
Hairdressers. beauticians	1752	2330	67	66	1
Fixers	2027	2605	26	25	1
Lawyers	4060	6015	62	62	0
Textile production workers	1682	2129	43	43	0
Authorities and managers	5539	6663	17	19	-2
Homecarers and cleaners	1426	1740	37	39	-2
Marketing specialists	3338	4252	36	39	-3
Personal care specialists	1535	2099	39	42	-3
IT technicians and similar	3893	5123	42	46	-4
Salesmen	1723	2362	44	49	-5
Railwaymen	2594	2842	12	17	-5
Other simple works	1592	2223	50	55	-5
Managers of various specialties	3866	4920	30	36	-6
Office workers	2026	2556	31	37	-6
Transport and evidence workers	2245	2848	29	35	-6
Post-primary school teachers	2752	3161	20	27	-7
Creators, artists, writers, journalists	3840	6194	106	113	-7
Truck and bus drivers	2805	3532	30	37	-7
Engineers, architects, designers and similar	3425	4446	36	44	-8
Financial specialists	3881	5016	29	37	-8
Other personal services workers	2408	2546	17	25	-8
Metallurgists	2192	2903	32	40	-8
Nurses and midwives	2435	3163	22	32	-10
Medium financial personnel	2515	2947	24	34	-10
Moulders, welders	2456	3246	33	43	-10
Machine technicians	2394	3108	53	63	-10
Agents and sales intermediaries	3267	4048	37	48	-11
Plant and animal production farmers	1451	1890	56	68	-12
Construction workers - raw state	2486	3227	45	57	-12
Cooks	1773	2141	22	35	-13
Electricians	2569	3178	31	44	-13
Workers, which were not classified otherwise	1930	2636	47	63	-16
Food processing workers	2025	2423	25	43	-18
Construction workers - finishing	2408	3202	42	61	-19
Wood processing workers, papermen, joiners	1907	2792	34	53	-19
Authorities	2697	3328	26	48	-22
Waiters, bartenders, stewards	1643	2228	64	87	-23
Other specialists	2892	3624	23	47	-24
Other medium personnel	1966	2539	41	65	-24
Machine and mining equipment operators	2541	3128	18	44	-26
Passenger and delivery car drivers	2467	3056	28	56	-28
Trade workers	1882	2745	25	56	-31
Plant production farmers	1685	2134	35	70	-35
Farmers producing for their own needs	1548	1880	32	98	-66

\* See the note below 5.5.1

Despite substantial real growth personal income there was a further decrease in their dissections of the Gini coefficient to be measured (Figure 5.5.1.).

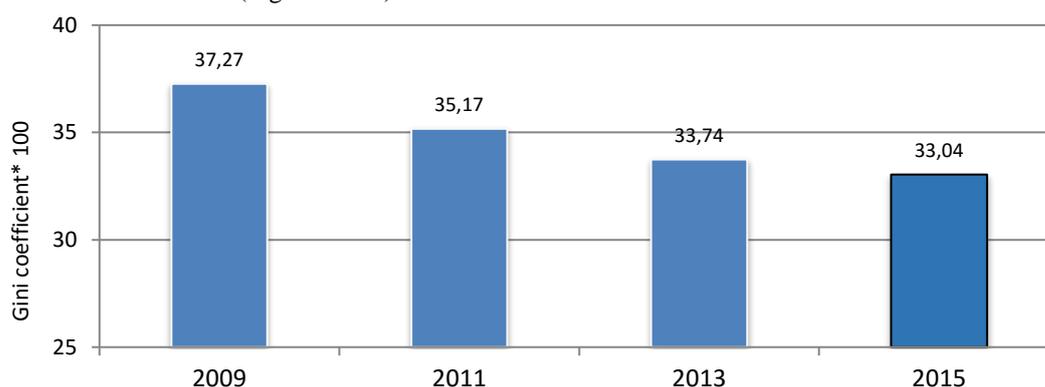


Figure 5.5.1. Gini coefficient between 2009-2015 for personal income in whole samples

### 5.5.2. The rate of return from investment in education at a higher level

One of the main, if not the most important factor differentiating personal income is education. The educational boom, which began in Poland in the first years of the transformation, proves that this relation has been perfectly understood. It is however worthwhile to look more closely at this relation to assess the extent to which higher education, to which 70% of 16 year old students' parents aspire (see chapter 4.5.3.), is a profit-making investment. An indicator of the profitability of every investment is rate of return, which in the case of educational investments is comparatively easy to calculate. From the difference in earnings of a graduate of a given educational attainment and their counterpart of the same gender who completed their studies one level lower, it is necessary to subtract the cost of further education (fees and earnings foregone during study) spread over the whole period of professional activity and divide the result by the income of the less well-educated and multiply that by 100 (in order to express the result as a percentage value of net earning advantage of the better educated over the less (well). This we did for PhD in comparison with Master's degrees and higher education graduates compared to high-school graduates. Also, we divided the higher education group into Master's and Bachelor's degree graduates<sup>62</sup>.

In Poland, the rate of return on education has been for years much higher than in countries of a similar level of development (Psacharopoulos, Patrinos, 2004). A Bachelor's degree yields a five times smaller rate of return than a Masters, and a PhD increases that by a further 38% (Figure 5.5.2.). In the last two years, the rate of return increased significantly only for PhD. Masters degrees retained their financial significance, but a Bachelor's ceased to be a profitable investment.

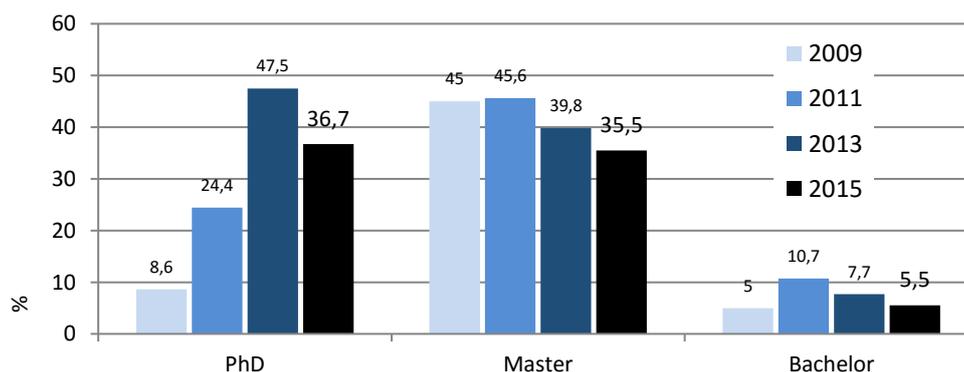


Figure 5.5.2. The rate of return from investment in education at doctorate, Master's, and Bachelor's among active population between 2009-2015

Women gain less from a PhD than men do, but more in case of Master's and a Bachelor's (Figure 5.5.3.).

<sup>62</sup> We accepted the assumption that all Doctorates and students stop working and so do not earn what their colleagues with Master's (PhD graduates) and secondary education (5 years Master's degree graduates and 3 years bachelor's degree graduates) do and we accepted that all of the pay for their studies: in 2013 and 2015 - PLN 8 000 Doctorates, PLN 35 000 Master's and PLN 18 000 Bachelor's, and in 2009 and 2011 - PLN 7 000 Doctorates, PLN 30 000 Master's and PLN 15 000 Bachelor's. The results of the analysis in this report may differ from those from previous versions due to the changes of methodology: this year the return rate was calculated for the professionally active groups. We adopted 67 as the age for retirement.

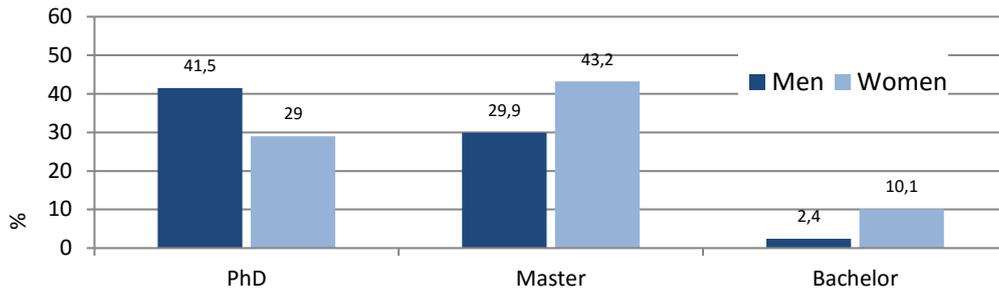


Figure 5.5.3. The rate of return from investment in education at doctorate, master's, and Bachelor's male and female active population in 2015

What educational qualifications do employers appreciate most in Poland today? Public-sector workers gain the least from higher education in terms of profit compared to those with middle education than private-sector employees (Figure 5.5.4.). There is an especially large difference between the sectors in men's Master's and PhD. In the public sector, only a men's Bachelor's gives a slightly better rate of return than in the private sector. The smallest differences in both sectors are between women and men in terms of rate of return from Master's degrees.

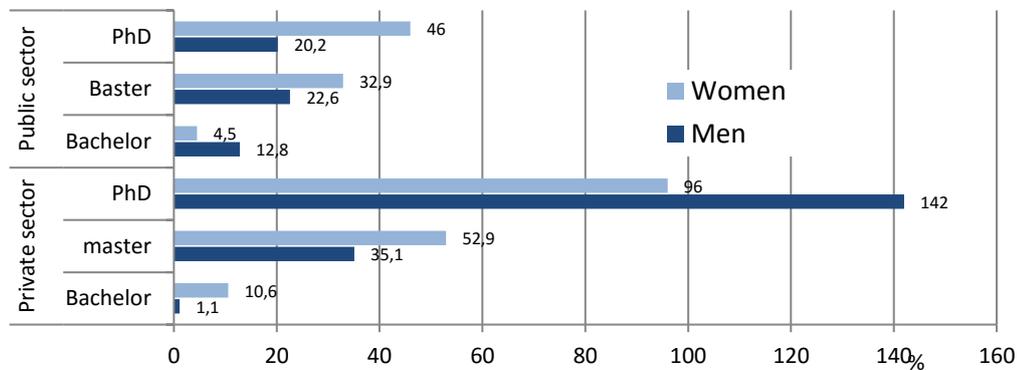


Figure 5.5.4. The rate of return from investment in education at doctorate, master and undergraduate among men and women, depending on the employment sector

Not all majors the same rate of return, with most profit to be gained from studying law and information technology and medicine, and the least from agriculture science, as in the last two studies, farmers even have negative rates of return. In the last years, there have been marked changes in the rate of return of study in various directions (Figure 5.5.5.).

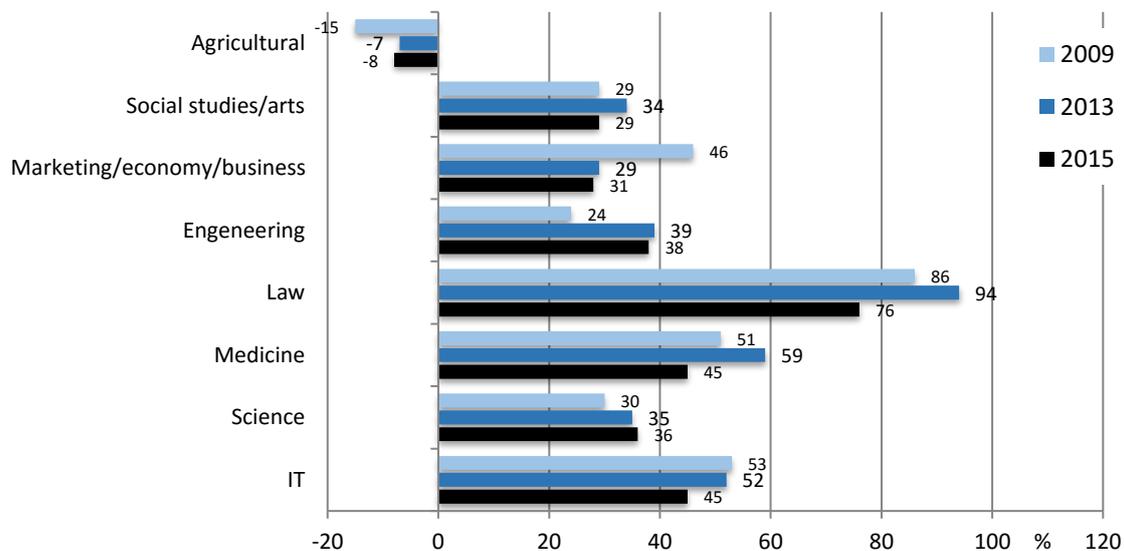


Figure 5.5.5. The rate of return from investment in higher education in the different directions of study among people active in 2009, 2013 and 2015

It is worth noting that despite hundreds of thousands of university graduates, tripling the share of the people with higher education in the population of Poland in the age of professional activity since 1990, the average rate of return from investment in higher education, especially Master's, is maintaining on quite high level. This explains why the educational boom in Poland is not weakening.

Compared to men, women are gaining significantly more by investing in IT and science and engineering as well as agricultural studies; and men gaining more from studying law and medicine (Figure 5.5.6.). When it comes to other majors the rate of return is similar regardless of the gender.

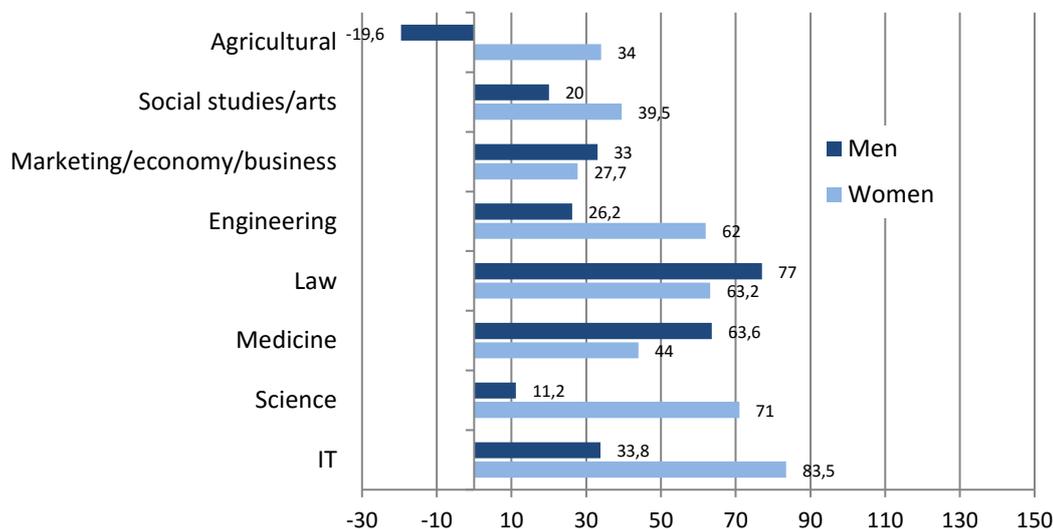


Figure 5.5.6. The rate of return from investment in higher education in the different directions of study for male and female active population

#### 5.5.4. Insurance

In the current edition of the Social Diagnosis we asked in the questionnaire, if the respondent uses some form of insurance, and if so, whether to group insurance at work, private life insurance, insurance of civil responsibility in private life, automobile insurance and health insurance in connection with travelling abroad. The distribution of answers shows a graph of 5.5.7. The largest proportion of group insurance is at work, and only slightly less than private insurance. Surprisingly, a large percentage have insurance against civil responsibility in private life. Of course, the universality of such insurance depends on the running of the profession. These are games that are more expose workers to prosecution in connection with the effects (such as a doctor or a lawyer), and are free from the risk of incurring civil responsibility (e.g. labourers, cleaners or creators). Represents a Table 5.5.4. More than 40% of the lawyers and 30% of doctors declares having such insurance. When it comes to automobile insurance, it is possessed almost exclusively by holders of driving licence and the interest of people who bought AC is obviously much larger than the entire sample-23.7%.

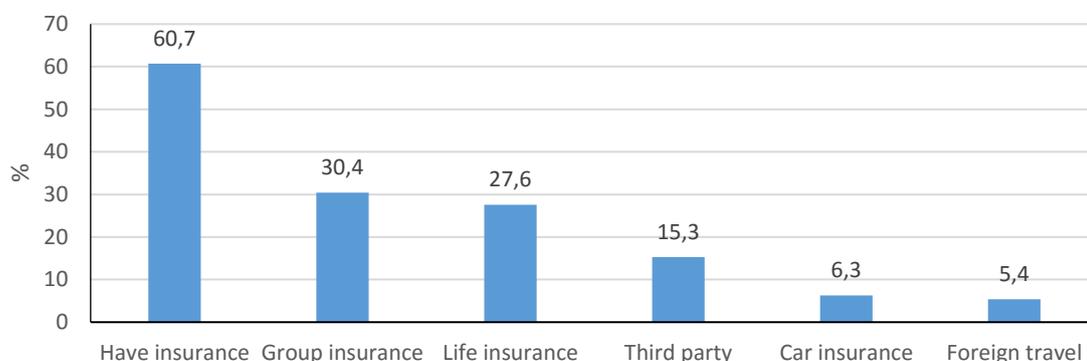


Figure 5.5.7. The percentage of people who declare themselves having any kind of insurance, and the percentage of people with specific types of insurance

Table 5.5.4. Percentage of representatives of various professional groups with third party insurance in private life

Rank	Professional group	Percentage	N
1	Lawyers	41	69
2	Doctors, vets and dentists	30	87
3	Agents and sales intermediaries	23	230
4	Academic teachers	20	95
5	Managers of various specialties	19	498
6	Financial specialists	18	179
7	Authorities and managers	16	89
8	Nurses and midwives	15	148
9	Engineers, architects, designers and similar	14	330
10	Other specialists	14	126
11	Plant production farmers	14	290
12	Other health protection specialists	13	201
13	Marketing specialists	13	189
14	Post-primary school teachers	12	203
15	Passenger and delivery car drivers	12	181
16	IT technicians and similar	11	186
17	Authorities	11	185
18	Plant and animal production farmers	11	891
19	Painters and similar	11	67
20	Truck and bus drivers	11	223
21	Administration and management specialists	10	209
22	Medium financial personnel	10	278
23	Other personal services workers	10	61
24	Other medium personnel	9	132
25	Cooks	9	88
26	Primary school teachers	8	329
27	Technician	8	180
28	Transport and evidence workers	7	230
29	Machine technicians	7	217
30	Office workers	6	553
31	Salesmen	6	911
32	Security workers (fireman, policemen and similar)	6	182
33	Farmers producing for their own needs	6	114
34	Machine and mining equipment operators	6	81
35	Blacksmiths and locksmiths	5	207
36	Electricians	5	180
37	Textile production workers	5	172
38	Personal care specialists	4	73
39	Moulders, welders	4	140
40	Operators of other machines and equipment	4	295
41	Mining and construction assistants	4	123
42	Construction workers - raw state	3	273
43	Construction workers - finishing	3	288
44	Workers, which were not classified otherwise	3	117
45	Wood processing workers, papermen, joiners	3	173
46	Fixers	3	128
47	Creators, artists, writers, journalists	2	80
48	Waiters, bartenders, stewards	2	70
49	Hairdressers. beauticians	2	74
50	Homecarers and cleaners	2	308
51	Other simple works	2	376
52	Food processing workers	1	198

The likelihood of having any and specific insurance depends on the position of the individual in the social structure (Tables 5.5.5-5.5.10).

Any insurance declare as often in males and females (Table 5.5.5.). Also age poorly differentiate probability of insurance, only the youngest person less likely to insure. Strong is the relationship with the level of education, so that people with secondary education are more than twice as higher education and more than three times more often insured than worse educated. Less frequently from residents of other towns insure residents the largest conurbations and villages. A chance to take out insurance increases with wealth. Most any insurance pay to employees of the public sector.

Table 5.5.5. Results of logistic regression analysis of probability of having some kind of insurance according to various socio-demographic groups

Socio-demographic group	Significance	Exp(B)
<b>Gender</b>		
Men	Ref.*	
Women	0.645	0.984
<b>Age</b>		
Up to 24 y.o.	Ref.	
25-34 y.o.	0.001	1.284
35-44 y.o.	0.000	1.845
45-59 y.o.	0.000	2.576
60-64 y.o.	0.000	2.554
65+ y.o.	0.000	1.773
<b>Education</b>		
Primary and lower education	Ref.	
Vocational education	0.000	1.911
Secondary education	0.000	2.407
Higher and post-secondary education	0.000	3.246
<b>Class of residence</b>		
Towns of over 500k	Ref.	
Towns of 200-500k	0.000	1.512
Towns of 100-200k	0.000	1.995
Towns of 20-100k	0.000	1.294
Towns < 20k	0.000	1.368
Rural areas	0.517	1.041
<b>Income per capita</b>		
1 quartile	Ref.	
2 quartile	0.000	1.682
3 quartile	0.000	2.002
4 quartile	0.000	2.602
<b>Socio-professional status</b>		
Public sector	Ref.	
Private sector	0.000	0.540
Private entrepreneurs	0.000	0.414
Farmers	0.000	0.209
Retirees	0.000	0.180
Pensioners	0.000	0.236
Students	0.000	0.211
Unemployed	0.000	0.111
Other occupationally inactive	0.000	0.170
Constant	0.000	1.516
Total variables explained Cox & Snell $R^2 \times 100$		22.5
Total variables explained Nagelkerke $R^2 \times 100$		30.5

Group insurance at work are more likely to say females than males, mostly people aged 45-59 years and the less people the oldest and youngest (Table 5.5.6.). People with basic schooling are less likely than other education groups participate in the group insurance. Group insurance is least popular in major metropolitan areas and the most popular in the cities of medium size (100-200 thousand inhabitants). By far the most popular section in socio-occupational group insurance groups among public sector workers.

Table 5.5.6. Results of logistic regression analysis of probability of having group insurance in the workplace according to various socio-demographic groups

Socio-demographic group	Significance	Exp(B)
<b>Gender</b>		
Men	Ref.*	
Women	0.000	1.113
<b>Age in 2015</b>		
Up to 24 y.o.	Ref.	
25-34 y.o.	0.638	0.958
35-44 y.o.	0.540	1.058
45-59 y.o.	0.000	1.439
60-64 y.o.	0.671	1.054
65+ y.o.	0.000	0.415
<b>Education</b>		
Primary and lower education	Ref.	
Vocational education	0.000	1.683
Secondary education	0.000	1.540
Higher and post-secondary education	0.000	1.686
<b>Class of residence</b>		
Towns of over 500k	Ref.	
Towns of 200-500k	0.000	1.601
Towns of 100-200k	0.000	2.583
Towns of 20-100k	0.000	2.140
Towns < 20k	0.000	1.650
Rural areas	0.000	1.534
<b>Income per capita</b>		
1 quartile	Ref.	
2 quartile	0.000	2.086
3 quartile	0.000	2.420
4 quartile	0.000	2.797
<b>Socio-professional status</b>		
Public sector	Ref.	
Private sector	0.000	0.424
Private entrepreneurs	0.000	0.040
Farmers	0.000	0.011
Retirees	0.000	0.026
Pensioners	0.000	0.025
Students	0.000	0.057
Unemployed	0.000	0.027
Other occupationally inactive	0.000	0.035
Constant	0.000	0.135
Total variables explained Cox & Snell $R^2 \times 100$		38.7
Total variables explained Nagelkerke $R^2 \times 100$		54.6

Individual life insurance slightly more often than men are to women (Figure 5.6.7.). In a cross-section of age groups least likely to buy such insurance, the youngest person. Only people with the lowest education stand out as compared with other education groups using this insurance. The least of the life insurance benefit residents of major cities and villages. Wealthier insure life more often than poorer. The absolute leader in the life insurance lead private entrepreneurs and retirees and pensioners, and to insure public sector employees least likely.

Table 5.5.7. Results of logistic regression analysis of probability of owning individual life insurance in various socio-demographic groups

Socio-demographic group	Significance	Exp(B)
<b>Gender</b>		
Men	Ref.*	
Women	0.026	1.083
<b>Age in 2015</b>		
Up to 24 y.o.	Ref.	
25-34 y.o.	0.083	1.185
35-44 y.o.	0.000	1.974
45-59 y.o.	0.000	2.220
60-64 y.o.	0.000	2.661
65+ y.o.	0.000	2.282
<b>Education</b>		
Primary and lower education	Ref.	
Vocational education	0.000	1.601
Secondary education	0.000	1.934
Higher and post-secondary education	0.000	2.448
<b>Class of residence</b>		
Towns of over 500k	Ref.	
Towns of 200-500k	0.000	1.358
Towns of 100-200k	0.000	1.337
Towns of 20-100k	0.931	1.005
Towns < 20k	0.085	1.128
Rural areas	0.013	0.860
<b>Income per capita</b>		
1 quartile	Ref.	
2 quartile	0.000	1.379
3 quartile	0.000	1.515
4 quartile	0.000	1.882
<b>Socio-professional status</b>		
Public sector	Ref.	
Private sector	0.000	1.575
Private entrepreneurs	0.000	4.435
Farmers	0.000	2.892
Retirees	0.000	3.988
Pensioners	0.000	4.714
Students	0.000	3.380
Unemployed	0.000	2.054
Other occupationally inactive	0.000	3.240
Constant	0.000	0.401
Total variables explained Cox & Snell $R^2 \times 100$	9.4	
Total variables explained Nagelkerke $R^2 \times 100$	13.6	

Willingness to take out motor insurance AC is greater in men than in women with licence (Figure 5.5.8.). Grows with age, education and wealth. Less than residents of large cities and AC insurance buy residents of smaller towns and villages. The most benefit from this insurance, private entrepreneurs and the least keen on the unemployed. More often than other socio-professional groups use AC farmers.

Table 5.5.8. The results of logistic regression analysis for probability of owning comprehensive motor insurance in a subgroup of persons with driving licence by various socio-demographic groups

Socio-demographic group	Significance	Exp(B)
<b>Gender</b>		
Men	Ref.*	
Women	0.000	0.725
<b>Age in 2015</b>		
Up to 24 y.o.	Ref.	
25-34 y.o.	0.001	1.692
35-44 y.o.	0.000	2.706
45-59 y.o.	0.000	3.175
60-64 y.o.	0.000	2.883
65+ y.o.	0.000	2.930
<b>Education</b>		
Primary and lower education	Ref.	
Vocational education	0.002	1.493
Secondary education	0.000	1.793
Higher and post-secondary education	0.000	2.806
<b>Class of residence</b>		
Towns of over 500k	Ref.	
Towns of 200-500k	0.058	1.181
Towns of 100-200k	0.000	0.701
Towns of 20-100k	0.000	0.717
Towns < 20k	0.020	0.814
Rural areas	0.000	0.729
<b>Income per capita</b>		
1 quartile	Ref.	
2 quartile	0.276	1.109
3 quartile	0.000	1.436
4 quartile	0.000	2.544
<b>Socio-professional status</b>		
Public sector	Ref.	
Private sector	0.332	1.066
Private entrepreneurs	0.000	2.069
Farmers	0.013	1.328
Retirees	0.869	1.025
Pensioners	0.780	0.968
Students	0.904	0.974
Unemployed	0.011	0.657
Other occupationally inactive	0.656	0.937
Constant	0.000	0.209
Total variables explained Cox & Snell $R^2 \times 100$		9.7
Total variables explained Nagelkerke $R^2 \times 100$		14.6

Civil liability in private life more often than women to insure males (Table 5.5.9.); the less people the youngest aged 16-24 y.o. and the least educated. This insurance is more popular among the inhabitants of major cities than in smaller cities and villages. The richest insure more often from the poorest and farmers and private entrepreneurs more often than other socio-professional groups.

Table 5.5.9. Results of logistic regression analysis of probability of owning third party insurance in various socio-demographic groups

Socio-demographic groups	Significance	Exp(B)
<b>Gender</b>		
Men	Ref.*	
Women	0.000	0.790
<b>Age in 2015</b>		
Up to 24 y.o.	Ref.	
25-34 y.o.	0.001	2.153
35-44 y.o.	0.000	3.147
45-59 y.o.	0.000	3.071
60-64 y.o.	0.000	3.863
65+ y.o.	0.000	3.634
<b>Education</b>		
Primary and lower education	Ref.	
Vocational education	0.000	1.760
Secondary education	0.000	2.879
Higher and post-secondary education	0.000	4.415
<b>Class of residence</b>		
Towns of over 500k	Ref.	
Towns of 200-500k	0.015	0.770
Towns of 100-200k	0.010	0.732
Towns of 20-100k	0.000	0.606
Towns < 20k	0.000	0.506
Rural areas	0.000	0.563
<b>Income per capita</b>		
1 quartile	Ref.	
2 quartile	0.004	0.699
3 quartile	0.196	1.150
4 quartile	0.000	1.810
<b>Socio-professional status</b>		
Public sector	Ref.	
Private sector	0.269	0.905
Private entrepreneurs	0.000	1.961
Farmers	0.000	2.810
Retirees	0.028	0.657
Pensioners	0.009	0.665
Students	0.242	0.704
Unemployed	0.011	0.578
Other occupationally inactive	0.117	0.754
Constant	0.000	0.048
Total variables explained Cox & Snell $R^2 \times 100$		4.8
Total variables explained Nagelkerke $R^2 \times 100$		12.8

Health insurance in connection with travelling abroad as often pay to men and women (Table 5.5.10). Age does not differentiate the likelihood to use this type of insurance, with the exception of the oldest people, which are less likely to travel abroad. People with higher education 8-fold, and the person with the average 4-times more likely to acquire such insurance from people with primary education and has also a relationship with the frequency of trips abroad. Similarly more affluent individuals and private entrepreneurs are more likely to leave and more often like to insure

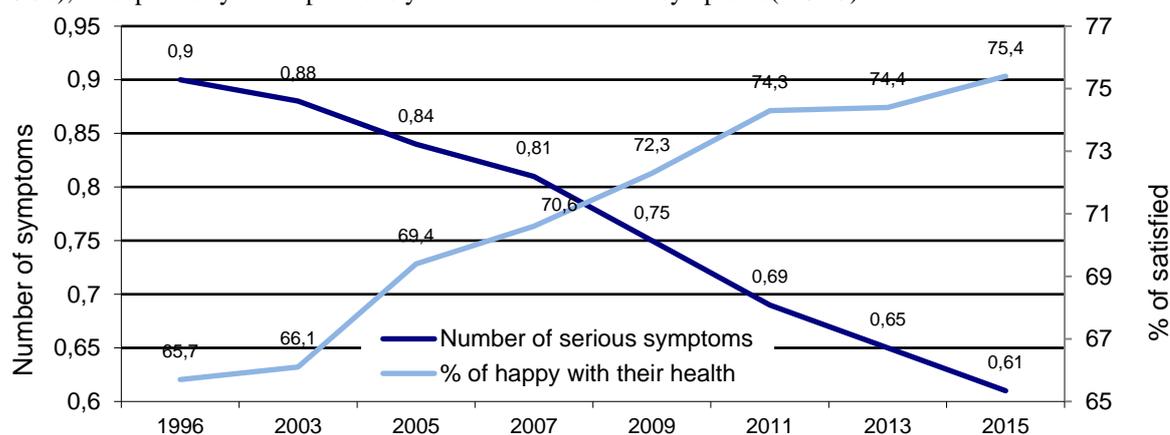
Table 5.5.10. Results of logistic regression analysis of probability of health insurance due to moving abroad in various socio-demographic groups

Socio-demographic group	Significance	Exp(B)
Gender		
Men	Ref.*	
Women	0.825	0.984
Age in 2015		
Up to 24 y.o.	Ref.	
25-34 y.o.	0.207	0.788
35-44 y.o.	0.743	1.065
45-59 y.o.	0.951	0.988
60-64 y.o.	0.248	1.291
65+ y.o.	0.019	0.548
Education		
Primary and lower education	Ref.	
Vocational education	0.047	1.706
Secondary education	0.000	4.106
Higher and post-secondary education	0.000	8.058
Class of residence		
Towns of over 500k	Ref.	
Towns of 200-500k	0.047	0.811
Towns of 100-200k	0.049	0.792
Towns of 20-100k	0.000	0.464
Towns < 20k	0.000	0.436
Rural areas	0.000	0.345
Income per capita		
1 quartile	Ref.	
2 quartile	0.311	0.853
3 quartile	0.100	1.261
4 quartile	0.000	2.639
Socio-professional status		
Public sector	Ref.	
Private sector	0.534	1.059
Private entrepreneurs	0.000	1.913
Farmers	0.215	0.705
Retirees	0.144	0.701
Pensioners	0.978	1.005
Students	0.639	0.887
Unemployed	0.001	0.363
Other occupationally inactive	0.055	0.647
Constant	0.000	0.029
Total variables explained Cox & Snell $R^2$ x 100	6.9	
Total variables explained Nagelkerke $R^2$ x 100	20.5	

## 5.6. Health

### 5.6.1. Somatic symptoms

In 2003, the individual questionnaire of the Diagnosis was extended to include a scale of health that measures the incidence of 15 somatic symptoms (annex 1 individual questionnaire, question 62). Comparison of Diagnosis results from 1996 and 2003-2013 reveals a steady fall in the number of symptoms lasting at least two weeks in the month preceding the study. In 2015, the number of symptoms is 1/3 less than in 1996. This fall is accompanied by a rise in satisfaction with health (Figure 5.6.1). Also statistically significant is the correlation between the intensity of symptoms and satisfaction with the state of health ( $r=0.35$ , in 2013  $r=-0.38$ ). The correlation between answers to the question whether the respondent has been seriously ill in the last year and the number of symptoms ( $r=0.28$ , in 2013  $r=0.32$ ). The fact that scale of symptoms can be treated as a measure of health is represented by the correlation between the answer to the question whether the responded was seriously ill in the previous year and the number of symptoms ( $r=0.28$ , in 2013  $r=0.32$ ), a hospital stay in the previous year and the number of symptoms ( $r=0.15$ ).



Source: 1996 r. - Czapiński, 1998; 2003-2015 –*Social Diagnosis*

Figure 5.6.1. The average number of sickness symptoms experienced during the previous month by at least two weeks and the percentage of satisfied with the state of one's health in 1996 and 2003-2015 in samples of respondents aged 18 + years

Percentage of respondents with a variety of physical symptoms lasting at least two weeks decreased in the past two years in terms of chest or heart pains, feeling of breathlessness, rapid heartbeat, fatigue and sudden blood pressure fluctuations (Table 5.6.1.). We have recorded a slight increase in the frequency of only 3 symptoms since 2013.

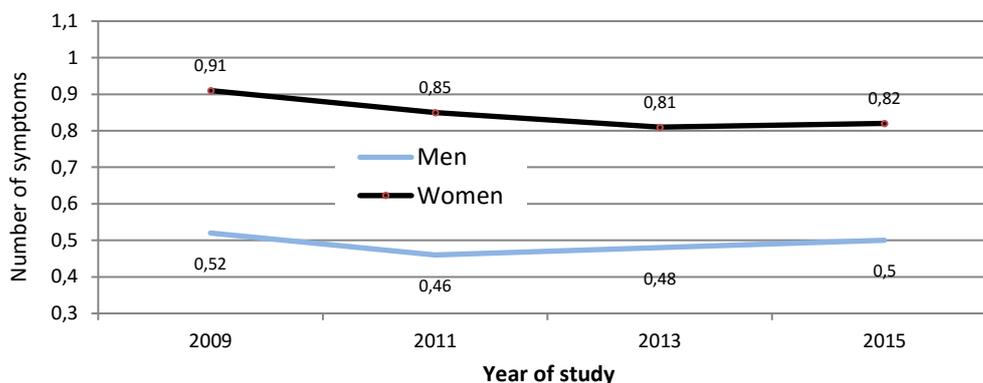
Table 5.6.1. Percentage of respondents aged 18+ with a variety of physical symptoms lasting at least two weeks in seven studies

Symptoms	1996 N=2193	2003 N=8977	2005 N=8765	2007 N=12568	2009 N=25404	2011 N=25716	2013 N=26081	2015 N=21725
Severe headaches	8.1	8.1	7.9	7.2	6.5	5.9	4.8	4.6
Stomach pains or flatulence	4.9	5.9	6.3	6.0	5.5	5.2	4.5	4.6
Neck or shoulder pains or tension	8.3	9.9	10.1	9.7	9.5	8.9	8.6	8.6
Chest or heart pains	7.1	6.8	5.7	5.5	5.2	4.5	4.0	3.3
Dryness in mouth or throat	5.0	5.3	5.3	5.3	5.0	4.6	4.3	4.3
Excessive sweating	5.6	5.9	5.8	5.5	5.0	4.6	4.2	4.0
Feeling of breathlessness	6.0	5.5	4.9	4.5	4.2	3.7	3.6	3.0
Pain in bones and in the entire body	9.1	9.2	8.7	8.0	8.0	7.3	6.8	6.2
Accelerated heartbeat (palpitations)	5.3	5.2	4.6	4.5	4.0	3.5	3.2	2.8
Shivers or convulsions	0.8	1.2	1.2	1.3	1.2	0.9	1.1	1.0
Pressure on the bladder and more frequent urination	4.0	6.4	6.1	5.5	5.4	4.8	4.3	4.6
Sense of fatigue unrelated to work	7.9	8.8	8.1	8.1	7.4	6.9	6.7	6.1
Constipation	2.7	4.4	4.1	3.7	3.5	3.2	2.6	2.5
Nosebleeds	0.3	0.9	0.9	1.0	0.8	0.8	0.8	1.0
Sudden changes of blood pressure	n.d.	7.8	7.2	6.9	6.2	5.8	4.9	4.6

Source: 1996 — Czapiński, 1998; 2003-2015 — *Social Diagnosis*

The main effect of gender is significant, which is consistent with the worse self-evaluation of the health condition on the part of women found consistently in all studies. In the panel sample, the difference between the genders is similar in all 4 waves (Figure 5.6.2.). The lack of a significant effect of the year of measurement means that the 2009-2015

panel sample retained persons for whom the incidence of psychosomatic symptoms did not change despite them getting six years older. With very strong negative effect of the year it indicated that the health condition of the whole population could have indeed significantly improve in that period.



NOTES: the main effect of gender  $F(1, 7871)=177.967, p<0.000, \eta^2= 0.022$ ; the main effect of the year of the survey  $F(3, 7871)=4.414, p<0.004, \eta^2= 0.001$ ; the effect of the interaction year of the survey and gender than

Figure 5.6.2. The average number of serious somatic symptoms in women and men in the panel sample from 2009-2015

### 5.6.2. Disability

The 2015 sample included a similar percentage of the disabled as in 2009 and 2011 and 2013, and the proportions of persons with different degrees of disability were though somewhat different to previous years - a smaller % with a slight and slight and larger with a slight moderate (Table 5.6.2.). This suggests that the criteria of accessing of disability have been tightened, which results in decreasing of the percentage of disabled people. In the sample panel 64.5% of the disabled people in 2015 were also disabled in 2013, 14.8% have crossed to the disabled people category, and 20.7% have left the disabled category, even though that people in that sample were two older, and the age is correlated with the disability ( $r=0.23$ ).

The percentage of people with disabilities varied is mainly due to the age and level of education (Table 5.6.3.). As a surprise the fact that among the disabled pensioners is only 62%, it appears that for the 41% of pensioners the main source of living are family pensions rather than disability pensions.

Table 5.6.2. Percentage of disabled persons in whole samples and people with various stages of disability in samples of disabled persons in 2009, 2011, 2013 and 2015

Category	2009		2011		2013		2015	
	N	%	N	%	N	%	N	%
The disabled	4105	11.1	4105	11.3	3913	11.0	3409	10.3
A ZUS ruling	2741	7.4	2661	7.3	2573	7.2	2154	6.5
Disability Assessment Panel at the Regional Family Care Centre ruling	542	1.5	704	1.9	664	1.9	613	1.9
Both rulings	162	0.4	205	0.6	202	0.6	185	0.6
By subjective assessment	358	1.0	298	0.8	271	0.8	243	0.7
Children under 16	210	0.6	129	0.4	137	0.4	122	0.4
Other cases	93	0.3	108	0.3	67	0.2	92	0.3
Non-disabled	32837	88.9	32147	88.7	31684	89.0	29569	89.7
Degree of disability*								
Severe	1069	31.1	1058	31.1	1014	29.8	924	31.8
Moderate	1319	38.4	1407	41.4	1473	43.2	1328	45.7
Slight	1047	30.5	933	27.5	920	27.0	652	22.5

\* Only persons with disability certificate

Slight differences, especially in terms of the degree of disability result from the changes in the panel sample making up a majority in the samples in the period between the three readings. The increased share of the disabled with a certificate of moderate disability resulted from the change in this direction in the ruling in respect of a numerous group of persons (28%) with mild disability.

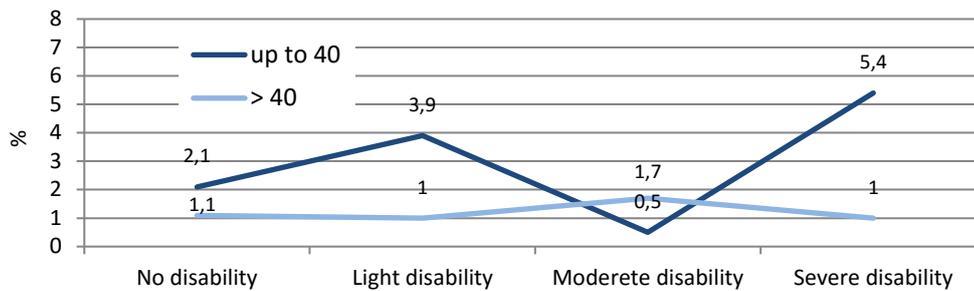
In Poland, the disabled are objectively discriminated in a number ways if only because of the architectural barriers that force them to stay at home. It is therefore astounding that they do not feel much more discriminated against than the non-disabled especially if they are over 40 (Figure 5.6.3.).

Table 5.6.3. Percentage of disabled persons and persons with disability among persons with disability certificate among the disabled people with a ZUS or/and Disability Assessment Panel at the Regional Family Care Centre ruling in various socio-demographic groups

Socio-demographic group	% of disabled*	% of disabled persons with various disability levels**		
		Significant	Moderate	Mild
Total	9.4	31.7	45.8	22.5
<b>Gender</b>				
Men	9.4	32.9	47.0	20.1
Women	9.3	30.5	44.7	24.8
<b>Age</b>				
18-24 y.o.	3.0	28.3	42.0	29.7
25-34 y.o.	4.8	40.0	48.3	11.7
35-44 y.o.	4.9	31.5	46.8	21.7
45-59 y.o.	11.8	18.9	51.1	30.0
60-64 y.o.	19.7	22.5	51.4	26.0
65+ y.o.	20.9	43.8	39.0	17.2
<b>Place of residence</b>				
Towns over 500k residents	8.2	30.4	50.9	18.8
Towns 200-500k	10.2	27.8	52.5	19.7
Towns 100-200k	11.0	30.5	47.6	22.0
Towns 20-100k	11.6	30.3	47.4	22.3
Towns up to 20k	9.9	32.4	42.1	25.5
Rural areas	7.9	34.5	42.0	23.5
<b>Voivodship</b>				
Dolnośląskie	9.9	27.2	48.8	24.0
Kujawsko-pomorskie	11.4	32.3	46.6	21.2
Lubelskie	8.8	33.5	40.0	26.5
Lubuskie	20.0	23.8	58.0	18.2
Łódzkie	10.1	28.6	42.2	29.1
Małopolskie	9.9	36.5	42.7	20.8
Mazowieckie	7.1	32.7	45.8	21.6
Opolskie	7.0	40.0	40.0	20.0
Podkarpackie	10.3	28.5	46.1	25.5
Podlaskie	7.4	26.0	53.4	20.5
Pomorskie	10.5	38.1	36.7	25.2
Śląskie	7.5	27.9	49.3	22.8
Świętokrzyskie	11.4	37.9	46.6	15.5
Warmińsko-mazurskie	9.5	33.7	43.6	22.8
Wielkopolskie	10.6	31.5	46.7	21.8
Zachodniopomorskie	6.0	32.9	52.6	14.5
<b>Educational attainment</b>				
Primary and lower	17.6	43.0	36.0	21.0
Basic vocational	11.6	26.6	50.4	23.0
Secondary	9.4	28.7	47.0	24.3
Higher and post-secondary	4.8	26.9	54.0	19.1
<b>Social and professional status</b>				
Public sector	2.8	12.8	47.9	39.4
Private sector	3.1	2.5	60.2	37.3
Private entrepreneurs	2.6	23.5	44.1	32.4
Farmers	1.3	16.7	44.4	38.9
Pensioners	62.1	35.3	43.5	21.2
Retirees	16.6	40.6	41.7	17.7
School and university students	2.9	16.7	51.4	31.9
Unemployed persons	6.2	4.5	51.1	44.3
Other inactive labour	7.4	34.4	51.6	13.9

\* Disabled persons with certificates or children

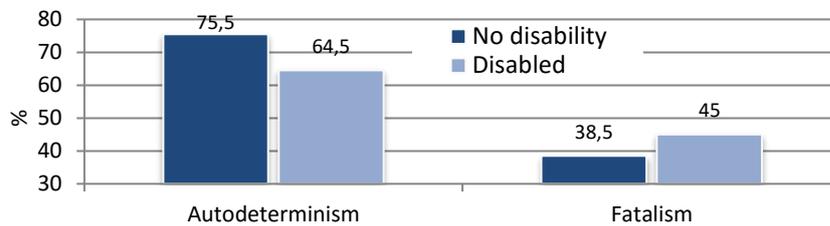
\*\* Only disabled persons with a disability certificate



NOTES: the effect of the main disability  $F(3, 21285)=2.696, p<0.05, \eta^2= 0.000$ , the effect of age  $F(1, 21285)=9.470, p<0.005, \eta^2= 0.000$ ; the effect of gender  $F < 1$ ; the effect of the interaction of disability and age  $F(3, 21285)=4.397, p<0.005, \eta^2= 0.001$ .

Figure 5.6.3. The percentage of people who feel discriminated against, depending on the status of disability and age with the control of gender

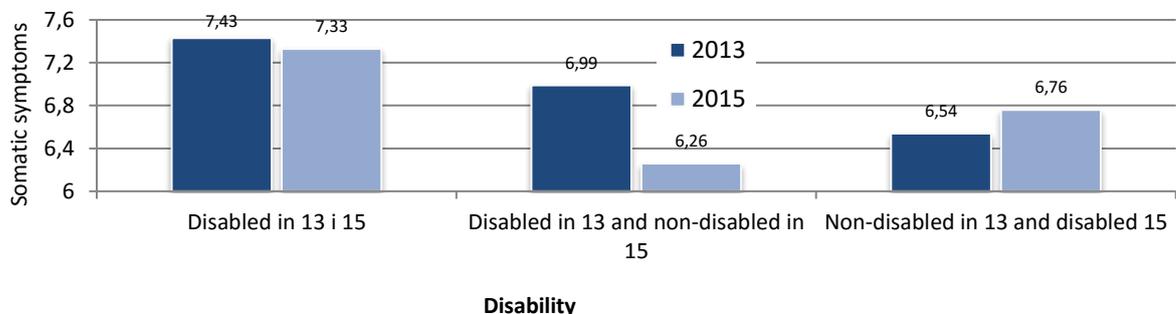
The limitation of various different abilities should influence self-esteem, and more specifically on judgement of one's own influence on events and feeling of adequacy. Do the handicapped really, in answering the question whether the last year was successful or not, more often indicate fate (providence) than the able-bodied? Do they indicate lesser auto-determination and greater fatalism? The data support this in full (Figure 5.6.4.).



NOTES: in terms of auto-determinism--the effect of the main disability  $F(1, 21052)=121.891, p<0.000, \eta^2= 0.006$ ; the main effect of gender  $F(1,21052)=15.906, p<0.000, \eta^2=0.001$ ; the effect of age of  $F(1,21052)=438.351, p<0.000, \eta^2= 0.020$ ; in terms of fatalism--the main effect of disability  $F(1, 20874)=34.677, p<0.000, \eta^2=0.002$ ; the main effect of gender  $F(1,20874)=81.398, p<0.000, \eta^2=0.004$ ; the effect of age of  $F(1,20874)=727.220, p<0.000, \eta^2= 0.034$ .

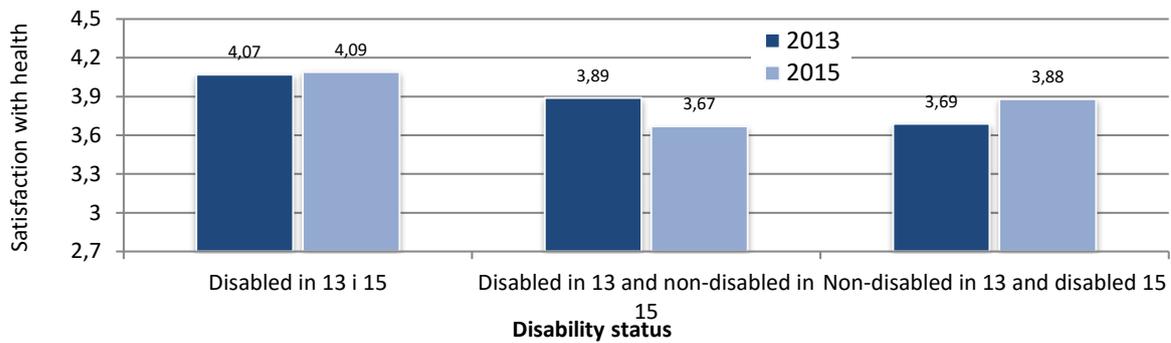
Figures 5.6.4. Percentage of the auto-determinists and fatalists among able-bodied and disabled with the control of age, gender audit and evaluation of the past year

We have already mentioned the suspected changes in the status of the disabled between 2013 and 2015, which may have had an influence on the falling share of those with a light in favour of those moderate and severe disability. We examined these changes in a panel sample, and it transpired that 64.5% of the disabled were disabled in both years, 14.8% changed from being able-bodied to disabled and 20.7% ceased to be disabled. The larger % of those entering than leaving the disabled group is a simple effect of aging, which is correlated with disability. If change in category was dictated by change in state of health we can expect change in the intensity of physical symptoms in those who exited or entered the disabled group between 2013 and 2015. Analysis results confirm this assumption. Among those who lost the disability status, there was a significant fall in the intensity of physical impairment, and in those who entered there was a marked rise (Figure 5.6.5.). It is also clear that those who ceased being disabled were in much better physical condition already prior to the change to those permanently disabled. The hypothesis of the health aspect of change in disability status is also confirmed by the subjective personal state-of-health satisfaction indicator (Figure 5.6.6.).



NOTES: the effect of the main disability status  $F(2, 2443)=5.489, p<0.005, \eta^2= 0.004$ ; the main effect of the year of the survey  $n$ ; the effect of the interaction year of the survey and the disability status of  $F(2,2443)=6.320, p<0.005, \eta^2= 0.005$ .

Figure 5.6.5. The number of serious somatic symptoms in 2011 and 2013 in individuals with varying degrees of disability status with the control of age and gender in the panel sample



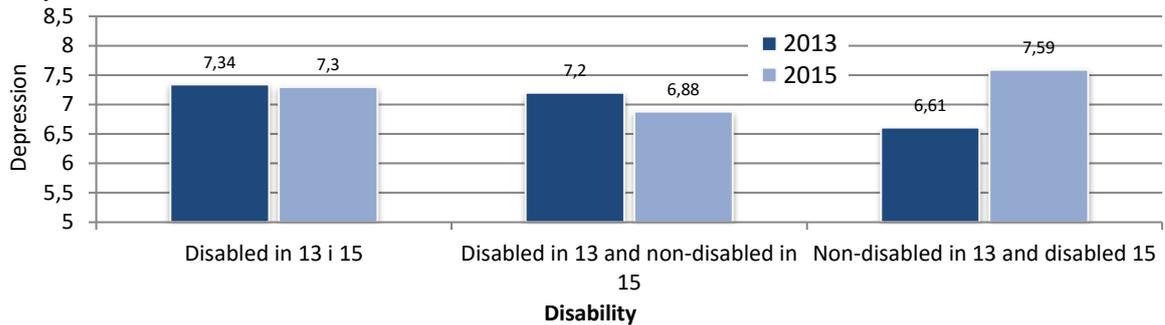
NOTES: the scale of satisfaction with the health of vice versa directed (1-very satisfied 6-very dissatisfied); the main effect of disability status  $F(2, 2201)=17.879, p<0.000, \eta^2= 0.016$ ; the main effect of the year of the survey n; the effect of the interaction year of the survey and the disability status of  $F(2,2201)=9.011, p<0.000, \eta^2= 0.008$ .

Figure 5.6.6. Satisfaction with health in 2013 and 2015, people with varying degrees of disability status with the control of age and gender in the panel sample

In the group of newly disabled there was a fall in happiness and in that who exited disability there was a marked rise in satisfaction with health. So, these results prove the high accuracy of disability declarations and their change with the appropriate commission. Also, serious illness is linked to disability status in the last year. Those with status changes from able-bodied to disabled fell seriously ill almost twice as often (41.4% compared to 27.8%) compared to those who emerged from the disabled group. Similar proportions (21.5% to 20.2%) consider a hospital stay in the previous year.

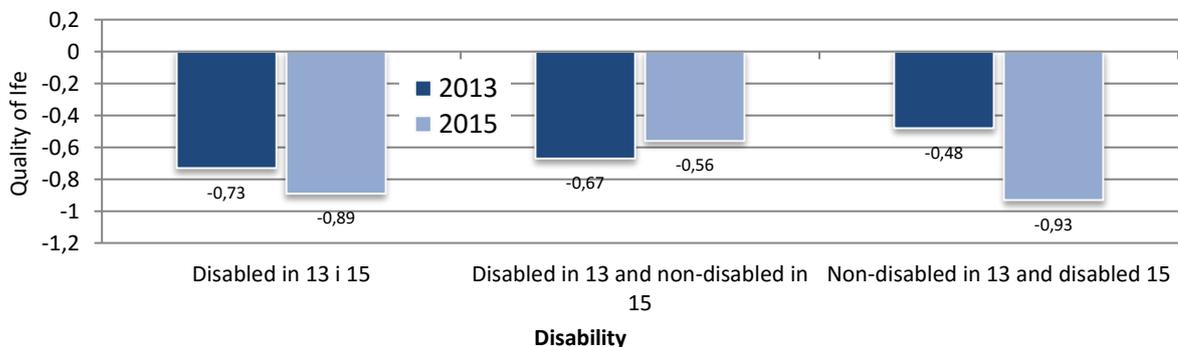
Similar symmetrical changes can be observed for the indicator of psychological depression. Exiting the disability influenced a slight fall, and entering this group a significant increase in the intensity of the symptoms of depression (Figure 5.6.7.).

A general change in circumstances with a change in the status of disability confirms quality of life<sup>63</sup> (Figure 5.6.8.). Quality of life for the former disabled has increased and newly disabled and permanently disabled fell between 2013 and 2015 year.



NOTES: the main effect the status of disability than; the main effect of the year of the survey  $F(2, 2155)=4.749, p<0.01, \eta^2= 0.002$ ; the effect of the interaction year of the survey and the disability status of  $F(2,2155)=12.677, p<0.000, \eta^2= 0.012$ .

Figure 5.6.7. The intensity of the symptoms of depression in 2011 and 2013 in individuals with varying degrees of disability status with the control of age and gender in the panel sample



NOTES: the effect of the main disability  $F(2, 1555)=6.067, p<0.005, \eta^2= 0.008$ ; the main effect of the year of the survey n; the effect of the interaction year of the survey and disability  $F(2,1555)=41.779, p<0.000, \eta^2= 0.051$

Figure 5.6.8. Quality of life in 2011 and 2013 of people with different status of disability with the control of age and gender in the panel sample

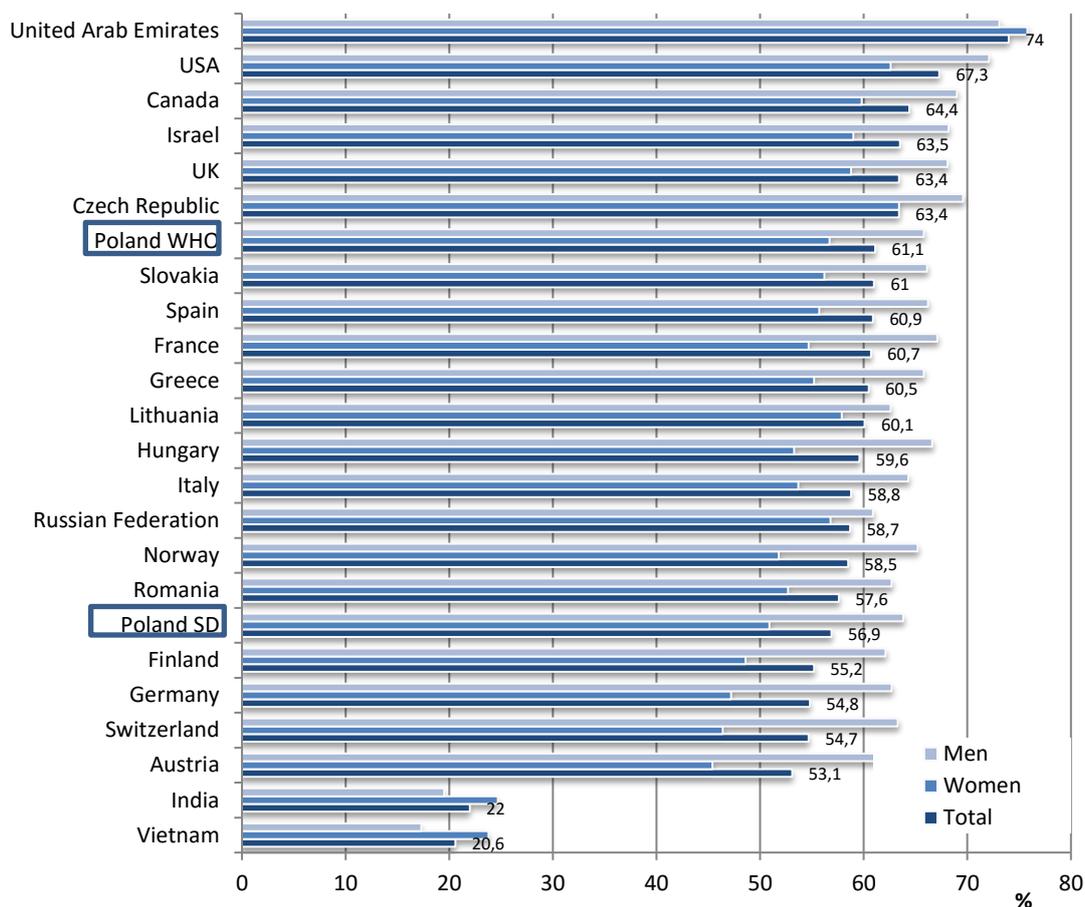
<sup>63</sup> The construction of the life quality indicator is discussed in chapter 9.

### 5.6.3. Life style and health-risk factors

One of the risk factors for obesity related health disorders which can be easily estimated in surveys, is the proportion between weight and height (the Body Mass Index, BMI). It is calculated by dividing body mass expressed in kilograms by the second power of height expressed in metres. In this year's edition of the Diagnosis, like two and four years earlier we asked about weight and height, and we calculated the BMI for each respondent. Table 5.6.4. shows the distribution of that indicator, divided into eight categories adopted for white people. Less than half of respondents aged 16 and above had the appropriate body mass and there are more women than men in this group. In general, men in Poland - similarly as in other countries (Figure 5.6.9.) - are obese more often than women. Compared to 2011, there is a slight fall of the percentage of people with proper weight and an increase of ones with overweight and 1<sup>st</sup> degree of obesity.

Table 5.6.4. Percentage distribution by gender and in general for eight BMI categories

BMI category	2011			2015		
	Gender		Total	Gender		Total
	Men	Women		Men	Women	
Starvation (<16.0)	0.1	0.2	0.2	0.1	0.2	0.2
Emaciation (16.0-17.0)	0.1	0.7	0.4	0.1	0.6	0.4
Underweight (17.00-18.5)	0.8	3.7	2.3	0.6	3.3	2.0
Normal, correct weight (18.5-25.0)	39.0	52.0	45.8	37.1	49.5	43.7
Overweight (25.0-30.0)	43.5	29.0	35.9	43.0	30.3	36.3
1st degree obesity (30.0-35.0)	13.9	11.1	12.5	15.8	12.3	14.0
2nd degree obesity (clinical obesity) (35.0-40.0)	1.9	2.7	2.3	2.5	2.9	2.7
3rd degree obesity (extreme obesity) (>=40.0)	0.7	0.7	0.7	0.8	0.8	0.8

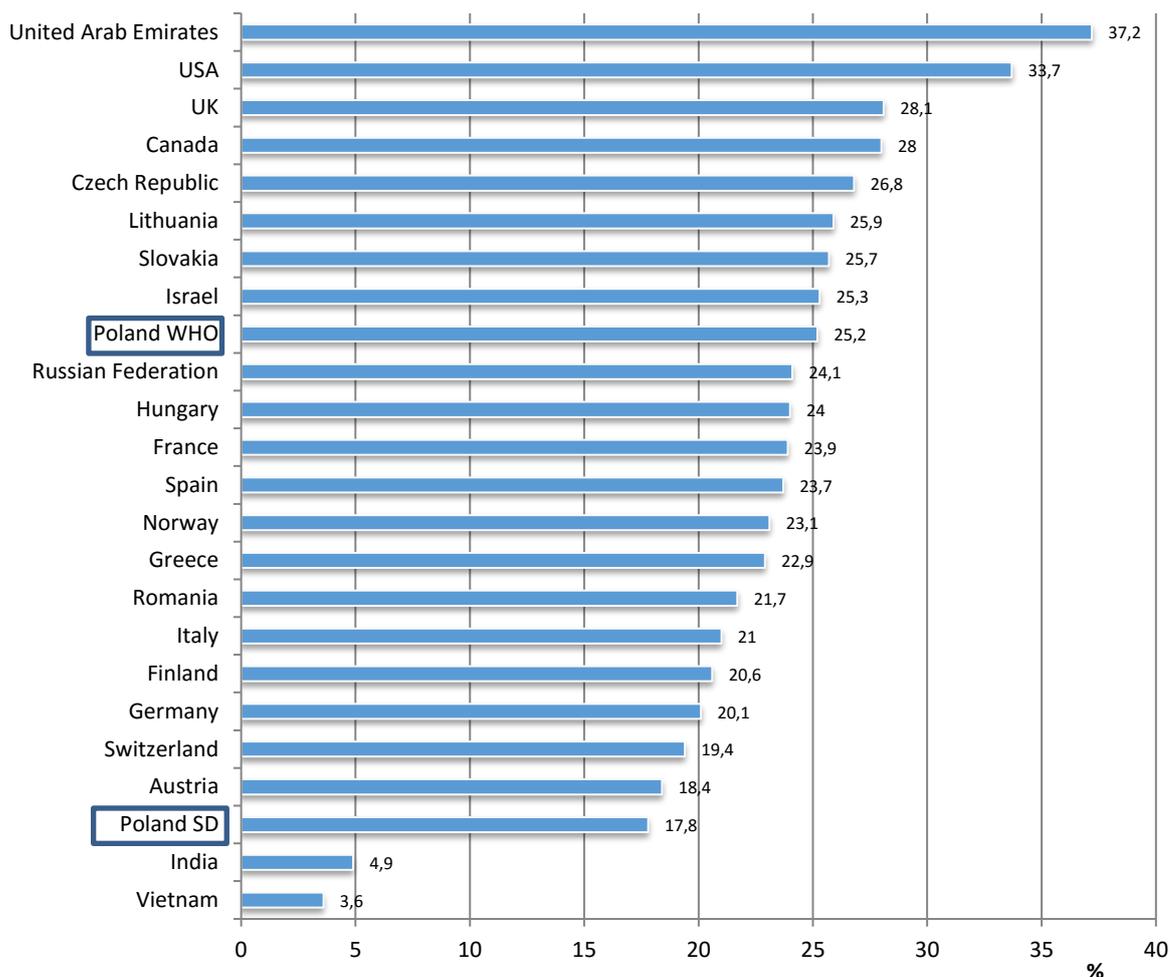


Source: WHO Global Database on Body Mass Index (Poland: *Social Diagnosis 2015*)

Figure 5.6.9. The percentage of women and men, and a total population of selected countries in the age of 18 + years overweight (BMI >= 25)

The value of that indicator for Poland does not look very bad as compared to several other countries (Figures 5.6.9. and 5.6.10.), though the data collected by World Health Organisation (WHO) place us on a slightly lower position.

According to WHO, the greatest numbers of people are overweight and obese in the United Arab Emirates, USA, Canada and Germany, the smallest in Switzerland and Austria<sup>64</sup>.



Source: WHO Global Database on Body Mass Index (Poland: *Social Diagnosis 2015*)

Figure 5.6.10. The percentage of inhabitants of eligible countries aged 18 + z I, II and III degree obesity (BMI ≥ 30)

If the BMI were indeed an indicator of health risk (even if not a very precise one, as many researchers claim), we could expect it to be related with other health condition indicators. Table 5.6.5. presents the results of the analysis of variance for 18 health indicators (15 detailed symptoms, the general incidence of symptoms, satisfaction with health condition and a serious disease in the past year). Within the scope of those indicators we checked the main effects of the categorised BMI and gender and the effect of interaction of the BMI and gender controlled for age (df 3, 24889).

As expected, the strongest BMI effect concerns circulation problems (sudden changes of blood pressure). Also the effect of the interaction of the BMI and gender is one of the greatest in respect of that indicator. Figure 5.6.11. illustrates the form of this interaction effect. In the underweight group, this ailment affects women insignificantly more often. In the overweight group women significantly more often suffer from sudden changes of blood pressure. In general, the more overweighted the person is, the more frequent changes in blood pressure.

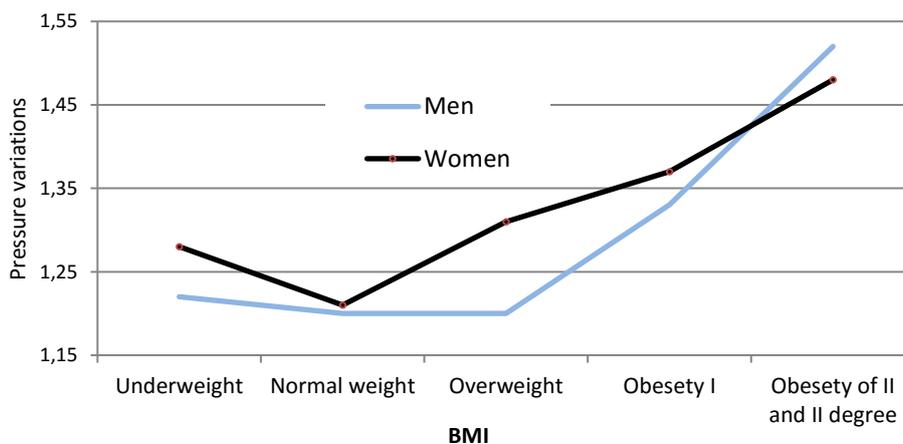
The dependence is similar in the case of the general indicator of serious (lasting at least 2 weeks in a month) somatic disorders, although the overweight group does not differ from the group with normal weight among women, and among overweight men the indicator is even lower than that for normal weight. Only the obesity and underweight significantly increase the risk of serious health disorders (Figure 5.6.12.).

The correlation between the BMI and the satisfaction with one's health condition and with a serious illness and a stay in hospital are also curvilinear (Figures 5.6.13.-5.6.15.). In case of a serious illness and a stay in hospital, there are no significant differences between men and women.

<sup>64</sup> According to the European Social Survey of overweight and obesity rates by 2014 are even lower for Poles than Social Diagnosis (51.9% and 18%) and for all countries participating in the survey is definitely lower than according to WHO.

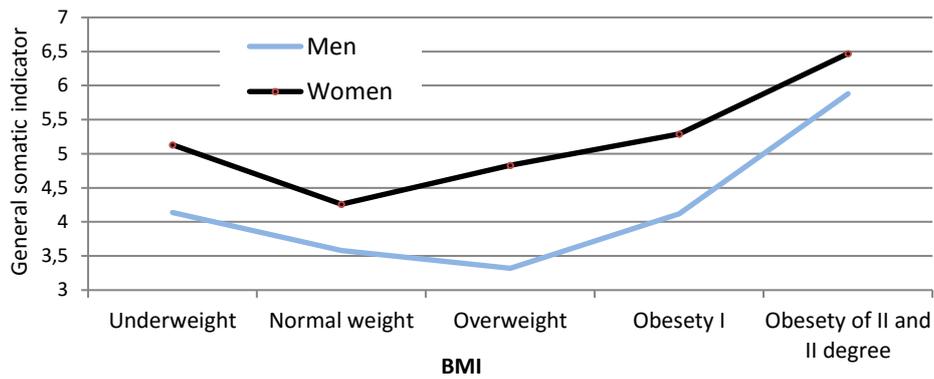
Table 5.6.5. Analysis of multiple variable analysis for 18 factors of health indicators with verification for age and gender

Independent variable	Dependent variable	F	p	Partial eta square
BMI	Severe headaches	19.209	0.000	0.004
	Stomach pains or flatulence	24.425	0.000	0.005
	Neck or shoulder pains or tension	6.358	0.000	0.001
	Chest or heart pains	15.211	0.000	0.003
	Dryness in mouth or throat	27.864	0.000	0.005
	Excessive sweating	62.052	0.000	0.012
	Feeling of breathlessness	33.029	0.000	0.006
	Pain in bones and in the entire body	24.973	0.000	0.005
	Accelerated heartbeat (palpitations)	20.546	0.000	0.004
	Shivers or convulsions	12.788	0.000	0.002
	Pressure on the bladder and more frequent urination	18.284	0.000	0.003
	Sense of fatigue unrelated to work	15.015	0.000	0.003
	Constipation	2.075	0.081	0.000
	Nosebleeds	2.894	0.021	0.001
	Sudden changes of blood pressure	90.741	0.000	0.017
	General indicator of somatic disorders	23.448	0.000	0.004
	Satisfaction with condition of health	69.383	0.000	0.013
	Serious disease	23.232	0.000	0.004
Interaction between BMI and gender	Severe headaches	2.200	0.066	0.000
	Stomach pains or flatulence	4.846	0.001	0.001
	Neck or shoulder pains or tension	3.928	0.003	0.001
	Chest or heart pains	4.014	0.003	0.001
	Dryness in mouth or throat	4.848	0.001	0.001
	Excessive sweating	16.698	0.000	0.003
	Feeling of breathlessness	5.065	0.000	0.001
	Pain in bones and in the entire body	7.770	0.000	0.001
	Accelerated heartbeat (palpitations)	4.862	0.001	0.001
	Shivers or convulsions	2.626	0.033	0.000
	Pressure on the bladder and more frequent urination	0.753	0.556	0.000
	Sense of fatigue unrelated to work	2.653	0.031	0.001
	Constipation	4.577	0.001	0.001
	Nosebleeds	1.186	0.315	0.000
	Sudden changes of blood pressure	12.720	0.000	0.002
	General indicator of somatic disorders	6.467	0.000	0.001
	Satisfaction with condition of health	7.058	0.000	0.001
	Serious disease	2.386	0.049	0.000



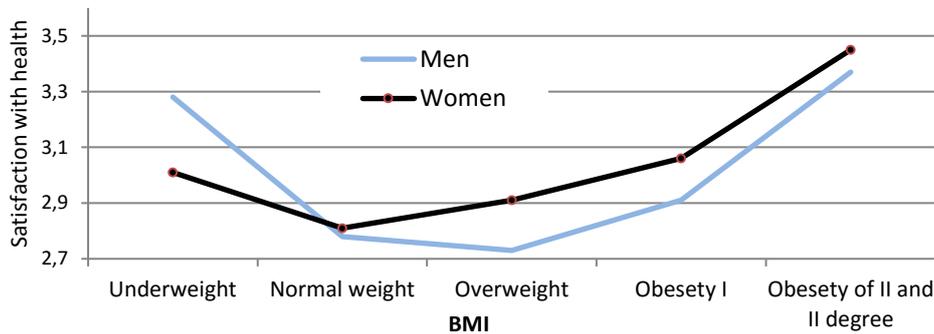
NOTES: the effect of the main BMI  $F(4, 21443)=95.197, p<0.000, \eta^2=0.017$ ; the main effect of gender  $F(1, 21443)=5.257, p<0.05, \eta^2=0.000$  the effect of the interaction of gender and BMI  $F(4, 21443)=12.457, p<0.000, \eta^2=0.003$ .

Figure 5.6.11. The severity of the sudden jumps in blood pressure depending on the BMI and gender with the control of age



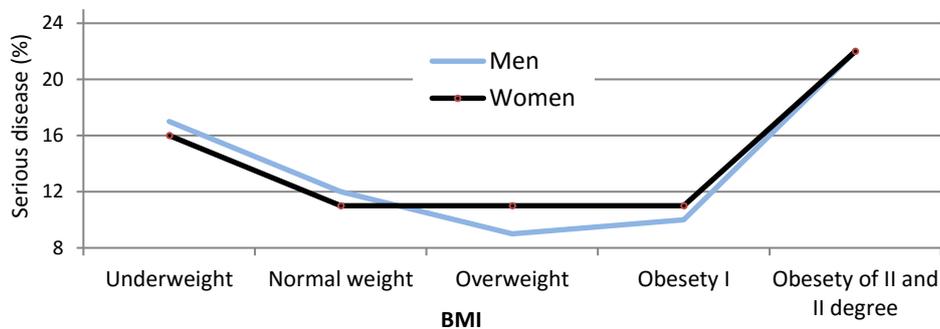
NOTES: the effect of the main BMI  $F(4, 21165)=63.187, p<0.000, \eta^2=0.012$ ; the main effect of gender  $F(1, 21165)=63.990, p<0.000, \eta^2=0.003$ ; the effect of the interaction of gender and BMI  $F(4, 21165)=10.781, p<0.000, \eta^2=0.002$

Figure 5.6.12. The overall rate of somatic disorder depending on the BMI and gender with the control of age



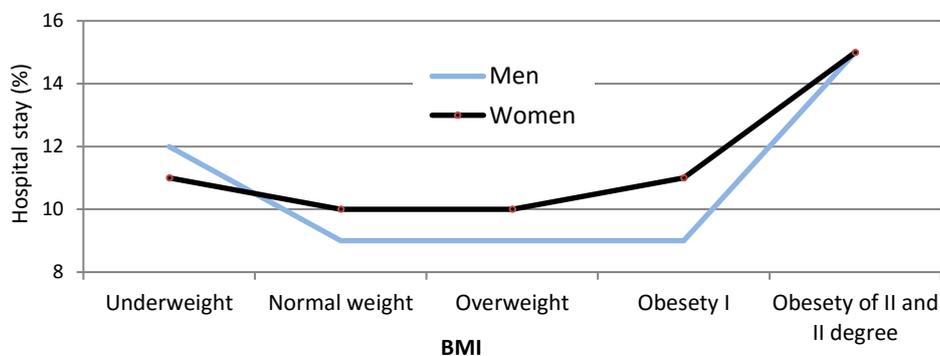
NOTES: the scale of satisfaction with the health of vice versa directed (1-very satisfied 6-very dissatisfied); the main effect of BMI  $F(4, 21420)=69.056, p<0.000, \eta^2=0.013$ ; the main effect of gender than; the effect of the interaction of gender and BMI  $F(4, 21420)=6.789, p<0.000, \eta^2=0.001$ .

Figure 5.6.13. Satisfaction with health depending on the BMI and gender with the control of age



NOTES: the effect of the main BMI  $F(4, 21456)=25.952, p<0.000, \eta^2=0.005$ ; the main effect of gender n.s.; the effect of the interaction of gender and BMI.

Figure 5.6.14. Serious condition according to BMI and gender with the control of age



NOTES: the effect of the main BMI  $F(4, 21476)=7.419, p<0.000, \eta^2=0.001$ ; the main effect of gender than; the effect of the interaction of gender and BMI.

Figure 5.6.15. Hospital stay depending on the BMI and gender with the control of age

BMI is linked to the use of alcohol, narcotics (designer drugs) and cigarettes, but only among men. However, this dependency does not have the same form in every case. Alcohol is most often abused by the obese, drugs are taken by men with proper weight more often than by any other group, and smoking is spread among men with underweight.

The addictive substances can, despite of obesity or underweight, be hazardous for health. Smoking is connected - although much less than obesity - with many health disorder symptoms (Table 5.6.6., (df 1, 21484)); most commonly with perspiration attack, but only for women. Smokers are less content with their health condition and, in general, they experience more severe pathological symptoms, but compared to obesity effect, smoking does not increase the risk of serious illness in the period of one year.

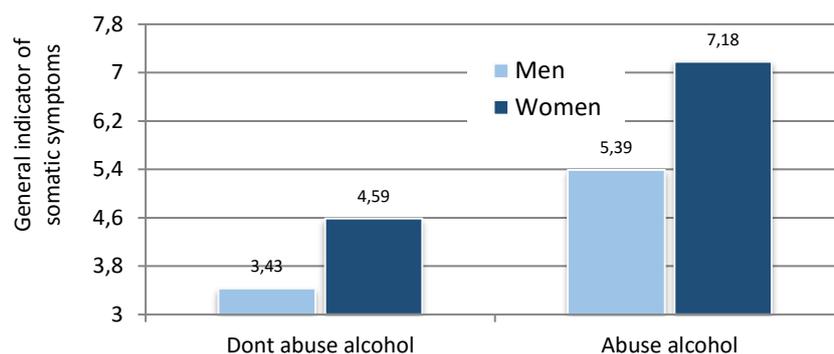
Table 5.6.6. Results of multiple variation analysis for 18 factors of health state with control for age and gender

Independent variable	Dependent variable	F	p	Partial eta square
Smoking	Severe headaches	23.251	0.000	0.001
	Stomach pains or flatulence	0.020	0.889	0.000
	Neck or shoulder pains or tension	30.725	0.000	0.001
	Chest or heart pains	2.280	0.131	0.000
	Dryness in mouth or throat	29.908	0.000	0.001
	Excessive sweating	46.580	0.000	0.002
	Feeling of breathlessness	30.886	0.000	0.001
	Pain in bones and in the entire body	33.981	0.000	0.002
	Accelerated heartbeat (palpitations)	3.549	0.060	0.000
	Shivers or convulsions	15.617	0.000	0.001
	Pressure on the bladder and more frequent urination	9.332	0.002	0.000
	Sense of fatigue unrelated to work	16.349	0.000	0.001
	Constipation	5.488	0.019	0.000
	Nosebleeds	0.020	0.886	0.000
	Sudden changes of blood pressure	0.045	0.833	0.000
	General indicator of somatic disorders	9.539	0.002	0.000
	Satisfaction with condition of health	32.145	0.000	0.002
	Serious disease	1.660	0.198	0.000
Interaction of smoking and gender	Severe headaches	0.356	0.551	0.000
	Stomach pains or flatulence	3.058	0.080	0.000
	Neck or shoulder pains or tension	0.101	0.750	0.000
	Chest or heart pains	0.929	0.335	0.000
	Dryness in mouth or throat	2.273	0.132	0.000
	Excessive sweating	14.331	0.000	0.001
	Feeling of breathlessness	6.543	0.011	0.000
	Pain in bones and in the entire body	1.549	0.213	0.000
	Accelerated heartbeat (palpitations)	6.875	0.009	0.000
	Shivers or convulsions	0.267	0.605	0.000
	Pressure on the bladder and more frequent urination	2.139	0.144	0.000
	Sense of fatigue unrelated to work	1.438	0.231	0.000
	Constipation	0.189	0.663	0.000
	Nosebleeds	0.023	0.879	0.000
	Sudden changes of blood pressure	0.662	0.416	0.000
	General indicator of somatic disorders	0.033	0.857	0.000
	Satisfaction with condition of health	0.003	0.958	0.000
	Serious disease	0.512	0.474	0.000

Alcohol abuse is a risk factor in terms of all 18 measures of health condition (Table 5.6.7., df 1, 21640). It affects the dryness of the mouth or throat, heart palpitations, sweating, feelings of pressure on the bladder, fatigue not linked to effort, nose bleeds, lowering of self-assessment of health and a rise in the number of serious physical symptoms, and the likelihood of a serious disease. Some of these effects depend on gender, with the general number of serious physical symptoms being dependant on alcohol abuse much more strongly in women than in men (Figure 5.6.16.).

Table 5.6.7. Results of multiple variation analysis for 18 indicators of health state with control for age and gender

Independent variable	Dependent variable	F	p	Partial eta square
Alcohol abuse	Severe headaches	44.445	.000	.002
	Stomach pains or flatulence	210.991	.000	.010
	Neck or shoulder pains or tension	76.710	.000	.004
	Chest or heart pains	93.917	.000	.004
	Dryness in mouth or throat	150.156	.000	.007
	Excessive sweating	121.032	.000	.006
	Feeling of breathlessness	74.804	.000	.004
	Pain in bones and in the entire body	60.863	.000	.003
	Accelerated heartbeat (palpitations)	68.777	.000	.003
	Shivers or convulsions	68.062	.000	.003
	Pressure on the bladder and more frequent urination	87.714	.000	.004
	Sense of fatigue unrelated to work	176.682	.000	.008
	Constipation	39.367	.000	.002
	Nosebleeds	42.160	.000	.002
	Sudden changes of blood pressure	28.896	.000	.001
	General indicator of somatic disorders	59.911	.000	.003
	Satisfaction with condition of health	148.264	.000	.007
	Serious disease	23.662	.000	.001
Interaction of alcohol abuse and gender	Severe headaches	3.304	.069	.000
	Stomach pains or flatulence	5.604	.018	.000
	Neck or shoulder pains or tension	2.891	.089	.000
	Chest or heart pains	.633	.426	.000
	Dryness in mouth or throat	.137	.712	.000
	Excessive sweating	.052	.819	.000
	Feeling of breathlessness	.001	.972	.000
	Pain in bones and in the entire body	.044	.834	.000
	Accelerated heartbeat (palpitations)	.328	.567	.000
	Shivers or convulsions	3.900	.048	.000
	Pressure on the bladder and more frequent urination	40.570	.000	.002
	Sense of fatigue unrelated to work	4.430	.035	.000
	Constipation	2.870	.090	.000
	Nosebleeds	.765	.382	.000
	Sudden changes of blood pressure	1.764	.184	.000
	General indicator of somatic disorders	3.788	.052	.000
	Satisfaction with condition of health	.677	.411	.000
	Serious disease	2.218	.136	.000



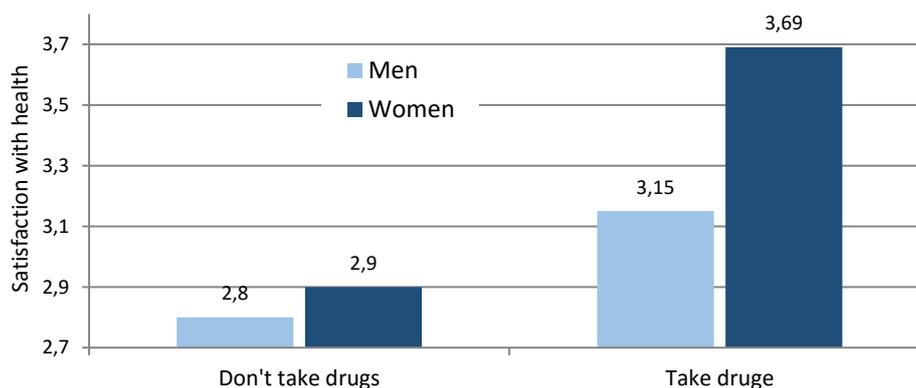
NOTES: the main effect of smoking  $F(1, 21587)=42.936$ ,  $p<0.000$ ,  $\eta^2=0.002$ ; the effect of the interaction of gender and smoking  $F(1, 21587)=14.244$ ,  $p<0.000$ ,  $\eta^2=0.001$ .

Figure 5.6.16. The overall rate of somatic disorders depending on the alcohol abuse and gender with the control of age

Drug use increases the most dry mouth, shivering or convulsions, bleeding from the nose, feeling the urge to bladder and abdominal pain (Table 5.6.8.). Also the increase in the overall rate of somatic disorders and lowers customer satisfaction with health (especially in women, the Figure 5.6.17.).

Table 5.6.8. Results of multiple variable analysis for 18 factors of health state with control of age and gender

Independent variable	Dependent variable	F	p	Partial eta square
Drug use	Severe headaches	9.162	.002	.000
	Stomach pains or flatulence	67.028	.000	.003
	Neck or shoulder pains or tension	22.208	.000	.001
	Chest or heart pains	25.364	.000	.001
	Dryness in mouth or throat	119.340	.000	.006
	Excessive sweating	58.491	.000	.003
	Feeling of breathlessness	53.015	.000	.002
	Pain in bones and in the entire body	17.196	.000	.001
	Accelerated heartbeat (palpitations)	45.373	.000	.002
	Shivers or convulsions	103.317	.000	.005
	Pressure on the bladder and more frequent urination	65.878	.000	.003
	Sense of fatigue unrelated to work	41.565	.000	.002
	Constipation	21.365	.000	.001
	Nosebleeds	76.477	.000	.004
	Sudden changes of blood pressure	7.738	.005	.000
	General indicator of somatic disorders	48.402	.000	.002
	Satisfaction with condition of health	60.315	.000	.003
	Serious disease	37.406	.000	.002
Interaction of drugs and gender	Severe headaches	1.463	.226	.000
	Stomach pains or flatulence	4.543	.033	.000
	Neck or shoulder pains or tension	1.479	.224	.000
	Chest or heart pains	.000	.991	.000
	Dryness in mouth or throat	1.309	.253	.000
	Excessive sweating	.007	.933	.000
	Feeling of breathlessness	13.162	.000	.001
	Pain in bones and in the entire body	.004	.948	.000
	Accelerated heartbeat (palpitations)	9.931	.002	.000
	Shivers or convulsions	11.697	.001	.001
	Pressure on the bladder and more frequent urination	41.553	.000	.002
	Sense of fatigue unrelated to work	.575	.448	.000
	Constipation	.872	.350	.000
	Nosebleeds	.022	.883	.000
	Sudden changes of blood pressure	.025	.874	.000
	General indicator of somatic disorders	.695	.404	.000
	Satisfaction with condition of health	8.522	.004	.000
	Serious disease	4.546	.033	.000



NOTES: the scale of satisfaction with the health of vice versa directed (1-very satisfied 6-very dissatisfied); the main effect of drug  $F(4, 21563)=63.896$ ,  $p<0.000$ ,  $\eta^2=0.003$ ; the main effect of gender  $F(1, 21563)=20.632$ ,  $p<0.000$ ,  $\eta^2=0.001$ ; the effect of the interaction of gender and drug use  $F(1, 21420)=9.575$ ,  $p<0.005$ ,  $\eta^2=0.001$ .

Figure 5.6.17. Satisfaction with health, depending on drug abuse and gender with the control of age

The four risk factors listed above appear to be rather separable. Obesity does not correlate with alcohol abuse, and although it does correlate with smoking, it is only a very subtle, negative correlation ( $r=-0.015$ ,  $p<0.05$ ) and drug use ( $r=-0.050$ ,  $p<0.000$ ). Only the correlation with number of cigarettes smoked is positive ( $r=0.098$ ,  $p<0.000$ ).

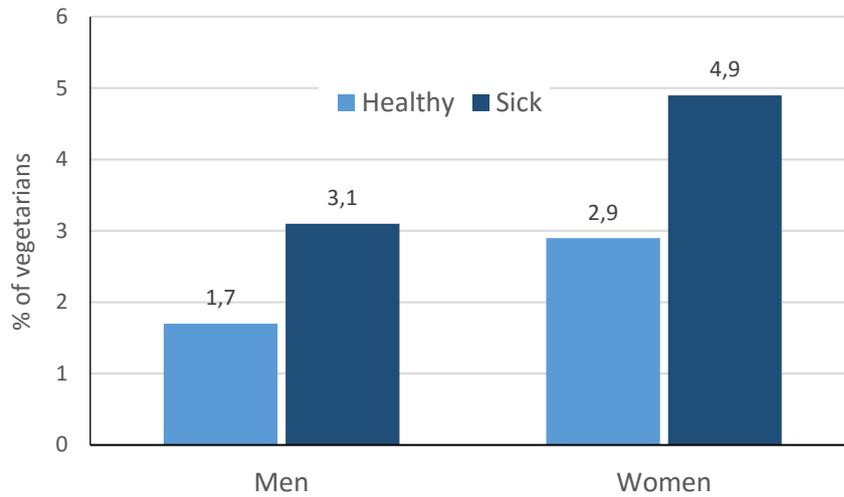
If the risk factors are worsening health, appropriate lifestyle should be beneficial for the health. Vegetarian diet and physical activity are considered healthy.

A number of studies, most of which were performed on vegetarian Seventh-day Adventist, shows a positive relationship between vegetarianism and reduced risk of cardiovascular disease and cancer. (Huang et al., 2012; Kwok et al., 2014; Kwok, Mamas, Loke, 2015). A vegetarian diet reduces the risk and symptoms of diabetes (Tonstad and others, 2013) and obesity (Marsh, Zeuschner, Saunders, 2012). In the current edition of the Social Diagnosis we asked for lacto-ovo vegetarianism (about giving up eating meat). Only 2.6% of the respondents said that their diet is excluded meat and meat preparations. There we asked the reason, so it is possible that some of them are ethical vegetarians and some health vegetarians (Hoffman, Stallings, Bessinger, Brooks (2013). The percentage of vegetarians is a diverse cross section of the various socio-demographic groups (Table 5.6.9).

Table 5.6.9. Results of logistic analysis for vegetarianism

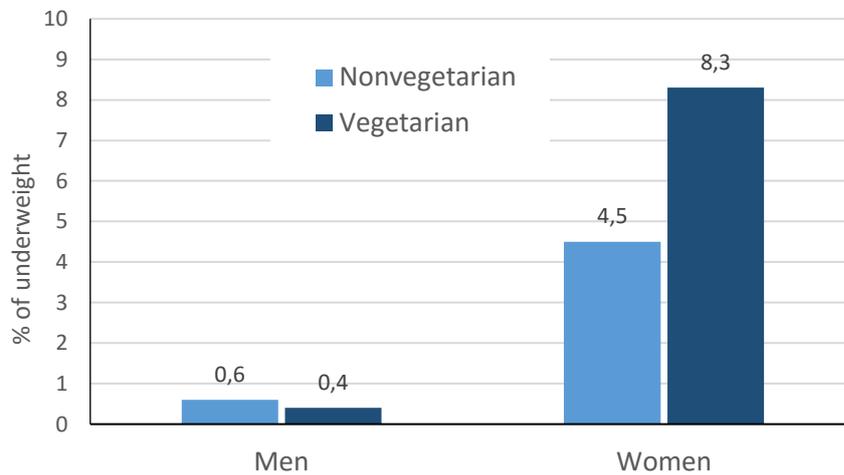
Predictor	p	Exp(B)
Men	Ref.	
Women	0.000	1.653
16-24 y.o.	Ref.	
25-34 y.o.	0.041	1.562
35-44 y.o.	0.372	1.232
45-59 y.o.	0.088	1.466
60-64 y.o.	0.060	1.650
65+ y.o.	0.921	0.972
Towns over 500k residents	Ref.	
Towns 200k - 500k	0.299	0.852
Towns 100 k-200k	0.051	0.710
Towns 20kk - 100k	0.000	0.594
Towns up to 20k	0.000	0.478
Rural areas	0.000	0.568
Primary and lower education	Ref.	
Vocational education	0.254	0.839
Secondary education	0.421	0.885
Higher education	0.789	1.045
Public sector	Ref.	
Private sector	0.590	0.925
Private entrepreneurs	0.023	0.526
Farmers	0.697	0.900
Retirees	0.232	1.285
Pensioners	0.355	1.218
Students	0.027	1.760
Unemployed	0.306	0.778
Other occupationally inactive	0.987	1.003
Non-conservative	Ref.	
Conservative	0.032	0.823
Religious	Ref.	
Non-religious	0.000	0.694
Non-sick	Ref.	
Sick	0.000	1.600
Constant	0.000	0.030
Total variance explained Cox & Snell $R^2 \times 100$		0.7
Total variance explained Nagelkerke $R^2 \times 100$		3.5

Serious illness increases the likelihood of the use of a vegetarian diet in both men and women, which suggests health vegetarianism, though more rarely, a vegetarian diet is also applied by none-sick people (Figure 5.6.18.). But all the people that despite the absence of medical indications exclude meat and processed meats from your diet, include the ethical vegetarians? In the case of women who, despite the lack of disease follow a vegetarian diet as often as sick men, there might be another, not ethical and health issue - that is caring for a slim Figure, a desire to lose some weight. Indeed, only among the fit women statistically significant is the relationship between vegetarianism and body weight (BMI) below normal (Figure 5.6.19).



NOTES: the main effects:  $F(1, 21508)=24.142, p<0.000, \eta^2=0.001$ , gender  $F(1, 21508)=18.412, p<0.000, \eta^2=0.001$ , the effect of the interaction of the disease and gender than, co-variables were age and education.

Figure 5.6.18. The percentage of vegetarians among the men and women who were sickened or not seriously sickened last year with the control of age and education



NOTES: the main effects: vegetarianism  $F(1, 18906)=4.962, p<0.05, \eta^2=0.000$ , gender  $F(1, 18906)=53.162, p<0.000, \eta^2=0.003$ , the effect of the interaction of vegetarianism and gender  $F(1, 18906)=6.124, p<0.05, \eta^2=0.000$ , co-variables were of age and education.

Figure 5.6.19. The percentage of healthy individuals with underweight among men and women who are, or are not vegetarians by the age control and education

A great number of studies prove the health advantages that follow from physical exercise (Penedo, Dahn, 2005; Ross, Hayes, 1988). The influence of an active lifestyle may be multifaceted. One of the aspects may be the improvement of physical fitness and prevention of obesity. Indeed, the BMI indicator correlates negatively with an active life style ( $r=-0.144, p<0.000$ ).

Let us see if people who perform some form of sport or generally are physically active are healthier. Six per ten of Poles conduct no physical activity (Table 5.6.9.). The largest number of people is cycling (27.7%), on the second place in the group of men is playing football or other team games (11.2%); women prefer aerobics (9.5%). The changes of the forms of physical activity between 2011 and 2015 are slight. The largest changes are the increase the percentage of people cycling (from 21.4% to 27.7%) and jogging (from 6.5% to 11.0%) and a decrease in the percentage of people, especially men, playing football and other team sports (oh, the lack of team spirit – see chapter.6.3).

The physical activity is good for health (Table 5.6.10.). Its strongest correlation is with the subjective indicator (satisfaction with health). Both men and women, if they actively perform some form of sport, assess their health as better.

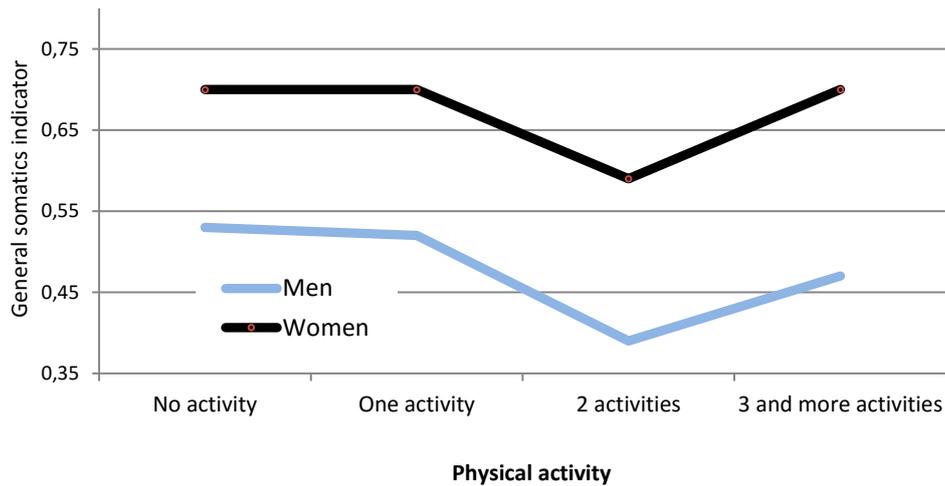
The number of the physical activities is also important. If there are too many of them, they stop serving well. People who perform three or more different sport activities suffer from higher number of severe complaints compared to those who cease on the optimal number of two sport activities (Figure 5.6.20.).

Table 5.6.9. Percentage distribution of men, women and total due to physical activity

Physical activity	2015			2013			2015		
	Gender		Total	Gender		Total	Gender		Total
	M	W		M	W		M	W	
No physical activity	57.6	64.6	61.3	57.2	64.0	60.8	57.3	61.4	59.5
Aerobics	0.5	7.1	4.0	0.6	8.0	4.5	0.6	9.5	5.3
Running/jogging/Nordic walking	6.2	6.8	6.5	6.9	7.9	7.4	9.7	12.2	11.0
Gym	9.9	2.5	6.1	10.4	3.1	6.6	13.0	4.1	8.3
Cycling	22.8	20.1	21.4	22.8	19.1	20.9	28.8	26.8	27.7
Skiing/other winter sports	5.4	3.4	4.3	5.1	3.6	4.3	5.0	3.7	4.3
Swimming	8.8	6.7	7.7	8.9	6.9	7.9	9.5	7.6	8.5
Football/other team sports	13.6	2.3	7.7	12.2	2.1	7.0	11.2	2.0	6.3
Yoga	0.3	1.2	0.8	0.4	1.1	0.8	0.4	1.3	0.9
Martial arts	1.9	0.4	1.2	1.8	0.4	1.0	2.1	0.3	1.2
Other forms	8.7	7.8	8.2	8.7	8.0	8.3	10.2	19.9	10.1

Table 5.6.10. Results for multiple analysis for 17 indicators of health state with control of age and gender

Independent variable	Dependant variable	F	p	Partial eta square
Physical activity	Severe headaches	11.552	0.000	0.002
	Stomach pains or flatulence	0.233	0.873	0.000
	Neck or shoulder pains or tension	1.025	0.380	0.000
	Chest or heart pains	3.074	0.027	0.000
	Dryness in mouth or throat	3.704	0.011	0.001
	Excessive sweating	2.844	0.036	0.000
	Feeling of breathlessness	8.770	0.000	0.001
	Pain in bones and in the entire body	17.187	0.000	0.002
	Accelerated heartbeat (palpitations)	1.382	0.246	0.000
	Shivers or convulsions	0.847	0.468	0.000
	Pressure on the bladder and more frequent urination	11.469	0.000	0.002
	Sense of fatigue unrelated to work	1.542	0.201	0.000
	Constipation	4.313	0.005	0.001
	Nosebleeds	3.548	0.014	0.001
	Sudden changes of blood pressure	5.498	0.001	0.001
	General indicator of somatic disorders	3.601	0.013	0.000
	Satisfaction with condition of health	86.478	0.000	0.012
Serious disease	5.993	0.000	0.001	
Interaction of physical activity and gender	Severe headaches	1.472	0.220	0.000
	Stomach pains or flatulence	5.688	0.001	0.001
	Neck or shoulder pains or tension	3.701	0.011	0.001
	Chest or heart pains	0.335	0.800	0.000
	Dryness in mouth or throat	2.103	0.098	0.000
	Excessive sweating	0.811	0.488	0.000
	Feeling of breathlessness	1.119	0.340	0.000
	Pain in bones and in the entire body	1.187	0.313	0.000
	Accelerated heartbeat (palpitations)	1.254	0.288	0.000
	Shivers or convulsions	0.495	0.686	0.000
	Pressure on the bladder and more frequent urination	9.989	0.000	0.001
	Sense of fatigue unrelated to work	2.326	0.073	0.000
	Constipation	1.888	0.129	0.000
	Nosebleeds	0.819	0.483	0.000
	Sudden changes of blood pressure	2.698	0.044	0.000
	General indicator of somatic disorders	2.376	0.068	0.000
	Satisfaction with condition of health	1.062	0.364	0.000
Serious disease	0.878	0.452	0.000	



NOTES: the effect of the main activity (3,21665)=3.636,  $p < 0.05$ ,  $\eta^2 = 0.000$  effect interaction of activity and gender  $F < 1$ , ni

Figure 5.6.20. The overall rate of serious somatic symptoms depending on the number of physical activity and gender with the control of age

### 5.7. Life stress

Eight categories of stress in life have been established<sup>65</sup>: marital stress (Annex 1, individual questionnaire, questions 4-6), parental stress due to problems with children (question 7-10), carer (question 11-12), financial stress (questions 13-14), work-related stress (questions 15-17), environmental stress related to housing conditions, neighbours and safety in the vicinity of the place of residence (questions 18-21), health-related stress (questions 22-23) and administrative (“Kafkacsquc”) stress (questions 24-27).

The intensity of stress in life is treated in the quality-of-life literature as the major, or at least the most direct, factor that differentiates psychological well-being. In our study, each of the eight specific categories of stress in life covered several different types of events or life experiences, with the category of general stress making up the total intensity of all the eight categories. Obviously, not each specific type of stress is common; that is it concerns the entire population. Some of the categories (e.g. marital, parental, or work-related stress) are typical of specific groups of people (married persons, those that have children, those that work).

The overall level of stress in life in 2015 was <sup>66</sup> the lowest since the first study in 2000 (Figure 5.7.1.). As data in the Table 5.7.1. show, the decreased since 2009 and 2013 were statistically significant also in the panel study.

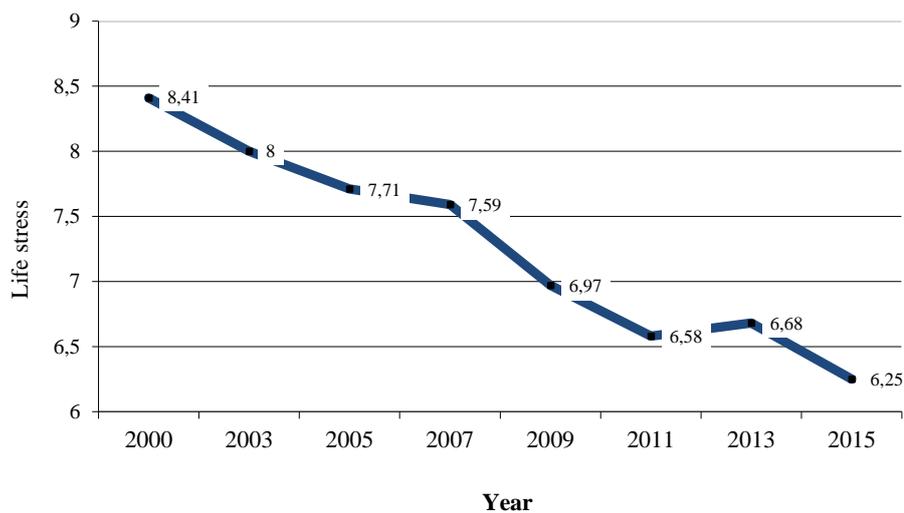


Figure 5.7.1. The average intensity of the stress of life in whole samples in 2000-2015

<sup>65</sup> The scale of stress used in the Diagnosis was developed based on the Hobfoll’s stress theory (2001, 2006).

<sup>66</sup> The caring stress was omitted for comparison with previous years

Table 5.7.1. Comparison of incidence of general life stress from two waves in 2009, 2011 and 2013 with the result of the last measurement in 2015 in panel samples (the same respondents in the years under comparison)

Variable	Study year	Average	Standard deviation	Average difference	T test	Degrees of freedom	Statistical significance	Correlation
Life stress	2009	6.96	4.76	0.359	6.395	7436	0.000	0.471*
	2015	6.60	6.65					
	2011	6.55	4.75	0.068	1.624	10777	0.105	0.572*
	2015	6.48	4.68					
	2013	6.63	4.75	0.265	7.842	14587	0.000	0.624*
	2015	6.36	4.65					

\*  $p < 0.000$

All categories of stress, except in work-related stress, have in 2015 the lowest level in the entire history of the research (5.7.2. and 5.7.3.). In relation to the year 2000, the financial stress fell by 25%, similar decrease is observed for the intensity of stress when dealing with authorities. The ecological stress, associated with the place of residence, declined the most, almost by half. Declines in marital and parental stress can be associated with a decrease in the percentage of married couples and parents. In the individual respondents sample in 2007 there was 59% of those living in marriage, but in 2015 this indicator fell to 57.5%. The indicator of parents dropped in similar manner.

The level of the carer stress, associated with the caring for parents or elderly relatives, was measured six times, between 2000-2007 and 2013-2015 (Annex 1, the individual questionnaire, question 11-12). The highest intensity of this type of stress was recorded in 2000, and in the following three measurements it remained on the same level. However, it declined significantly between 2013-2015 (in comparison with 2000, in 2015 it was almost 30% lower; Figure 5.7.2.). These changes resulted partly from changes in the structure of households and in the relationships between their members: there was a decline in the number of elderly people (parents, in-laws, relatives), whom the other members of the household would feel the responsibility to care for. In 2000, there was 81% of the individual respondents who felt the responsibility to care for elderly relatives, but in 2015, only 66%.

As in the case of partial satisfaction, the growth of certain kinds of stress (e.g., marital and financial) indicates a crisis in the life of the respondents in 2013. However, in 2015 there was no trace of this crisis.

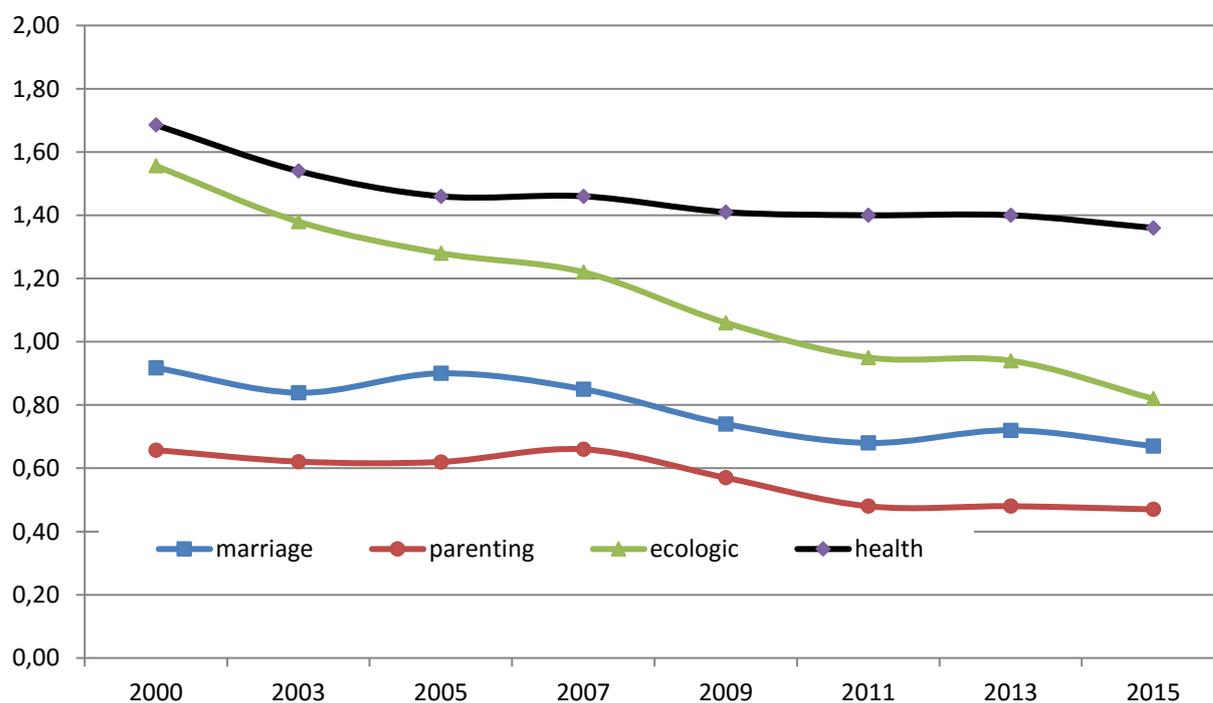


Figure 5.7.2. The average intensity of the four types of stress in the 2000-2015

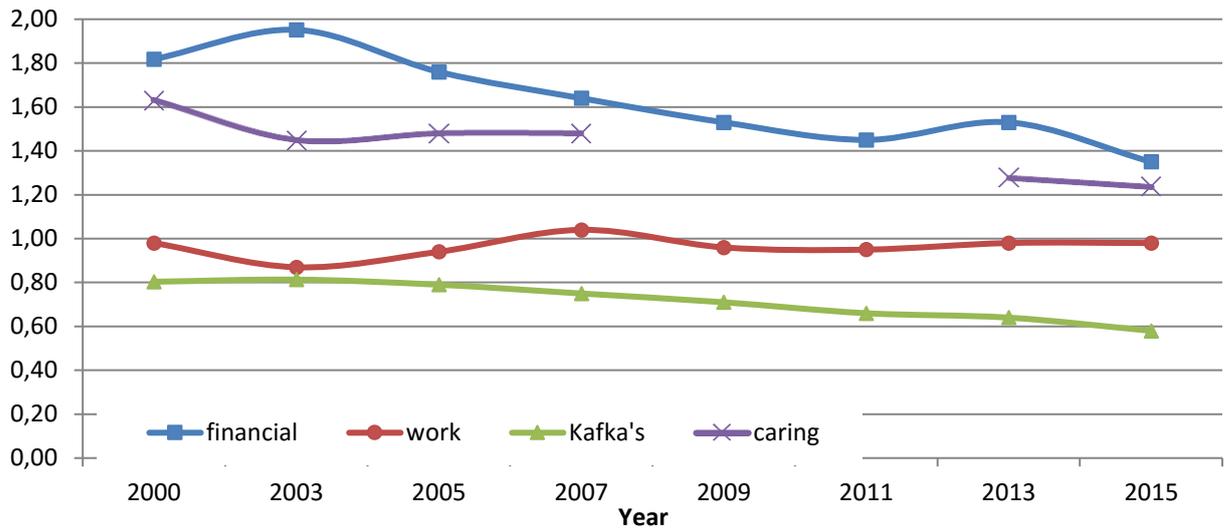
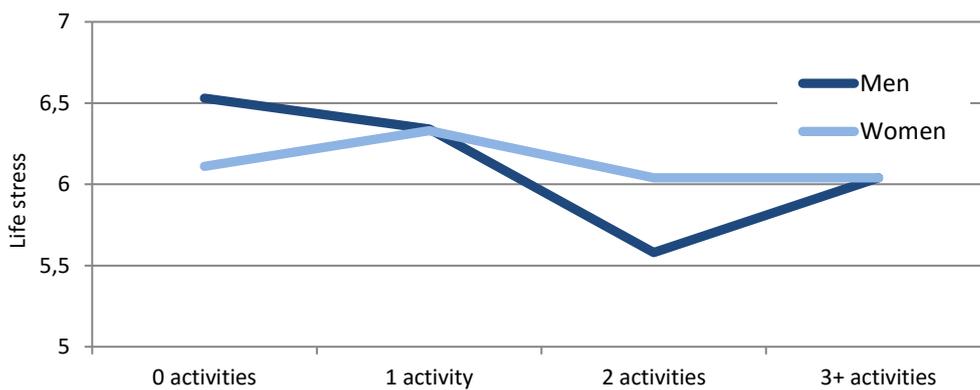


Figure 5.7.3. The average intensity of the three types of stress in the 2000-2015

Earlier in the text we stated that physical activity positively influenced physical and psychological well-being. Since stress is connected with either of these types of well-being, we may expect to find a connection between physical activity and stress as well. Indeed, those who practise some type of sport or exercise demonstrate a lower level of stress in life (Figure 5.7.4). This, of course, does not determine the direction of the dependence.



NOTES: the effect of the main physical activity  $F(3, 21099) = 8.281, p < 0.000, \eta^2 = 0.001$ ; the effect of gender  $F, 1 <$ ; the effect of the interaction of gender and physical activity  $F(3, 21099) = 6.876, p < 0.005, \eta^2 = 0.001$ .

Figure 5.7.4. The average intensity of the seven categories of stress in men and women due to the number of physical activity with the control of age

Multiple regression analysis was performed in order to define the importance of various forms of stress on psychological well-being to check what factors could be responsible for concentrations of stress. The results are presented in Tables 5.7.2. and 5.7.3.

Stress is most strongly associated (whether it is a cause or effect is a matter for discussion) with psychological depression, satisfaction with health and, somewhat less strongly, with satisfaction with financial situation of the family, feeling of happiness, satisfaction at work, satisfaction with life achievements and assessment of one's life as a whole up to now. To a small extent stress is linked with suicidal tendencies, satisfaction with children, satisfaction with the situation in the country and satisfaction with sex-life. Financial and health stress has absolutely the greatest effect on psychological well-being, on the other hand, parental and Kafkaesque stress have the least impact (Table 5.7.2.). The importance rank of the seven categories of stress (without carer stress) is this year the same as two years ago.

Certain categories of stress have a favourable effect on well-being indicators, especially carer stress and work stress. Work stress is experienced by the employed and therefore the younger, who achieve better well-being indicators. Younger people also tend to experience carer stress.

In the first place, supporting children tends to "favour" high concentrations of life stress, as do hired work, age, being an entrepreneur and a farmer. Factors that make life stress less strong are higher income and better living conditions, living in the country and being a retirees (Table 5.7.3.).

All factors considered in the regression equation together explain a large portion of variation (from 5% in the case of Kafkaesque stress to 36.4% in the case of work stress).

Table 5.7.2. Range of specific life-stress categories explaining different aspects of well-being and degree of well-being indicator variation explained by 7 categories of stress (a lack of range value signifies that the given category of stress does not independently explain, with the exclusion of all other stress categories, a statistically significant of a given well-being indicator portion)\*

Stress type	Evaluation of the whole life	Happiness	No suicidal tendencies	Will to live	No depression symptoms	Evaluation of the previous year	Satisfaction with close relations	Satisfaction with financial satisfaction	Satisfaction with relaxation	Satisfaction with health	Satisfaction with life achievements	Satisfaction with situation in the country	Satisfaction with place of residence	Satisfaction with perspectives for the future	Satisfaction with sexual life	Satisfaction with education	Satisfaction with job	Satisfaction with children	Satisfaction with marriage	Satisfaction with safety	General rank in 2015	General rank in 2013	General rank in 2011
	Financial	-1	-1	-1	-2	-4	-1	-1	-1	-1	-2	-1	-1	-2	-1	-2	-1	-1	-4	-2	-2	1	1
Health	-2	-2	-2	-1	-1	-2	-3	-2	-1	-1	-2	-2	6	-2	-1	-2	-4	-2	-4	-2	2	2	2
Work	4	4	6	5	3	3		3	-5	3	4	-6	-4		3	5	-2	4	4		4	4	3
Ecological	-5	-3	-3	-4		-5	-2	-6	-3	-6	-3	-3	-1	-3	-6	-6	-4	-5	-5	-1	5	5	4
Marital		-7			-5		-5		-2	-6			6		-2	-7		-6	-1	4	5	6	5
Kafka		-6	-4		6	-6		5	4	-5	5	-5	-5		5	4	3	-5	4		7	7	6
Parental							-4		-3	-7	-6	4	-3			-7		-1	-3		8	8	7
Carer	3	5	5	3	2	4	5	4	4	4	4		6	4	4	3	4	3	3	3	3	3	3
Percentage explained by 8 categories of stress (adjusted $R^2$ x 100)	13.3	15.6	4.7	8.8	39.6	9.7	6.8	23.9	9.7	36.5	14.6	7.2	7.3	14.6	8.3	9.2	17.9	5.2	11.0	10.9			

\* Predictor rank is a result of the degree of semi-partial correlation in the regression equation; a positive rank means a rise in stress is coupled with a rise in well-being, and a negative rank a rise in stress is coupled with a fall in well-being.

Table 5.7.3. The significance of selected socio-demographic indicators as predictors of various categories of life stress measured by standardised beta co-efficient in linear regression analysis

Predictor										
	Marital	Parental	Financial	Work	Ecological	Health	Kafka	Carer	General	Marital
Gender (1 man, 2 women)	-0.018*	0.051**	0.019*	-0.042**	0.025**	0.053**	-0.026**	0.053**	0.034**	0.041**
Age	0.099**	0.096**	-0.008	0.004	0.004	0.379**	-0.057**	-0.097**	0.098**	0.150**
Education	0.039**	-0.002	-0.066**	-0.007	-0.005	-0.067**	0.072**	0.114**	0.007	0.032**
Place of residence (1-large city, 6-rural areas)	0.020*	-0.045**	-0.051**	-0.009	-0.212**	0.003	0.000	-0.042**	-0.099**	-0.074**
Marriage		0.227**	-0.045**	0.015*	0.004	-0.004	-0.018	0.101**	0.107**	0.126**
Supported children	0.156**		0.012	0.054**	0.030**	0.010	0.052**	0.049**	0.138**	0.209**
Disability	0.028**	-0.069**	-0.092**	-0.010	-0.083**	-0.083**	-0.056**	-0.033**	-0.135**	0.069**
Alcohol	-0.069**	-0.033**	-0.213**	0.060**	-0.072**	-0.065**	-0.039**	0.044**	-0.082**	0.126**
Hired labour	0.039**	-0.014	0.054**	0.569**	0.017	0.155**	0.002	-0.008	0.058**	0.226**
Farmer	0.025*	0.096**	-0.003	0.232**	-0.042**	-0.020	-0.041**	0.033**	0.160**	0.103**
Entrepreneur	0.019	0.052**	0.078**	0.195**	-0.022*	-0.001	0.077**	0.012	0.101**	0.104**
Retirees	-0.066**	0.038**	0.070**		-0.049**	0.028**	0.020*	0.030**	0.097**	-0.097**
Unemployed	0.014	-0.167**	-0.251**		-0.098**	0.023	-0.080**	-0.162**	-0.165**	0.081**
Pensioners	-0.043**	0.046**	0.093**		0.005	0.005	0.006	-0.004	0.048**	-0.007
Income per capita	0.045**	-0.017	-0.059**	-0.027**	-0.039**	0.058**	-0.019	-0.037**	-0.023*	-0.085**
Living standards	-0.091**	-0.072**	-0.017	-0.008	-0.114**	-0.013	-0.001	-0.013	-0.042**	-0.057**
General percentage of explained variance (corrected $R^2 \times 100$ )	5.6	12.3	15.3	36.4	8.3	27.3	4.5	16.7	17.0	24.4

\*\* p &lt; 0,01

\* p &lt; 0,05

NOTE: a lack of beta value signifies that a given predictor does not enter the regression equation.

## 5.8. Coping strategies for problems and difficulties

Nobody is a completely passive victim of life-stress. We are not only the authors of a lot of our troubles, but we are also able to defend ourselves against their emotional, social and material consequences. There are many different means of warding off stress and its effects. Their classification is diverse, arising not only from theories of coping, but also to a large extent from the kind of stress itself.

Most popular in the psychological literature of the concept of individual strategies for coping with stress was the theory proposed by Lazarus and Folkman (1984), which distinguishes strategies in terms of task-orientation and emotions. The first one focuses on actually solving the problem, changing the situation for better. The second one aims at changing the experience in terms of emotions the stressful situation. Of course, within each of these general strategies, more specific forms of reaction are possible.

The scale we used specifies two forms of task-orientated reaction to difficult life situations: “*turn to others for help and advice*” and “*mobilise and get on with it*”. The emotional strategy is more differentiated as there are five ways: “*hit the bottle*”, “*take comfort in the thought that it could be even worse*”, “*take something the doctor prescribed to calm me down*”, “*pray to God for help*”, “*busy myself with other things that distract my Notes and improve my mood*”. The respondent could also answer that in the face of trouble they do nothing and capitulate, which may be treated a very specific coping strategy. Indeed, helplessness may be an escape from the responsibility and effort that solving problems demands, though of course in may also only mean the failure of all forms of dealing with stress available to that person.

As opposed to the dominant passive coping strategy among households in the face of financial difficulties (reducing needs, see Table 4.1.10.), the lion's share of respondents have for years declared an active strategy orientated to real problem-solving in the face of life-stress. Mobilisation and getting on with it accompanied by the seeking of information and advice from others are chosen by over half of Poles. However, as Table 5.8.1. shows, attempts at psychological adaptation to existing problems are frequent, so taking comfort in the thought that things could be worse, or that others have it even worse, or attempts to cause favourable change by invoking supernatural forces (praying to God) and doing something that takes Notes away from the real problem Figure large. Rarely, given the estimated alcohol consumption in Poland and the number of people dependent on it, does escape by hitting the bottle appear as a form of dealing with problems, as 3 p.p. fewer respondents admitted they abused alcohol (chapter 5.10.4.2.). Also, the use of prescription drugs to calm down is not a frequent form of reacting to difficult situations.

Comparing the results of whole samples we see that from 2005 the frequency of task-orientated strategy application in the last reading compared previous years is growing and the use of emotional strategies is falling, especially the taking comfort in the thought that it could be even worse and the praying to God (Table 5.8.1.).

Table 5.8.1. Percentage of respondents indicating specific ways of reacting to problems or difficult situations 1995-1997 and 2000-2013

Strategies of coping	1995 N=3020	1997 N=2094	2000 N=6403	2003 N=9188	2005 N=8593	2007 N=1267	2009 N=2417	2011 N=2610	2013 N=2599	2015 N=2162
I turn to others for help and advice	35.6	36.7	38.2	37.6	39.8	41.3	43.7	41.5	43.8	44.0
I mobilise myself and get on with it	48.4	55.1	49.4	47.2	50.6	52.0	54.6	54.9	56.0	58.7
I drink more alcohol	4.3	3.9	4.0	3.5	4.0	3.4	4.4	3.4	3.8	3.5
I take comfort in the thought it could be a lot worse	39.9	39.1	39.3	41.9	40.4	38.2	35.1	33.2	31.5	30.7
I give up and I don't know what to do	3.1	2.6	2.9	3.4	3.4	2.9	3.5	2.8	3.1	2.8
I take tranquilizers	5.5	4.8	4.1	4.4	4.8	4.2	4.4	3.7	3.6	3.0
I pray to God for help	27.4	30.4	31.8	32.5	33.7	30.1	28.1	25.3	25.0	23.4
I distract myself with other things	20.6	19.9	17.9	21.8	24.8	24.0	24.2	24.2	22.6	22.2

Source: 1995-1997 — Czapiński, 1998; 2000-2013 — *Social Diagnosis*.

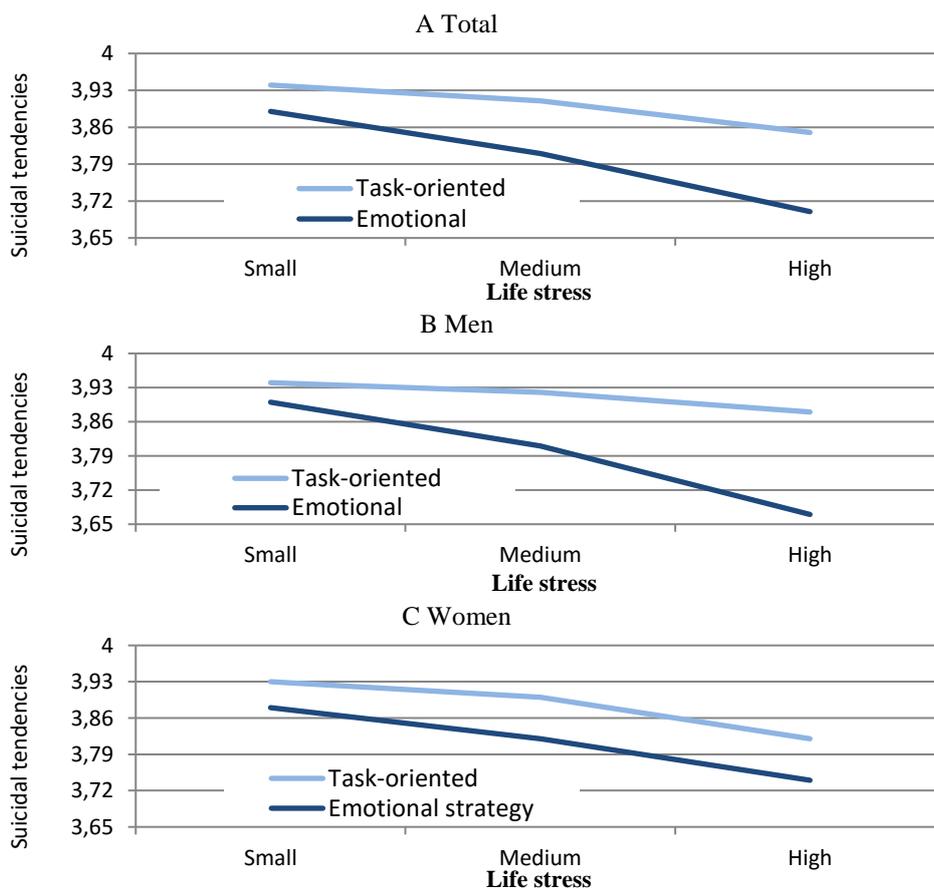
Comparison of panel samples also proves a rise in the frequency of task-orientated strategy use and a fall in emotional strategy (Table 5.8.2.). This means that Poles are getting better at coping with difficult life situations.

This begs the question which of these coping strategies are psychologically effective in the face of life-stress, allowing us to keep our spirits up or preventing them from falling when problems start piling up. In order to answer this, we verified whether each coping strategy weakens the influence of stress on psychological well-being and to what extent. It turned out that coping strategies determine the level of psychological well-being whatever the intensity of life-stress, as those who apply task-orientated strategy gain better indicators of well-being than those using emotional strategies or those who just give up in the face of trouble, also independent of the degree of life-stress. The advantage of task-orientated strategy however does rise with the intensity of life-stress in the case of suicidal tendencies (Figure 5.8.1.).

Table 5.8.2. Comparison of frequency of declared use of task-based and emotional strategies for dealing with problems in 2005-2015

Variable	Year of reading	Average	Standard deviation	Average difference	T-test	Degree of freedom	Level of significance	Correlation
Task-oriented strategy	2005	0.884	0.682	-0.092	-4.231	1323	0.000	0.316*
	2015	0.976	0.673					
	2007	0.894	0.677	-0.067	-4.183	2547	0.000	0.287*
	2015	0.960	0.671					
	2009	0.926	0.674	-0.049	-5.111	7329	0.000	0.265*
	2015	0.975	0.676					
	2011	0.923	0.668	-0.051	-6.824	11048	0.000	0.314*
	2015	0.974	0.675					
2013	0.961	0.668	-0.008	-1.251	14944	ni	0.364*	
2015	0.969	0.677						
Emotional strategy	2005	1.080	0.820	0.218	7.632	1231	0.000	0.212*
	2015	0.861	0.780					
	2007	1.041	0.798	0.153	7.551	2428	0.000	0.215*
	2015	0.888	0.793					
	2009	0.931	0.797	0.100	8.774	7016	0.000	0.260*
	2015	0.831	0.769					
	2011	0.903	0.793	0.081	9.128	10840	0.000	0.304*
	2015	0.823	0.764					
	2013	0.877	0.788	0.056	7.534	14827	0.000	0.330*
	2015	0.822	0.767					

\* p<0.001



NOTES: the scale of the suicidal tendencies is addressed: the lower the value, the greater the frequency of suicidal; the main effect of the stress intensity  $F(2, 20584)=137.080, p<0.000, \eta^2=0.013$  main effect whether remedial strategy  $F(1, 20584)=219.275, p<0.000, \eta^2=0.011$ , the effect of the interaction of stress and whether remedial strategy  $F(2, 20584)=20.796, p<0.000, \eta^2=0.002$ , the effect of the interaction of stress, whether remedial strategies and gender  $F(2, 20584)=9.237, p<0.000, \eta^2=0.001$ .

Figure 5.8.1. Suicidal tendencies under various stress intensity of life in people with a predominance of force and emotional coping strategies with the control of age and gender in both men and women (panel A), only in men (panel B) and only in women (panel C)

The advantage of task-orientated strategies over the emotional correlates with personal income level ( $r=0.15$ ). In order to verify whether task-orientation indeed favours higher income, we carried out a regression analysis in which the explanatory factor was change in personal income over three periods: 2007-2013, 2009-2013 and 2011-2013, with the predictors being task-orientation and the amount of entry-year personal income. As the results presented in Table 5.8.3. show, task-orientated strategy may actually be considered a factor favouring the gaining of personal wealth.

Table 5.8.3. Results of linear regression of change in personal income between year of predictors measurement and 2015.

Predictors	Year of measurement									
	2009			2011			2013			
	Beta	t	p	Beta	t	p	Beta	t	p	
Personal income	-0.276	-20.034	0.000							
Task-oriented strategy	0.047	3.425	0.001							
Personal income				-0.243	-21.573	0.000				
Task-oriented strategy				0.070	6.216	0.000				
Personal income							-0.224	-23.048	0.000	
Task-oriented strategy							0.036	3.667	0.000	
N		5013			7657			10371		
Adjusted R2		0.074			0.058			0.049		

### 5.9. Social support

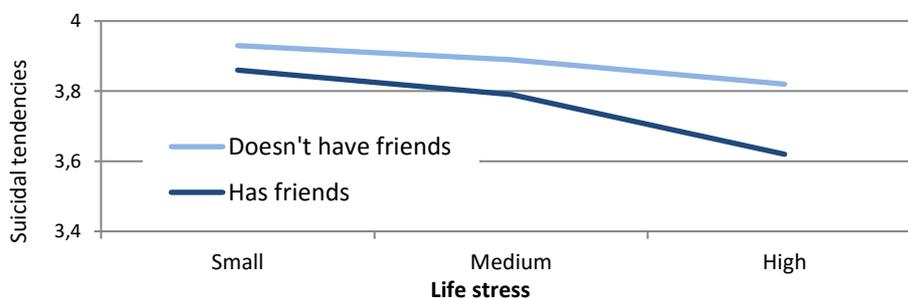
Since the start of the transformation, the feeling of social support declared (I feel loved and trusted) by over 90% of respondents has not changed. Only 18% (the lowest percentage since the beginning of transformation) feel abandoned against their own will (see Table 5.9.1.). Social support is an important category in the psychology of stress and coping with stress. Most theorists are inclined towards the “buffer” hypothesis, which assumes that social support is a factor that weakens or prevents the negative psychological effects of stress (friends in need are friends indeed) (e.g. Taylor, 2011; Cohen, Wills, 1985; Schwarzer, Leppin, 1989). However, also popular is the main effect hypothesis, which states that support always acts positively on the psyche, and not only in conditions of rising life stress. Though these hypotheses do not rule each other out entirely, we checked which is more accurate in relation to Poles. Do respondents who feel loved and trusted have more friends and do not feel lonely and better cope with life stress. Does support prevent the negative psychological effects of stress or is it that, independently of life events, people who enjoy greater support are in better shape psychologically.

It turns out that support of the measured number of friends generally positively influences various aspects of psychological well-being as well as also easing the influence of life-stress. Suicidal tendencies grow and the feeling of happiness falls with life-stress more among people who are lonely than among those surrounded by friends (Figures 5.9.1. and 5.9.2.). The number of friends is fifth most important factor explaining well-being after age, marriage, alcohol abuse and income per head (see Table 5.3.1.). To a similar extent, friends favour psychological well-being in both men and women, so it is better to have friends both in good times and especially in bad. Unfortunately, their number has once again begun to fall to the level at the turn of the century (Tables 5.9.2. and 5.9.3.).

Table 5.9.1. Percentage of respondents declaring different forms of social support in 1991/1992 and 2000-2013

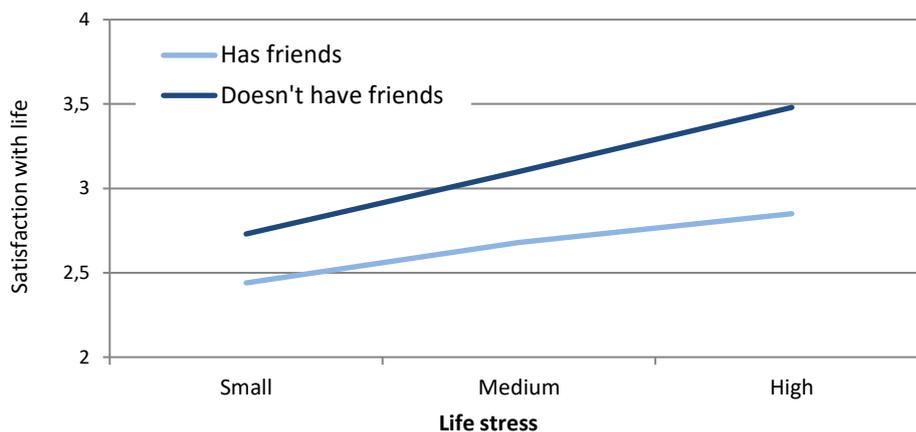
Social support	1991/1992 N=4187/3402	2000 N=6403	2003 N=9037	2005 N=8593	2007 N=12211	2009 N=25729	2011 N=26176	2013 N=26088	2015 N=22004
Trusted and loved	90	90	91	91	92	91	92	91	92
Lonely	21	22	19	22	21	21	21	20	18

Source: 1991/1992 — Czapiński, 1998; 2000-2013 — Social Diagnosis.



NOTES: the scale of the suicidal tendencies is addressed: the lower the scale value, the greater the frequency of suicidal; main effects: friends (F) (20943) = 150,392,  $p < 0.000$   $\eta^2=0.007$ , stress F (2, 20943) = 101.823,  $p < 0.000$   $\eta^2= 0.010$ , the effect of the interaction of stress and friends F (2, 20943) = 16.127,  $p < 0.000$   $\eta^2=0.002$  the effect of the interaction of stress and friends F (2, 20943) = 14.927,  $p < 0.000$ ,  $\eta^2= 0.001$ , control variable was the age

Figure 5.9.1. Suicidal tendencies-level depending on the intensity of the stress of life and friends number



NOTES: the scale of assessment of the entire past life is addressed: the lower the scale value, the more positive assessment; main effects: friends  $F(1, 20950)=386.392, p<0.000, \eta^2=0.018$ , stress  $F(2, 20950) = 177.823, p < 0.000, \eta^2= 0.017$ , the effect of the interaction of stress and friends  $F(2, 20950) = 15.827, p < 0.000 \eta^2= 0.002$ , the effect of the interaction of stress, friends and gender  $F(2, 20950) = 6.237, p<0.000, \eta^2= 0.001$ , control variable was the age

Figure 5.9.2. The severity of symptoms of mental depression, depending on the intensity of the stress of life and friends number

Table 5.9.2. Average number of friends over 18 in the following years

Year	1991	1993	1995	1996	1997	2000	2003	2005	2007	2009	2011	2013	2015
N	418	230	302	233	209	640	903	845	1251	2572	2617	2551	2212
Average	7	6	0	3	4	3	7	7	4	9	6	0	2
Another set	7	7	8	7	7	5	6	7	7	7	7	6	6

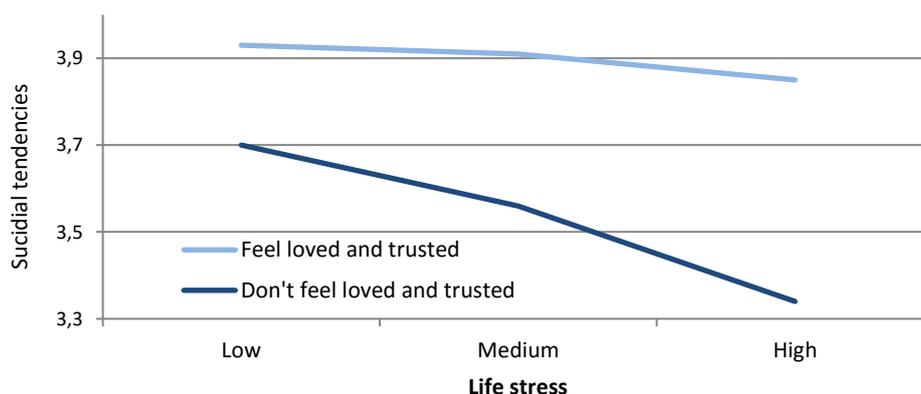
Source: 1991-1997 — Czapiński, 1998; 2000-2015 — Social Diagnosis.

Table 5.9.3. Percentage of respondents over 18 declaring a lack of friends or more than 5 friends in the following years

Number of friends	1991	1993	1995	1997	2000	2003	2005	2007	2009	2011	2013	2015
N	418	230	302	209	640	903	845	1251	2572	2617	2551	2212
No friends	7	6	0	4	3	7	7	4	9	6	0	2
Over 5 friends	45.0	49.0	50.0	47.0	30.0	40.1	44.0	45.5	43.4	43.4	39.1	37.5

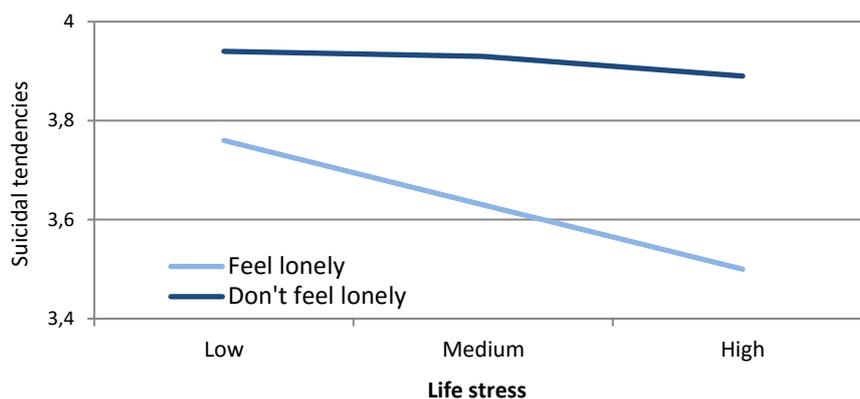
Source: 1991-1997 — Czapiński, 1998; 2000-2015 — Social Diagnosis.

For suicidal tendencies, two other indicators of support also have a marked buffer effect - the feeling of being loved and trusted as well as the feeling of loneliness (Figures 5.9.3 and 5.9.4).



NOTES: the scale of the suicidal tendencies is addressed: the lower the scale value, the greater the frequency of suicidal; main effects: (F) (20841) = 949.096,  $p < 0.000 \eta^2=0.044$ . stress  $F(2, 20841)=118.464, p<0.000, \eta^2=0.011$ , the effect of the interaction of stress and support (F) (20841) = 47.025,  $p < 0.000 \eta^2=0.004$ , the control variable was age

Figure 5.9.3. Suicidal tendencies-level depending on the intensity of the stress of life and a sense of being loved and trust



NOTES: the scale of the suicidal tendencies is addressed: the lower the scale value, the greater the frequency of suicidal; main effects: loneliness  $F(1, 20679)=1254.399, p<0.000, \eta^2=0.057$ , stress  $F(2, 20679)=113.794, p<0.000, \eta^2=0.011$ , the effect of the interaction of stress and loneliness  $F(2, 20679)=53.949, p<0.000, \eta^2=0.005$ , the control variable was age.

Figure 5.9.4. Level of suicidal tendencies by intensity of life stress and feeling of loneliness

## 5.10. Personal traits and lifestyle

### 5.10.1. The system of values

Studying the system of personal values is one of the most difficult tasks of the psychology of the quality of life. Although there are several measures that are better or worse standardised and verified for accuracy and reliability (the scale of Rokeach or Schwartz), none of them has been used in large surveys where what counts is brevity, simplicity of questions and ease of providing answers. Based on these criteria, we used the scale of conditions for a happy life (Annex 1, individual questionnaire, question 2), which lists 13 specific values and one non-specific value. Since all of the 13 values are commonly accepted, we limited respondents' choices to three that are the most important for them.

Table 5.10.1. proves that the value system of the Poles is quite stable. However, it is worth emphasising the significant increase in the importance of friends (a percentage of indications more than double the amount of 2000). The importance of education also increased as compared with the 1990s, although still both friends and education seem to be undervalued, given their real impact on the quality of life.

The quick increase in the Poles' affluence is also reflected in the decline of the frequency of the choice of money as one of the three most important values (by 10% as compared to 2000). The importance of God (providence) is also declining, which corresponds to the decline in the frequency of religious practices and prayer (cf. section 5.10.3.)<sup>67</sup>.

Similarly to all the previous years, the following are indicated as values: health (64.1% of respondents), then a successful marriage (a slight decline in the number of indications), children (also a fall in the number of indications, which already started in 2011) and work. The values that are indicated the least often are freedom, strong personality, education and kindness and being respected.

Table 5.10.1. Percentage of respondents over 18 who in the following years indicated particular values as the most three important conditions for a happy, successful life

Value	1992 N=3402	1995 N=3020	1997 N=2094	2000 N=6632	2003 N=9397	2005 N=8560	2007 N=12365	2009 N=23784	2011 N=26221	2013 N=26248	2015 N=21950
Money	37.2	36.1	39.3	39.2	33.3	32.9	30.7	30.3	28.2	29.0	28.3
Children	52.3	51.0	50.3	43.4	43.3	45.1	45.9	48.8	47.6	46.1	48.7
Happy marriage	56.3	55.9	58.8	58.0	53.7	55.6	55.8	56.6	53.4	50.3	50.3
Work	26.6	29.6	28.9	30.8	35.5	34.7	30.2	31.9	30.7	32.1	30.0
Friends	4.7	5.6	5.0	4.6	5.9	8.0	8.6	10.4	10.4	10.6	11.6
Providence, God	16.7	16.4	15.6	16.0	15.4	15.6	15.1	15.4	13.3	12.9	13.1
Cheerful disposition,	8.5	9.0	7.9	7.8	8.2	9.1	9.5	10.7	10.2	9.2	9.5
Honesty	12.3	10.0	9.0	8.8	9.0	10.2	9.7	11.1	9.9	9.4	9.9
Kindness and being respected	9.0	7.4	6.0	7.8	5.9	6.7	6.9	8.4	7.1	6.7	7.2
Freedom and liberty	3.6	3.8	1.9	3.0	3.3	3.5	4.1	4.7	4.4	4.9	6.0
Health	59.6	59.6	60.2	62.9	63.7	64.9	65.1	67.8	64.1	65.3	67.0
Education	1.9	3.7	4.2	4.6	5.1	6.0	6.2	6.3	5.6	5.8	5.2
Strong personality	4.0	4.1	5.5	3.4	4.5	4.9	5.0	5.8	5.3	5.8	6.3
Other	0.5	0.7	0.4	0.6	0.7	1.2	1.0	1.0	0.9	0.9	0.8

Source: 1 1992-1997 — Czapiński, 1998; 2000-2015 — Social Diagnosis.

<sup>67</sup> The trend of decreasing of the institutional religious practices (the frequency of participating in the religious ceremonies) stopped in 2015 despite further drop of the frequency of praying in difficult life situations (see chapter 5.10.3).

Some of the values are positively or negatively correlated. These correlations show different profiles of the system. Factor analysis 13 enables you to extract the value 5 independent profiles (Table 5.10.2.). In the profile of the first family values are important. The second call profile can be transcendent--faith in God weakens the importance of tangible, as can be seen not only at the individual level (correlation between the choice of God and money as one of the three most important conditions for a successful life is negative at-0.16) but also in the provinces section (geography of the importance of money is, to a certain extent, the inverse of the geography of the meaning of God, 5.10.1.). A third profile counts optimism and social image, the fourth meaning has only health, and in the fifth - libertine - appreciation of liberty and freedom reduces the rank of work.

Table 5.10.2. Results of factor analysis

Value	Factors				
	1	2	3	4	5
Money		-0.583			
Children	-0.720				
Happy marriage	-0.740				
Work					-0.667
Friends					
Providence, God		0.628			
Cheerful disposition,			0.715		
Honesty					
Kindness and being respected			0.647		
Freedom and liberty					0.565
Health				-0.926	
Education					
Strong personality					
% of explained variance	14.2	10.5	9.0	8.4	7.9

NOTES: a method of extracting factors-the main components; the rotation method-varimax with Kaiser normalization; turnover reached convergence in the 11 iterations; shows loads runs factorial above 0.4.

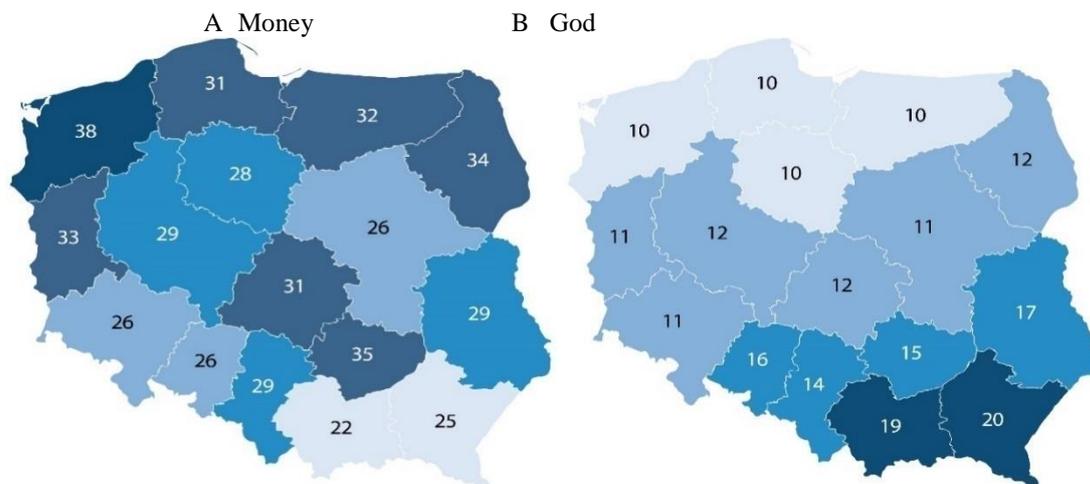


Figure 5.10.1. Percentage of those indicating money (panel A) and God/Providence (panel B) as one of the three cardinal values of life in the regional section

A system of personal values depends on many cultural factors, social environment, life conditions and what adventures meet a person in the course of their life. We selected seven such factors potentially determining the probability of respondents including particular values to three basic conditions of a successful (happy) life. The results of regressive logistical analysis with these factors as predictors are presented in Table 5.10.3..

The chosen values the predictors best reveal are: children, a happy marriage and friends. This means that the weight of these values in an individual's value system depends above all on his or her socio-demographic characteristics. The importance of children in a value system depends above all on whether someone is in a relationship, is a woman and is between 25-59 years of age. Those who value marriage above all are themselves married, are relatively young, better off, live in large cities and are better educated. Work is more important for men than for women, it is also more valued by people in productive age, less wealthy, living in smaller cities and country, with average education, workers of the public sector and single. Those choosing friendship more often than others are wealthy, unmarried and live in large city. God is more important for women than for men, for older people and single, living in country, less educated and students

Table 5.10.3. Significance of selected socio-demographic factors as predictors of the probability of including a given value as one of the three conditions of a successful (happy) life in a regression analysis

Predictor	Money		Children		Successful marriage		Work		Friends		God		Optimism	
	p	Exp(B)	p	Exp(B)	p	Exp(B)	p	Exp(B)	p	Exp(B)	p	Exp(B)	p	Exp(B)
Man	ref.													
Woman	0.00	0.55	0.00	2.03	.00	1.11	0.00	0.77	0.01	0.88	0.00	1.45	0.84	0.99
Age 16-24 y.o.	ref.													
Age 25-34 y.o.	0.28	0.92	0.00	1.74	0.81	0.98	0.09	1.13	0.00	0.71	0.99	1.00	0.41	0.91
Age 35-44 y.o.	0.02	0.82	0.00	1.84	0.00	0.60	0.38	1.07	0.00	0.56	0.00	1.63	0.04	1.29
Age 45-59 y.o.	0.02	0.83	0.03	1.25	0.00	0.47	0.01	1.24	0.00	0.44	0.00	2.05	0.08	1.25
Age 60-64 y.o.	0.27	0.89	0.84	1.02	0.00	0.47	0.19	1.14	0.00	0.50	0.00	2.53	0.03	1.42
Age 65+ y.o.	0.00	0.69	0.90	0.98	0.00	0.49	0.01	0.75	0.00	0.40	0.00	3.71	0.02	1.47
Per capita income below lower quartile	ref.													
Per capita income above lower quartile	0.00	0.87	0.85	0.99	0.46	1.04	0.00	0.87	0.00	1.37	0.35	1.06	0.00	1.44
Per capita income below upper quartile	0.00	0.79	0.43	1.04	0.01	1.14	0.00	0.86	0.00	1.33	0.22	0.92	0.00	1.43
Per capita income above upper quartile	0.00	0.71	0.00	0.86	0.01	1.15	0.00	0.75	0.00	1.43	0.98	1.00	0.00	1.78
Towns over 500k residents	ref.													
Towns 200-500k	0.00	1.49	0.21	1.09	0.72	1.03	0.78	1.02	0.00	0.74	0.82	1.02	0.02	0.81
Towns 100-200k	0.00	1.43	0.85	1.01	0.00	0.70	0.00	1.24	0.00	0.62	0.93	1.01	0.00	0.71
Towns 20-100k	0.00	1.72	0.10	1.11	0.00	0.80	0.00	1.20	0.00	0.58	0.16	1.13	0.00	0.60
Towns up to 20k	0.00	1.61	0.45	1.05	0.00	0.79	0.00	1.25	0.00	0.59	0.68	1.04	0.00	0.62
Rural areas	0.00	1.59	0.00	1.25	0.00	0.84	0.00	1.21	0.00	0.48	0.00	1.35	0.00	0.48
Primary and lower education	ref.													
Vocational/lower secondary school	0.54	0.97	0.25	0.94	0.00	1.20	0.00	1.28	0.25	1.11	0.00	0.76	0.91	0.99
General secondary	0.00	0.75	0.81	0.99	0.00	1.33	0.00	1.22	0.84	1.02	0.60	0.96	0.00	1.51
Higher and post-secondary	0.00	0.62	0.04	0.88	0.00	1.47	0.87	0.99	0.11	1.18	0.01	1.25	0.00	2.10
Public sector workers	ref.													
Private sector workers	0.00	1.24	0.84	1.01	0.78	0.98	0.00	0.85	0.61	0.96	0.10	0.87	0.01	1.27
Self-employed	0.00	1.42	0.08	1.17	0.80	1.02	0.00	0.70	0.47	0.90	0.08	0.78	0.00	1.47
Farmers	0.00	1.32	0.55	0.95	0.64	1.04	0.00	0.47	0.76	0.95	0.26	0.86	0.76	0.94
Pensioners	0.72	0.97	0.04	0.85	0.86	0.98	0.00	0.29	0.02	1.37	0.13	1.18	0.00	1.82
Retirees	0.92	1.01	0.84	0.98	0.77	0.98	0.00	0.35	0.12	1.26	0.11	1.19	0.00	1.54
School and university students	0.59	0.95	0.00	0.43	0.58	0.94	0.00	0.35	0.00	1.60	0.01	1.49	0.01	1.45
Unemployed	0.00	1.49	0.73	0.97	0.00	0.77	0.00	0.68	0.47	1.10	0.55	0.92	0.00	1.56
Other passive labour	0.00	1.59	0.59	1.04	0.25	0.91	0.00	0.38	0.29	1.14	0.22	0.87	0.09	1.25
Unmarried	ref.													
Married	0.00	0.50	0.00	9.62	0.00	13.47	0.00	0.54	0.00	0.18	0.01	0.81	0.00	0.40
Widowed	0.00	0.61	0.00	7.65	0.00	2.82	0.00	0.58	0.00	0.38	0.00	1.32	0.00	0.55
Divorced	0.01	0.80	0.00	5.50	0.00	1.39	0.01	0.80	0.00	0.57	0.00	0.55	0.64	1.05
Constant	0.00	0.43	0.00	0.68	0.00	0.51	0.00	0.38	0.00	0.13	0.00	0.12	0.00	0.12
Percentage of explained variance Cox & Snell $R^2 \times 100$	7.4		22.2		22.1		7.7		11.0		5.4		3.9	
Percentage of explained variance Nagelkerke $R^2 \times 100$	10.6		29.7		29.4		10.9		21.4		10.1		8.4	

Table 5.10.3. continued

Predictor	Trust		Respect		Freedom		Health		Education		Strong character	
	p	Exp(B)	p	Exp(B)	p	Exp(B)	p	Exp(B)	p	Exp(B)	p	Exp(B)
Man	ref.											
Woman	0.02	1.13	0.01	1.16	0.00	0.41	0.00	1.35	0.29	1.08	0.00	0.61
Age 16-24 y.o.	ref.											
Age 25-34 y.o.	0.45	0.92	0.99	1.00	0.00	0.64	0.01	1.20	0.00	0.43	0.16	0.85
Age 35-44 y.o.	0.13	1.22	0.63	1.07	0.00	0.50	0.00	1.44	0.00	0.27	0.40	0.89
Age 45-59 y.o.	0.00	1.53	0.02	1.39	0.00	0.40	0.00	1.99	0.00	0.34	0.01	0.70
Age 60-64 y.o.	0.00	1.75	0.00	1.75	0.00	0.39	0.00	1.98	0.00	0.33	0.18	0.79
Age 65+ y.o.	0.00	1.98	0.01	1.62	0.00	0.32	0.00	2.31	0.00	0.42	0.02	0.61
Per capita income below lower quartile	ref.											
Per capita income above lower quartile	0.13	1.12	0.39	1.08	0.03	0.80	0.42	0.96	0.44	1.08	0.52	1.06
Per capita income below upper quartile	0.05	1.15	0.00	1.32	0.97	1.00	0.32	1.05	0.07	1.20	0.73	1.03
Per capita income above upper quartile	0.03	1.18	0.00	1.30	0.02	1.25	0.41	1.04	0.52	1.07	0.97	1.00
Towns over 500k residents	ref.											
Towns 200-500k	0.04	1.23	0.00	0.70	0.06	0.81	0.14	0.91	0.00	0.50	0.31	0.88
Towns 100-200k	0.71	1.04	0.04	0.78	0.00	0.63	0.02	1.19	0.00	0.48	0.27	0.86
Towns 20-100k	1.00	1.00	0.16	0.87	0.00	0.53	0.26	0.94	0.01	0.73	0.14	0.84
Towns up to 20k	0.31	1.11	0.21	0.87	0.00	0.52	0.11	1.11	0.00	0.55	0.53	0.93
Rural areas	0.72	0.97	0.00	0.68	0.00	0.33	0.05	1.12	0.04	0.79	0.01	0.76
Primary and lower education	ref.											
Vocational/lower secondary school	0.73	1.03	0.02	0.80	0.72	0.96	0.00	0.84	0.18	1.23	0.55	1.06
General secondary	0.43	1.07	0.30	0.91	0.65	0.94	0.01	0.86	0.02	1.45	0.97	1.00
Higher and post-secondary	0.42	0.93	0.31	0.90	0.77	1.04	0.84	0.99	0.00	2.70	0.05	0.78
Public sector workers	ref.											
Private sector workers	0.10	0.86	0.36	0.91	0.13	1.20	0.13	1.08	0.00	0.59	0.52	0.93
Self-employed	0.01	0.67	0.75	0.95	0.00	1.60	0.05	0.85	0.25	0.79	0.03	1.43
Farmers	0.39	0.88	0.32	0.83	0.01	1.75	0.01	1.24	0.02	0.54	0.16	1.27
Pensioners	0.13	1.20	0.34	1.15	0.09	0.69	0.00	1.49	0.41	0.85	0.34	1.17
Retirees	0.28	1.14	0.22	1.19	0.45	1.18	0.00	1.32	0.02	0.57	0.78	0.95
School and university students	0.96	0.99	0.92	0.98	0.00	1.57	1.00	1.00	0.00	2.10	0.71	1.06
Unemployed	0.01	0.70	0.97	0.99	0.06	1.38	0.13	1.13	0.01	0.61	0.79	1.04
Other passive labour	0.13	0.83	0.21	1.19	0.00	2.03	0.37	1.07	0.08	0.73	0.72	1.06
Unmarried	ref.											
Married	0.00	0.39	0.00	0.38	0.00	0.35	0.00	0.70	0.00	0.32	0.00	0.37
Widowed	0.00	0.57	0.00	0.54	0.00	0.49	0.04	0.85	0.00	0.33	0.01	0.68
Divorced	0.02	0.76	0.00	0.55	0.28	0.84	0.52	0.95	0.01	0.58	0.77	1.04
Constant	0.00	0.12	0.00	0.08	0.00	0.07	0.00	2.17	0.00	0.03	0.00	0.09
Percentage of explained variance Cox & Snell $R^2 \times 100$	1.9		1.4		6.1		3.4		7.5		2.5	
Percentage of explained variance Nagelkerke $R^2 \times 100$	4.1		3.5		16.6		4.8		22.2		6.5	

Serenity like most of older people, more affluent, better educated, pensioners, pensioners, the unemployed, private entrepreneurs, residents of major cities and single.

Honesty is often one of the cardinal values for women, older people, more prosperous and single, and less than any other value it, private entrepreneurs and unemployed.

Education more appreciate better educated children, pupils and students, pensioners, the unemployed, the richest and single.

Kindness and respect of the environment are more important for women, the elderly, affluent, residents of major cities and single.

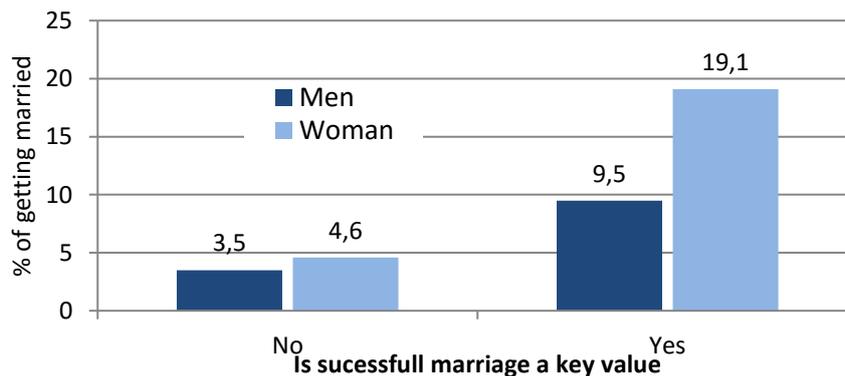
Freedom is more important for men, younger people, richer, residents of major cities, private entrepreneurs, farmers, students and single.

Health most appreciate women, older people, the worst and the best educated, pensioners, retirees, farmers and single.

Education is the most important for those who are still learning, better educated and single.

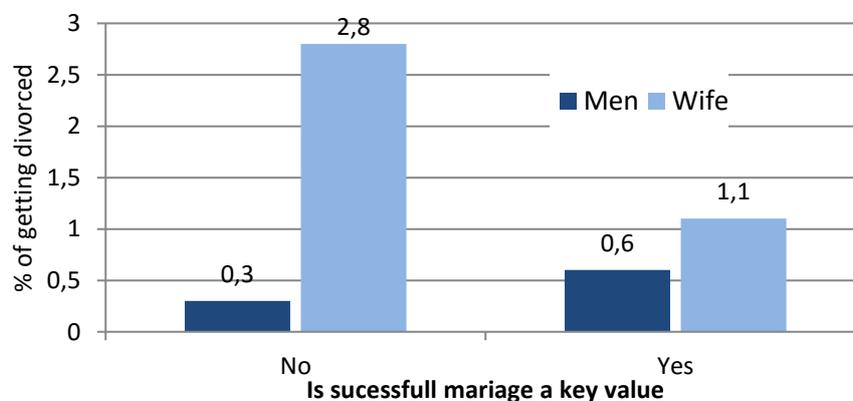
Strong character more often than others are to the cardinal values of the men, private entrepreneurs and single and divorced.

If the system has an impact on the value of lifestyle depending on the unit, i.e. decisions taken, we can expect that it allows substantially provide important and instead of life events, for example. The conclusion of the wedding, the birth of a child or divorce. I've looked at, if that in fact is: whether the probability of marriage and the likelihood of divorce depend on the value of a successful marriage, and the probability of the birth of the first child from the value of the child. Passing by respondents in 2011 a successful marriage to the three cardinal values increases three times the chances of marriage and reduces the likelihood of divorce twice in the next two years (5.10.2. and 5.10.3.). In the case of chance of the marriage choice of a successful marriage is an important predictor, even with more than two years in advance. When it comes to divorce, but only in the case of women its probability depends on the position of the marriage value system. Also passing children to the three cardinal values is proving to be a significant predictor of emergence of the child during the next two years (Figure 5.10.4.).



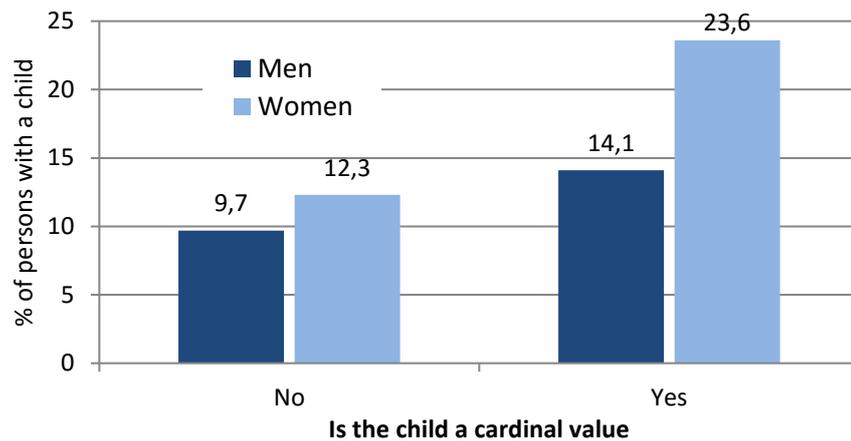
NOTES: the effect of the main pass of the marriage to the cardinal values of  $F(1,2780)=86.737, p<0.000, \eta^2= 0.030$ ; the main effect of gender  $F(1, 2780)=24.237, p<0.000, \eta^2= 0.009$ ; the effect of the interaction of values and gender  $F(1, 2780)=15.057, p<0.000, \eta^2= 0.005$

Figure 5.10.2. The percentage of unmarried men and women falling or not qualifying as the 2011 successful marriage to the three cardinal values, who in the next four years have entered into marriage



NOTES: the effect of the main pass of the marriage to the cardinal values of  $F(1, 6399)=5.687, p<0.05, \eta^2= 0.001$ ; the main effect of gender  $F(1, 6399)=25.857, p<0.000, \eta^2= 0.004$ ; the effect of the interaction of values and gender  $F(1, 6399)=11.637, p<0.005, \eta^2= 0.002$

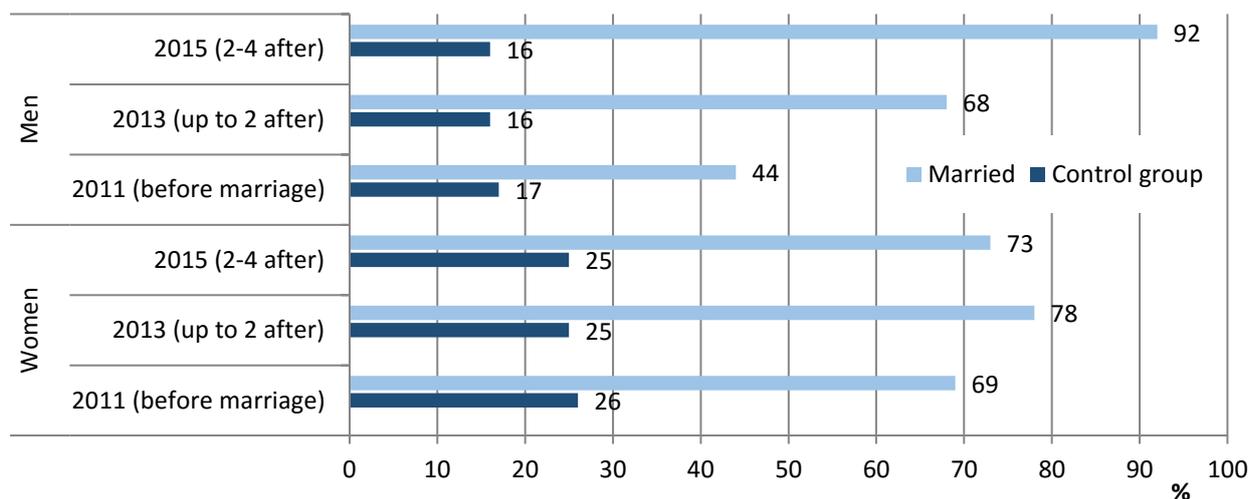
Figure 5.10.3. The percentage of women and men living in 2011 in marriage and falling or not qualifying as a successful marriage to the three cardinal values, who in the following four years divorced



NOTES: the main effect of the inclusion of children to the cardinal values of  $F(1, 3441)=29.687, p<0.000, \eta^2= 0.009$ ; the main effect of gender  $F(1, 3441)=17.887, p<0.000, \eta^2= 0.005$ ; the effect of the interaction of values and gender  $F(1, 3441)=5.705, p<0.02, \eta^2= 0.002$

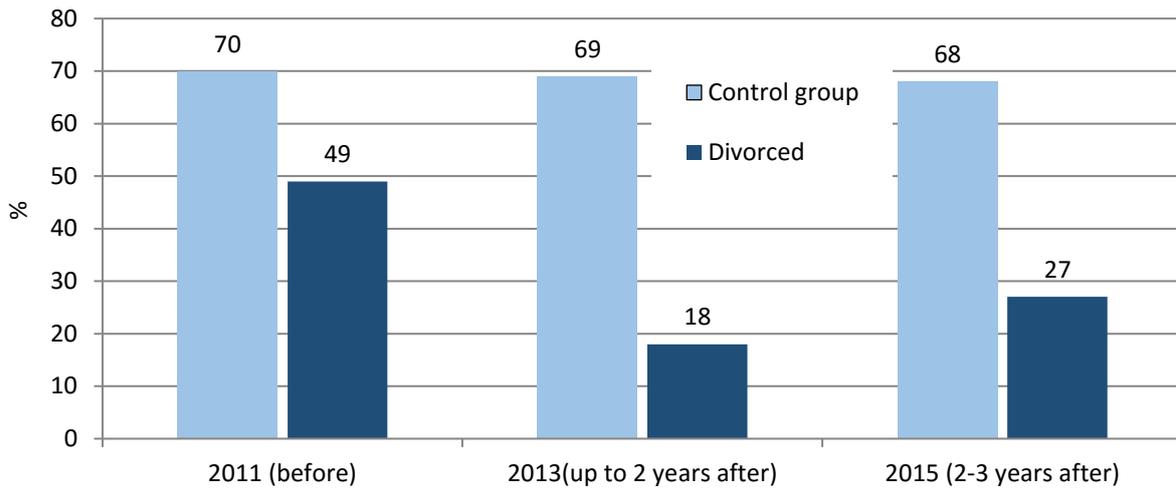
Figure 5.10.4. The percentage of women and men aged 30 to 48 years of falling or not qualifying children to the three cardinal values, which in the following four years had a child

Not only does a value system allow the prediction of certain life events resulting from individual decisions, it also permits the opposite as important life decisions can change value systems. The happy marriage value increases in the years following marriage (Figure 5.10.5.). Before getting married, 69% women and 44% men stated a happy marriage as a cardinal value and 2-4 years after the wedding, 73% women (increase insignificant) and 92% men (more than double increase). Furthermore, divorce reduces the happy marriage value for a period of at least two years (Figure 5.10.6.). Prior to divorce, 49% counted marriage as a cardinal value (significantly less than the group whose marriage had not broken up in a given time). After divorce, the % of former spouses counting a happy marriage as a cardinal value fell twice over. Then the birth of a first child raises the position of children in an individual's value system (Figure 5.10.7.). As far as before the birth of a child only 39% of future fathers and 56% of future mothers included children as one of three cardinal values, straight after birth that was, respectively 50% and 74% and after a few years 55% of fathers and 83% of mothers saw children as a cardinal value. Differently than in case of a marriage, the conclusion of which increased its position in the value system only for men, and having a child increased the value of child for both genders. As shown earlier, it is somewhat interesting as after the childbirth, the psychological well-being falls to the level of people without children, and in the scope of the sense of happiness even below that level. In other words, children do not bring happiness but their appearance changes their parents' subjective system of values in such a way that the significance of a child as a condition of a successful life increases.



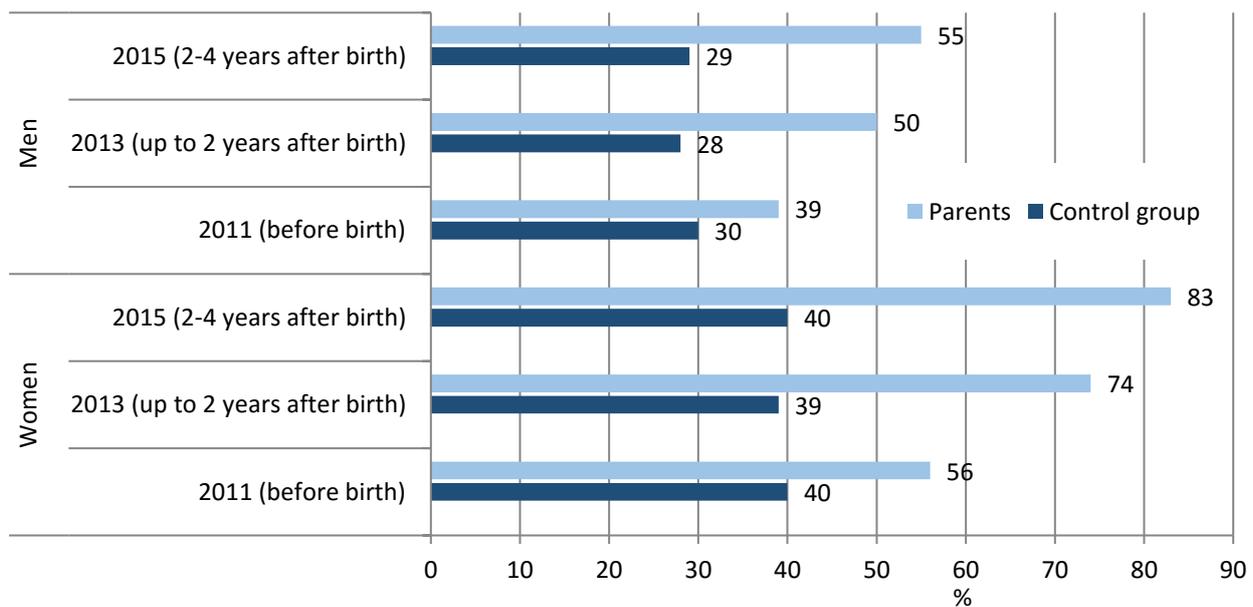
NOTES: the main effect of time measurement of  $F(2,4976) = 6.783, p < 0.01, \eta^2 = 0.003$ ; the effect of interaction of time measurement and Group  $F(2,4976)=13.541, p<0.000, \eta^2=0.005$ ; the effect of interaction of time measurement, group and gender  $F(2,4976)=9.661, p<0.000, \eta^2=0.004$ ; testing of intra-object contrasts for interaction of time measurement and groups: 1 vs 2 measurement of  $F(1,2572)=9.452, p<0.005, \eta^2=0.004$ , 1 vs. 3 measurement  $F(1,2567)=18.296, p<0.000, \eta^2=0.007$ , 2 vs. 3 measurement of ni; co-variable was age

Figures 5.10.5. The percentage of people who have entered into marriage between 2011 and 2015, indicating a successful marriage as one of the three cardinal values in 2011 (before marriage), 2013 (just after the conclusion of the marriage) and 2015 (2-3 after the conclusion of the marriage), and the % of people that lived in 2011-2015 in the free State (control group), indicating a successful marriage as one of the three cardinal values in 2011, 2013 and 2015.



NOTES: the main effect of time measurement of  $F(2,13760)=9.046, p<0.000, \eta^2=0.001$ , the effect of interaction of time measurement and Group  $F(2,13760)=8.088, p<0.000, \eta^2=0.001$ ; testing of intra-object contrasts for interaction of time measurement and groups: 1 vs 2 measurement of  $F(1,8001)=11.789, p<0.000, \eta^2=0.001$ , 1 vs. 3 measurement  $F(1,6987)=4.368, p<0.05, \eta^2=0.001$ , 2 vs. 3 measurement of ni; co-variables were age and gender

Figure 5.10.6. Percentage of people that divorced between 2011 and 2013, indicating a successful marriage as one of the three cardinal values in 2011 (the divorce), 2013 (up to 2 years after the divorce) and 2015 (2-4 after a divorce) and the percentage of people who lived in 2011-2015 married (control group), indicating a successful marriage as one of the three cardinal values in 2011, 2013 and 2015.

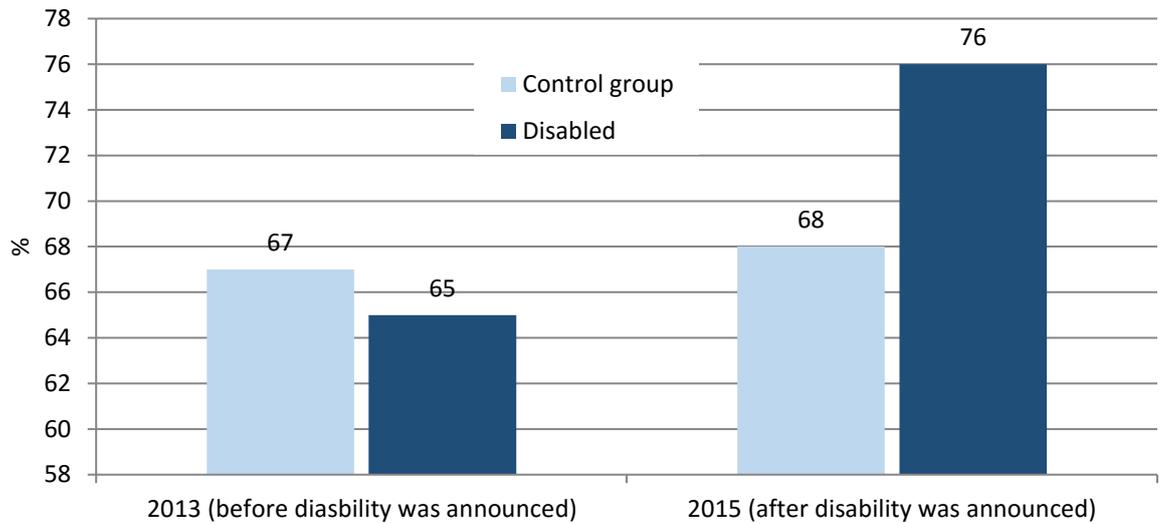


NOTES: the main effect of time measurement of  $F(2,5036) = 5.873, p < 0.01, \eta^2 = 0.002$ ; the effect of interaction of time measurement and Group  $F(2,5036)=27.154, p<0.000, \eta^2=0.011$ ; the effect of interaction of time measurement, group and gender than; testing of intra-objects contrasts for interaction of time measurement and groups: 1 vs 2 measurement of  $F(1,4598)=29.552, p<0.000, \eta^2=0.006$ , 1 vs. 3 measurement  $F(1,2632)=57.296, p<0.000, \eta^2=0.021$ , 2 vs. 3 measurement of  $F(1,3993)=9.701, p<0.005, \eta^2=0.002$ ; co-variable was age

Figure 5.10.7. Percentage of the people, where the child is born between 2011 and 2013, showing children as one of the three cardinal values in 2011 (before birth), 2013 (up to 2 years after birth) and in 2015 (2-4 after the birth), and the percentage of people who remained childless in 2011-2015 (control group), showing children as one of the three cardinal values in 2011, 2013 and 2015.

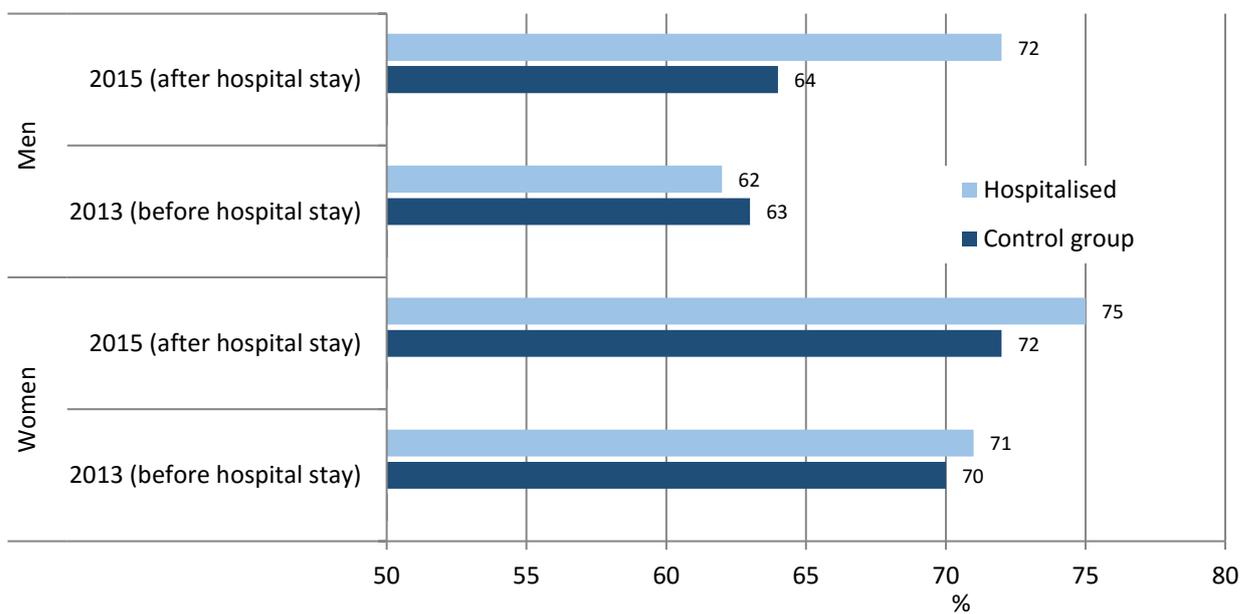
The mechanism of value system change after life events resulting from the individual's choices can be explained in categories of cognitive dissonance theory (Fetinger, 1957) as the justification of the rationality of a decision (to marry, divorce or have children) once taken. This is not however the only possible explanation as all three of the events analysed here have a marked influence on most aspects of an individual's life and may force a modification in the sense of life and its aims in a direction compatible with the character of the event. You do not know if something is really important until you have not experienced it. This is borne out by the statistically significant change in the

health value of people who have become disabled, or were treated in hospital and thus experienced something that was not an effect of their free choice (Figures 5.10.8. and 5.10.9.). “You only know how much to value your health until it is gone.”



NOTES: the main effect of time measurement of  $F(1,9476)=6.158, p<0.05, \eta^2=0.001$ .; the effect of interaction of time measurement and Group  $F(1,9476)=5.658, p<0.05, \eta^2=0.001$ ; co-variables were age and gender

Figure 5.10.8. The percentage of people between 2013 and 2015, issued a finding of disability, health indicators as one of the three cardinal values in 2013 (in front of the judgment) and in 2015 (decision) and percentage of people without disabilities in 2013-2015 (control group), indicating health as one of the three cardinal values in 2013 and 2015.



NOTES: the main effect of time measurement of  $F(1,12851)=8.133, p<0.01, \eta^2=0.001$ .; the effect of interaction of time measurement and Group  $F(1,12851)=8.530, p<0.01, \eta^2=0.001$ ; the effect of interaction of time measurement, group and gender  $F(1,12851)=4.262, p<0.05, \eta^2=0.000$ ; co-variable was the age

Figure 5.10.9. Percentage of people that between 2013 and 2015 had been in the hospital, indicating health as one of the three cardinal values in 2013 (hospitalized) and in 2015 (hospitalization), and the percentage of those not treated in hospitals between 2009-2015 (control group), indicating health as one of the three cardinal values in 2013 and 2015.

### 5.10.2. Style of causal attribution

The style of causal attribution is the tendency to search for the causes of one's own condition, behaviours and the effects of actions or condition and other people's behaviours in particular factors. Here we were interested in whether the ways of attributing the causes responsible for the respondent's life were the same as in the past year. The scale of causal attribution used in the study (Annex 1, individual questionnaire, questions 60-61) was meant to provide an answer to the question of who (or what) the Poles see as responsible for the quality of their own lives: themselves, the authorities, other people or fate/providence. The question is connected with a self-serving attribution bias, confirmed in many studies ("the good things are me, the bad things are not me"), and with the theory of social ingratitude (Czapiński, 2000,2002a), which says that the social perception of changes at the macro level is non-symmetrical; those who gain on the changes from the very beginning, demonstrate gratitude to their authors only to a limited extent, seeing themselves as the main causes of improvement in their living conditions, and the change for good is not felt very strongly itself, while those who consider themselves victims of the implementation of reforms put the blame for their worsening living conditions on the authors of reforms, and feel the change for the worse much more strongly.

The number of people who consider the past year as good has been increasing systematically up to 2011, although in 2013 this trend was slowed, in 2015 the percentage of people satisfied with the previous year has risen to the highest level from the beginning of this study (Figure 5.10.10.).

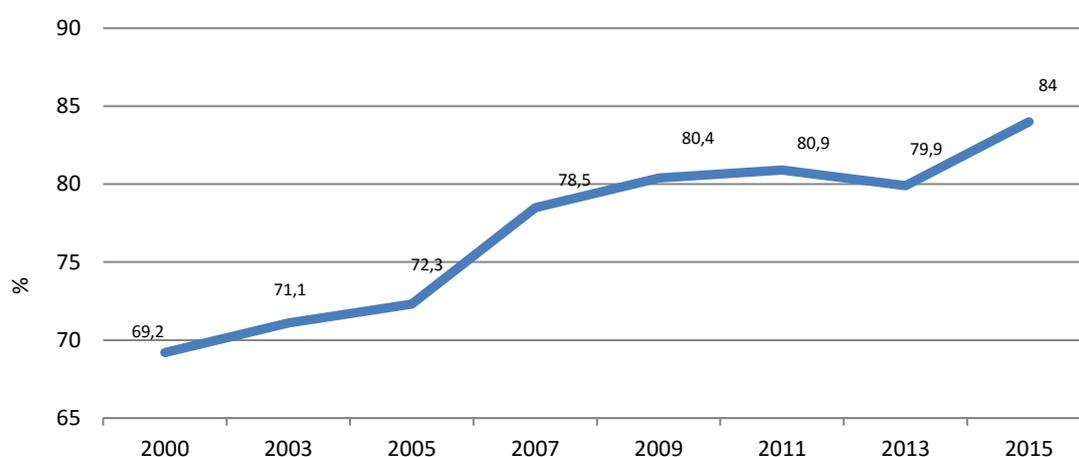


Figure 5.10.10. The percentage of respondents who considered that the past year was in their lives successful in 2000-2015

Table 5.10.4. shows the distribution of responsibility for the past year between four entities: the respondent themselves, other people, authorities (i.e. the State) and fate (providence). A significant (over fivefold) decline in a panel sample 2000 and 2015 concerns the frequency of pointing to the authorities ( $t=11.460$ ,  $p<0.000$ ). This means that the Poles see the connection between their quality of life and the actions of politicians as weaker and weaker.

The responsibility for the direction of perceived change is attributed to the quality of own life. Similarly as in the previous years, one can notice a clear effect of the self-serving attribution bias and the effect of social ingratitude (cf. the frequency of attribution to oneself and to authorities depending on whether the past year was seen as good or not - Figure 5.10.2.). Respondents attribute a good year mainly to themselves (82%), at an insignificant rate (2.7%) to authorities, while an unsuccessful year is more often attributed to authorities (19%), and less often to themselves (33%). The contribution of other people and providence to one's own fate is also acknowledged more often when the year was unsuccessful than when it was successful. Although the system of dependencies has been preserved, some changes have occurred within it since the year 2000. The frequency of attribution to authorities declined, especially in respect of responsibility for an unsuccessful year (by 33%)<sup>68</sup>, while the frequency of attribution to other people for an unsuccessful year increased.

Table 5.10.4. Percentage of respondents from seven studies indicating answers concerning the question „who was responsible for my situation in the past year”

Who was responsible for my past year	2000 N=6635	2003 N=9420	2007 N=12631	2009. N=25823	2011. N=25836	2013 N=25998	2015 N=21894
I was	61.2	61.5	66.0	70.2	71.4	71.9	74.0
Other people	24.8	23.7	26.8	26.0	26.1	27.0	27.7
Authorities	24.3	15.0	9.0	7.4	7.9	7.9	5.4
Faith	44.5	41.6	38.7	40.6	41.6	39.4	39.6

<sup>68</sup> The responsibility of authorities for the past years was small in the previous years so the "floor effect" made its further fall impossible.

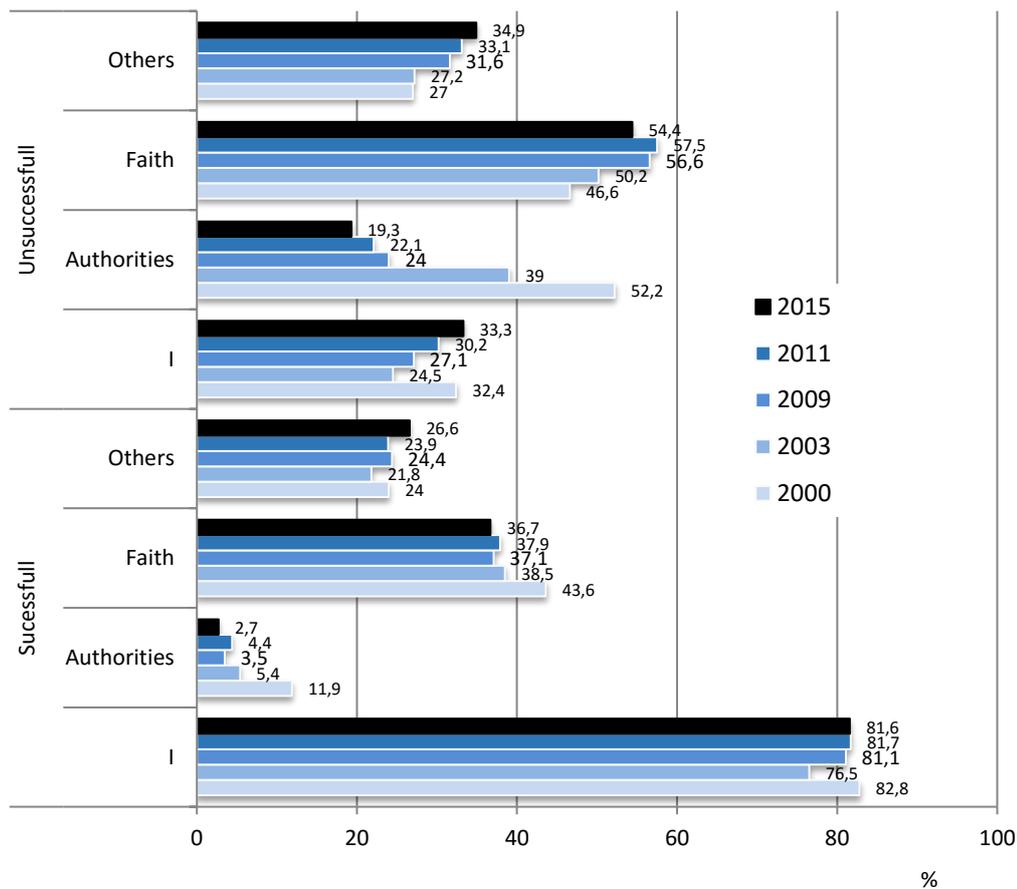


Figure 5.10.11. Who was responsible for that the past year has been in the life of the respondent's successful or unsuccessful? (percentage of indications on himself, on the authorities, fate and other people among the assessor last year as successful or unsuccessful in the 2000, 2003, 2009, 2011 and 2015)

Causal attributions to the ego independent of the assessment of events they refer to (whether the previous year was successful or not), may be treated as indicators of auto-determination (internal control over one's own life). Analogically, attributions to luck independent of event assessment may be treated as an indicator of fatalism. Now, while fatalism does not have to be a total opposite of auto-determination (people may in their own view divide the responsibility for the course of events between themselves and luck), these two attributes remain in a certain opposition to each other. This is borne out by the negative partial correlation between causal attribution of events to self and luck in the past year with control of the assessment of these events ( $r=-0.40$ ,  $N=20220$ ). A certain test of the accuracy of auto-determination and fatalism indicators are their correlation with problem-solving strategies (see chapter 5.8). Task-orientated strategy correlates has a significant positive correlation with the auto-determination indicator ( $r=0.19$ ) and a negative with fatalism ( $r=-0.06$ ). The emotional strategy is the opposite at  $r=-0.08$  and  $r=0.16$ .

The level of auto-determinism and fatalism is differentiated in relation to socio-demographic features (Table 5.10.5.). Auto-determinism is 1/4<sup>th</sup> less common among women and fatalism is more frequent by half than it is among men. Auto-determinism falls and fatalism rises with age; among the over 65+ auto-determinism is rarer by 1/4<sup>th</sup>, and fatalism over twice as common than in the 16-24 year-old respondent group. The higher the income, the more frequent the auto-determinism and the rarer the fatalism. The class of residence does not differentiate between auto-determinism and fatalism in 2015, even though two years ago the residents from the country had even lower indicator of auto-determinism and higher of fatalism, especially compared to the residents of large agglomerations. The higher the education, the higher the auto-determinism and the lower the fatalism. In socio-professional terms, fatalists are most often likely to be receivers of welfare benefits and farmers, who together with pensioners have the lowest indicator of auto-determinism. The highest indicator of auto-determinism was found for the self-employed. The indicator of auto-determinism is the highest and fatalism the lowest for widowed people. This suggests that divorce or separation decisions are taken most easily by those who have not surrendered to fate. The widowed people are characterised by high indicator of fatalism. Last year's assessment most strongly differentiates the levels of the variables analysed. There are five times less auto-determinists and 90% more fatalists among those who considered the last year to be unsuccessful.

Table 5.10.5. Results of analysis for self-determinism and fatalism

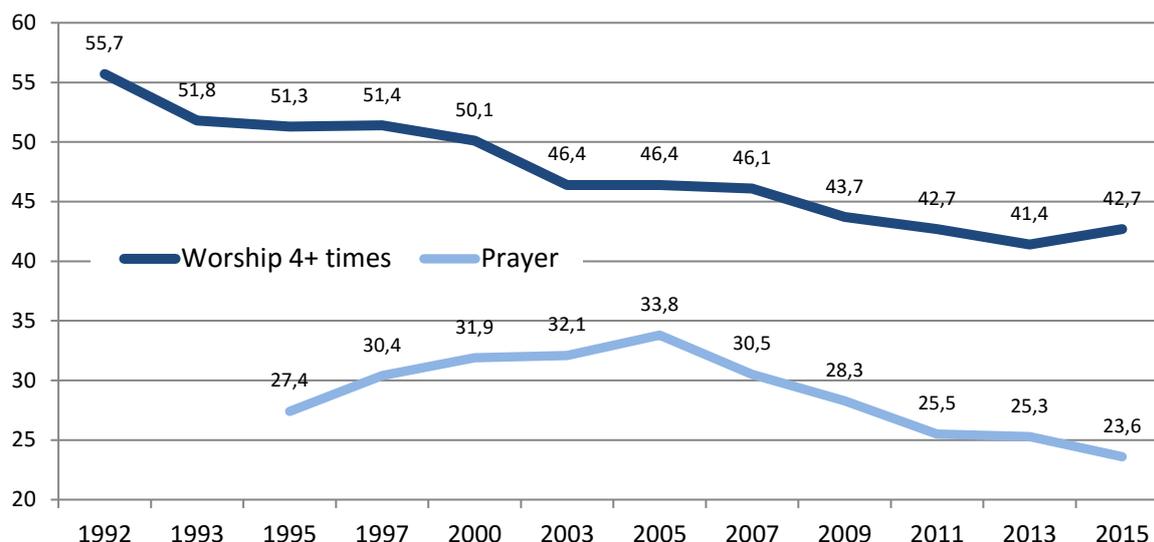
Predictor	Auto determinism		Fatalism	
	p	Exp(B)	p	Exp(B)
Man	ref.			
Woman	0.000	0.751	0.000	1.444
Age 16-24 y.o.	ref.			
Age 25-34 y.o.	0.571	1.055	0.016	1.221
Age 35-44 y.o.	0.294	1.114	0.000	1.446
Age 45-59 y.o.	0.371	0.913	0.000	1.839
Age 60-64 y.o.	0.555	0.931	0.000	1.878
Age 65+ y.o.	0.033	0.761	0.000	2.338
Per capita income below lower quartile	ref.			
Above lower quartile	0.006	1.161	0.350	1.045
Below upper quartile	0.005	1.168	0.761	1.015
Above upper quartile	0.000	1.283	0.241	0.941
Towns over 500k residents	ref.			
Towns 200k - 500k	0.452	1.066	0.230	0.920
Towns 100k-200k	0.626	0.957	0.732	0.975
Towns 20kk - 100k	0.400	1.065	0.171	0.920
Towns up to 20k	0.814	0.981	0.090	0.890
Rural areas	0.467	0.950	0.960	0.997
Primary and lower education	ref.			
Vocational/lower secondary school	0.006	1.181	0.096	0.913
General secondary	0.000	1.481	0.021	0.878
Higher and post-secondary	0.000	1.621	0.120	0.905
Public sector workers	ref.			
Private sector workers	0.190	1.095	0.224	0.935
Self-employed	0.000	1.643	0.146	0.878
Farmers	0.014	0.780	0.002	1.306
Pensioners	0.002	0.749	0.000	1.332
Retirees	0.026	0.807	0.001	1.293
School and university students	0.001	1.514	0.644	0.952
Unemployed	0.276	0.899	0.708	1.032
Other passive labour	0.898	0.988	0.934	1.006
Unmarried	ref.			
Married	0.946	0.996	0.137	1.077
Widowed	0.169	0.888	0.006	1.229
Divorced	0.043	1.225	0.004	0.783
The last year was successful	ref.			
The last year was unsuccessful	0.000	0.123	0.000	1.878
Total explained variance		16.6		7.0
Cox & Snell $R^2 \times 100$				
Total explained variance		24.1		9.4
Nagelkerke $R^2 \times 100$				

\* Ref. means reference group

### 5.10.3. Religious practices and religiousness

In 2015, 42.7% of adults declared that they systematically participated in services and other religious ceremonies (Figure 5.10.12.). This is 1.3 percentage point more than in 2013 and the same as in 2011. It is the first increase in the institutional religious practices since the beginning of 1990s. However, the average frequency of taking part in services for the whole sample (people aged 16+) actually has not increased in the last two years as the increase in the percentage of people participating in weekly masses is accompanied by the fall of the percentage of people attending church irregularly (1-3 times per month) and more often than 4 times per month (by 1%) (Table 5.10.6.).

Until 2005, the diminishing participation in services and other religious ceremonies was accompanied by an increase in the percentage of people who prayed in difficult situations in life (Figure 5.10.12.). In other words, Poles went to church less often, but prayed increasingly more often. This suggested a de-institutionalisation (privatisation) of faith and was consistent with the process observed in western countries, where religious behaviours were becoming more private and institutional forms in the relations between man and God were losing in significance. However, since 2007 the downward trend in institutional religious behaviours was joined by a decline in the frequency of prayer in difficult situations in life, and the decline was ever deeper in subsequent waves. Also in 2015 the frequency of prayer in difficult situations in life decreased even further, to the lowest level in the history of the study (since 1992). Thus, the increase in regular participation in the religious ceremonies should not be treated as sign of slowing the process of secularisation of the Polish society, or even as a beginning of the religious reborn of our compatriots



Source: 1992-1997 — Czapiński, 1998; 2000-2013 — *Social Diagnosis*.

Figure 5.10.12. The percentage of adults participating in church services and other religious events at least four times a month, and praying to God in the difficult situations in 1992-2015

The most religious groups of people based on the criterion of institutional practices are: women, older people (age 60+), residents of countryside (including farmers), retirees and pensioners, and people with primary education and of average wealth. The lowest behavioural indicator of religious practices are: men, people in age 25 – 34, residents of largest cities (more than half do not go to church), well-educated and wealthy people, unemployed, workers of the private sector and self-employed (Table 5.10.6.).

In regional terms, the most “religious” are the Podkarpackie, Małopolskie, Opolskie and Lubelskie Voivodships, which are dominated, with the exception of the Opolskie, by people who have lived there for many generations. The least “religious” are the Zachodniopomorskie, Łódzkie, Warmińsko-Mazurskie and Lubuskie; i.e. the north-western regained territories dominated by an immigrant population. The Podkarpackie Voivodship varies the most from the national average as hardly 11% of its residents do not go to church at all, and nearly three-fourth participate in services at least 4 times a month. At the other extreme there is the Zachodniopomorskie Voivodship, where nearly a half do not go to church at all, and every third only participates in religious ceremonies at least 4 times a month (with double difference in the average frequency of participation in services between these two voivodships).

In comparison with 2013, increase in the percentage of those who do not participate in religious services at all was among the young people (age 16 – 24) of lowest education, residents of the largest cities, the poorest and private sector workers. In terms of Voivodships, this was among the residents of the Lubelskie, Podlaskie, Opolskie and Małopolskie.

The frequency of institutional religious practices, recourse to prayer in difficult situations in life and perceiving God (providence) as one of the three major conditions for a good, successful life (see section 5.10.1.) may all be treated as different manifestations of religiousness. Such an assumption is justified by the high correlation coefficients of those indicators (Table 5.10.7.).

Therefore, we created a synthetic indicator of religious attitude made up of the sum of standard values of three partial indicators. Table 5.10.7. presents the breakdown of this indicator by Voivodship and larger town in the panel sample for 2011-2015. According to this indicator, most religious in 2015 were residents of Podkarpackie, Małopolskie, Opolskie and Lubelskie, and the least were from Warmińsko-Mazurskie, Łódzkie and Zachodniopomorskie. This rank did not change much since 2013. In terms of town, most religious were the residents of Rzeszów and the least were in Warszawa, Opole, Sosnowiec and Bydgoszcz, where the rank also stayed much the same since 2013.

Table 5.10.6. Percentage of participation of various frequency in services and other religious gatherings and the average frequency of monthly participation in services in various social and demographic cross-sections in 2011 and 2013

Socio-demographic group	Percentage of those who participated in religious practices								Average frequency of participation in masses in a month	
	0 times		1-3 times		4 times		Over 4 times		2013	2015
	2013	2015	2013	2015	2013	2015	2013	2015	2013	2015
Total	32.5	32.6	26.0	24.6	29.9	32.2	11.6	10.6	2.63	2.62
Gender										
Men	38.7	38.5	26.4	25.8	26.1	27.9	8.8	7.9	2.21	2.19
Women	26.9	27.4	25.6	23.5	33.3	36.1	14.2	13.0	3.02	2.99
Age										
16-24 y.o.	36.3	38.3	28.3	26.0	24.3	26.3	11.1	9.3	2.31	2.22
25-34 y.o.	41.1	41.9	29.6	28.7	22.2	24.2	7.1	5.3	1.96	1.84
35-44 y.o.	35.5	35.5	28.1	27.0	26.1	29.0	10.3	8.5	2.33	2.30
45-59 y.o.	29.3	28.8	26.3	24.5	33.0	35.2	11.4	11.4	2.67	2.73
60-64 y.o.	26.6	27.0	23.0	21.6	36.7	37.4	13.6	13.9	3.05	3.21
65+ y.o.	24.0	24.1	18.8	18.6	39.0	41.1	18.1	16.3	3.72	3.56
Place of residence										
Towns of over 500k.	50.1	54.0	22.8	19.3	19.1	19.9	8.0	6.8	1.82	1.73
Towns of 200-500 k.	43.8	45.9	21.8	18.5	21.3	25.8	13.1	9.8	2.41	2.23
Towns of 100-200 k.	46.0	42.5	19.4	21.3	25.3	25.5	9.3	10.7	2.17	2.25
Towns of 20-100 k.	34.9	34.8	26.2	25.7	27.3	29.0	11.6	10.4	2.56	2.62
Towns < 20 k.	33.3	32.1	24.2	23.9	30.1	32.6	12.4	11.4	2.66	2.65
Rural areas	20.3	20.6	29.6	27.8	37.4	39.9	12.7	11.7	3.05	3.02
Voivodship										
Dolnośląskie	44.1	43.1	22.3	23.2	23.9	25.5	9.7	8.2	2.23	2.18
Kujawsko-pomorskie	35.8	34.8	30.6	28.9	25.7	29.5	8.0	6.8	2.25	2.26
Lubelskie	22.8	21.7	31.4	27.0	33.8	41.1	12.0	10.2	3.06	2.95
Lubuskie	42.8	51.4	26.0	20.7	24.0	20.8	7.2	7.1	2.03	1.79
Łódzkie	40.2	44.7	33.9	30.0	20.4	19.9	5.5	5.4	1.88	1.77
Małopolskie	15.9	18.1	17.6	16.4	47.9	46.7	18.6	18.8	3.71	3.70
Mazowieckie	36.7	34.2	29.4	30.4	26.1	29.1	7.7	6.4	2.22	2.28
Opolskie	27.1	29.6	12.8	15.4	38.5	35.9	21.6	19.1	3.64	3.25
Podkarpackie	13.0	11.3	17.5	14.0	46.6	51.4	22.9	23.2	4.02	4.26
Podlaskie	25.1	27.8	37.1	32.6	28.8	31.5	8.9	8.1	2.54	2.57
Pomorskie	35.2	37.5	21.1	20.4	28.6	29.8	15.1	12.3	2.93	2.70
Śląskie	33.5	32.5	21.8	19.8	29.7	33.8	15.0	14.0	2.82	2.84
Świętokrzyskie	29.1	28.1	36.9	35.4	27.9	32.1	6.1	4.3	2.17	2.31
Warmińsko-mazurskie	37.9	35.4	32.9	32.7	22.6	27.2	6.6	4.6	1.97	2.02
Wielkopolskie	31.9	32.4	28.1	29.8	28.6	29.1	11.4	8.7	2.53	2.43
Zachodniopomorskie	48.8	50.1	23.8	17.4	21.3	24.2	6.1	8.4	1.82	1.88
Education level in 2015										
Primary and lower	29.1	27.0	24.9	25.3	34.0	38.7	12.0	11.0	2.90	2.99
Vocational	29.2	30.3	27.6	26.4	31.8	33.6	11.4	9.8	2.65	2.60
Secondary	33.9	32.5	25.4	24.9	29.3	31.4	11.5	11.3	2.64	2.64
Higher and post-secondary	37.3	38.7	25.1	22.8	25.6	28.0	12.0	10.5	2.42	2.40
Income per capita in 2015										
Lower quartile	31.9	33.6	27.8	25.2	30.2	32.1	10.1	9.1	2.56	2.50
Middle quartile (50%)	29.7	28.1	26.2	25.1	31.5	35.4	12.5	11.2	2.80	2.84
Higher quartile	39.6	40.5	23.7	22.5	26.0	26.4	10.7	10.6	2.35	2.31
Socio-professional status in 2015										
Public sector	32.2	32.7	25.9	24.1	29.1	31.1	12.8	12.1	2.58	2.59
Private sector	40.6	39.5	27.8	27.1	24.0	26.6	7.6	6.9	2.03	2.04
Private entrepreneurs	36.7	43.3	27.8	25.1	26.7	24.6	8.8	7.0	2.28	2.07
Farmers	12.9	11.6	33.6	33.1	43.3	46.5	10.1	8.8	3.09	3.06
Retirees	29.9	30.9	24.0	21.1	32.3	35.7	13.8	12.2	3.04	3.04
Pensioners	23.7	23.9	19.9	19.4	39.2	40.8	17.1	15.9	3.57	3.49
Students	32.4	32.6	27.9	26.9	25.8	29.2	13.9	11.4	2.58	2.55
Unemployed	41.3	40.6	30.0	23.7	21.9	28.5	6.8	7.2	1.92	2.08
Other professionally inactive	32.5	34.2	25.3	25.1	29.8	29.7	12.3	10.9	2.65	2.53

Table 5.10.7. Correlations between God in hierarchy of values, frequency of church going, percentage of those who pray in difficult circumstances and the synthetic indicator of religiousness in 2011 and 2013 and 2015 at the individual level in the panel sample

	2	3	4	5	6	7	8	9	10	11	12
1. practices 2015	0.69*	0.61	0.35	0.32	0.29	0.31	0.30	0.25	0.74	0.57	0.61
2. practices 2013		0.66	0.31	0.34	0.30	0.31	0.34	0.28	0.58	0.74	0.66
3. practices 2011			0.30	0.30	0.33	0.30	0.30	0.32	0.54	0.56	0.73
4. prayer 2015				0.49	0.47	0.44	0.34	0.31	0.78	0.50	0.48
5. prayer 2013					0.51	0.35	0.41	0.32	0.50	0.77	0.50
6. prayer 2011						0.32	0.32	0.40	0.47	0.50	0.77
7. God 2015							0.45	0.40	0.76	0.49	0.45
8. God 2013								0.41	0.48	0.77	0.46
9. God 2011									0.42	0.44	0.76
10. religiousness 2015										0.69	0.63
11. religiousness 2013											0.66
12. religiousness 2011											

\* All correlations are significant at the level of 0.01 (two-sided test).

Table 5.10.8. Standardised religiousness indicator value according to Voivodship and bigger cities in the panel sample in 2011, 2013 and 2015 (from the most to the least religious Voivodship and city in 2015)

Group	Religiousness			City	Religiousness		
	2015	2013	2011		2015	2013	2011
Total	-0.04	-0.01	0.00				
<b>Voivodship</b>							
Podkarpackie	0.97	0.95	0.90	Rzeszów	1.78	1.24	1.43
Małopolskie	0.61	0.64	0.64	Radom	0.61	0.40	0.58
Opolskie	0.50	0.36	0.51	Gdynia	0.45	0.74	0.57
Lubelskie	0.36	0.41	0.30	Bytom	0.42	-0.89	-0.57
Śląskie	0.02	0.04	0.02	Białystok	0.37	0.23	0.43
Podlaskie	0.01	0.16	0.05	Lublin	0.32	0.46	0.41
Pomorskie	-0.09	0.11	0.14	Kraków	0.20	0.21	0.13
Świętokrzyskie	-0.15	-0.52	-0.42	Toruń	0.10	0.40	0.34
Mazowieckie	-0.23	-0.21	-0.25	Bielsko-Biała	0.07	0.28	-0.31
Kujawsko-Pomorskie	-0.29	-0.20	-0.02	Częstochowa	-0.04	0.41	0.20
Wielkopolskie	-0.31	-0.20	-0.09	Wrocław	-0.08	-0.25	0.06
Dolnośląskie	-0.34	-0.21	-0.36	Jaworzno	-0.21	-0.35	-0.23
Lubuskie	-0.35	-0.28	-0.15	Szczecin	-0.24	-0.31	-0.33
Zachodniopomorskie	-0.39	-0.46	-0.53	Ruda Śląska	-0.27	-0.72	0.05
Łódzkie	-0.56	-0.52	-0.49	Kielce	-0.30	-0.54	-0.41
Warmińsko-Mazurskie	-0.62	-0.49	-0.31	Gorzów Wlk.	-0.31	-0.30	0.14
				Katowice	-0.33	-0.54	-0.31
				Gdańsk	-0.39	0.01	-0.18
				Bydgoszcz	-0.50	0.12	-0.03
				Sosnowiec	-0.53	-0.38	-0.28
				Warszawa	-0.55	-0.62	-0.61
				Opole	-0.55	-0.56	-0.59
				Zabrze	-0.55	-0.61	-0.89
				Poznań	-0.58	-0.58	-0.45
				Olsztyn	-0.85	-0.73	-0.62
				Zielona Góra	-0.88	-0.80	-0.51
				Gliwice	-0.96	-0.97	-0.58
				Wałbrzych	-1.13	-1.00	-1.16
				Łódź	-1.27	-1.03	-1.07

NOTES: an indicator of religiosity is a standardised; The average for the whole sample equals zero.

Figure 5.10.13. Map of Polish religiousness in 2015

Table 5.10.9. Indicator of religiousness among various professions in the 2013 and 2015 panel samples (from highest to lowest indicator values in 2015)

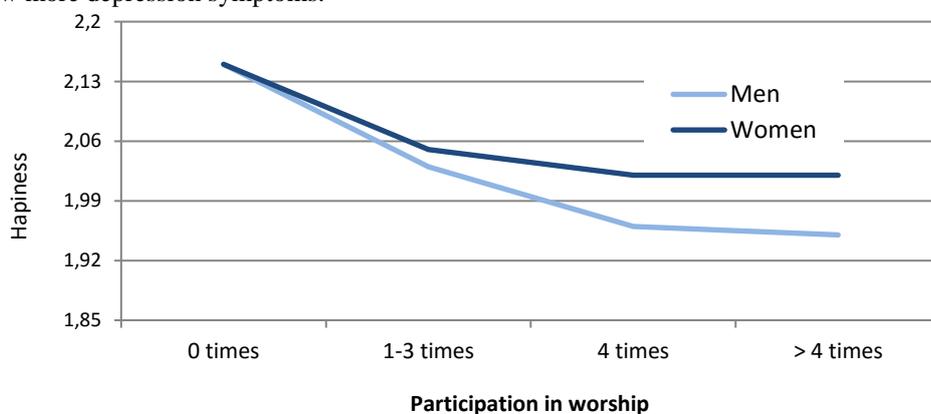
Current profession (in 2013)	Religiousness		N
	2015	2013	
Subsistence farmers	1.91	1.61	196
Other middle personnel	0.86	0.91	149
Primary school teachers	0.81	0.56	354
Middle financial personnel	0.68	0.48	373
Other specialists	0.67	0.44	112
Personal care workers	0.63	1.00	112
Household cleaners	0.59	0.46	523
Cooks	0.52	0.66	147
Farmers of plant crops and cattle	0.49	0.57	1241
Textile workers	0.44	0.42	397
Secondary education teachers	0.42	0.25	256
Farmers of plant crops	0.35	0.40	323
Nurses and midwives	0.28	0.33	164
Lawyers	0.23	-0.14	70
Office service staff	0.12	0.23	702
Tradesmen	0.04	0.33	84
Other health service specialists	-0.03	-0.06	178
Railroad workers	-0.04	-0.54	73
Food-processing workers	-0.05	-0.06	217
Drivers of personal and delivery vehicles	-0.09	-0.09	487
Material recording and transport clerks	-0.13	-0.16	244
Engineers, architects and designers	-0.15	-0.33	256
Small retailers	-0.15	-0.03	1089
Other manual labourers	-0.16	-0.13	565
Academic teachers	-0.23	-0.02	57
Otherwise unclassified labour	-0.25	-0.26	178
Civil servants	-0.27	-0.31	176
Mining machinery operators	-0.27	-0.39	153
Hairdressers and cosmeticians	-0.36	-0.32	71
Security workers (police and others)	-0.36	-0.38	234
Painters and decorators	-0.37	-0.48	69
Financial specialists	-0.40	-0.24	119
Chief executives, senior officials and legislators	-0.41	-0.26	85
Administration and management specialists	-0.44	-0.33	141
Other personal service workers	-0.47	-0.44	75
Information technology specialists	-0.53	-0.64	119
Blacksmiths and lathe operators	-0.54	-0.45	278
Carpenters and paper/pulp sector workers	-0.54	-0.62	181
Doctors, dentists and vets	-0.55	-0.68	73
Other machinery operators	-0.55	-0.57	309
Construction workers	-0.61	-0.41	284
Electricians and electronics specialists	-0.61	-0.54	201
Assembly workers	-0.63	-0.31	124
Steel mill workers	-0.66	-0.41	70
Waiters and bar staff	-0.68	-0.52	70
Machinery operators and mechanics	-0.68	-0.64	186
Smelters and welders	-0.69	-0.53	139
Builders and decorators	-0.74	-0.81	254
Drivers of cars and commercial vehicles	-0.74	-0.77	183
Sales and business agents	-0.75	-0.56	140
Bus and truck drivers	-0.75	-0.68	233
Creatives, artists, writers and journalists	-0.81	-0.76	44
Auxiliary workers in mining and construction	-0.85	-0.95	142
Professional soldiers	-0.87	-0.84	37
Marketing specialists	-1.02	-0.98	120

Among the professional groups farmers producing for their own needs, Primary school teachers, medium personnel, Personal care specialists, Homecarers and cleaners, Cooks and plant and animal production farmers are the most religious, while marketing experts, professional soldiers, mining and construction assistants, and artists, drivers and builders are the least (Table 5.10.8.).

American and European studies consistently prove that those who have faith and engage in religious practices report a greater degree of happiness and satisfaction with life than non-believers, and demonstrate a slightly lesser risk of developing depression (Beckman and Houser, 1982; Czapiński, 1992; Myers, 1993). Furthermore, faith also alleviates the effects of traumatic experiences; the so-called buffer effect (Ellison, 1991).

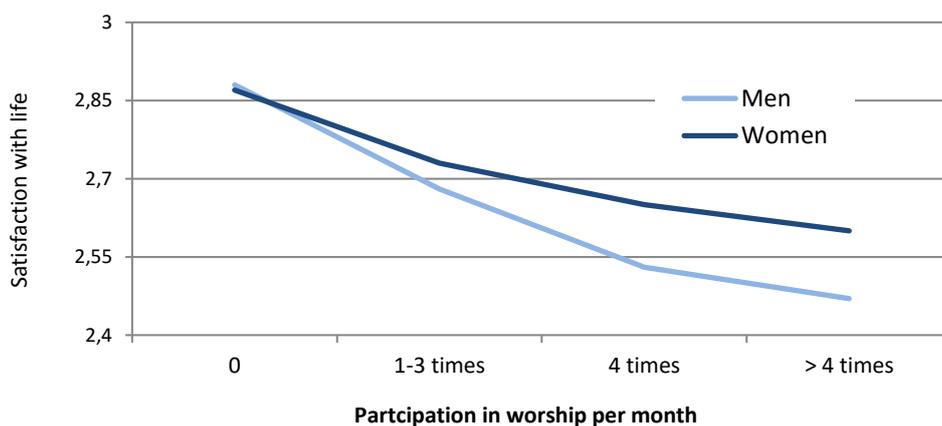
In 2015, religious practice was the tenth predictor of psychological well-being out of 20.

Institutional religious practices are connected with a higher level of psychological well-being, regardless of age and gender (Figures 5.10.14.-5.10.17.). They also alleviate the impact of stress in life on psychological well-being (Figure 5.10.18.). Prayer as a way of dealing with stress for women is connected with lower sense of happiness (Figure 5.10.19.), and in case of men with higher satisfaction with life (Figure 5.10.20.). Similarly, indicating God as one of the cardinal values is connected with higher satisfaction with life in men, but not among women (Figure 5.10.21.). However, in terms of depression, prayer and indicating God as one of the three most important values have a strong negative effect, independent of gender and age; i.e. factors that differentiate the intensity of the symptoms of depression to the greatest extent<sup>69</sup> (Figures 5.10.22.-5.10.23.). Thus, for women appealing to God plays directly therapeutic role: praying and indicating God as one of the cardinal values is more often done by those who have worse psychological condition. Men present less unambiguous image: praying and indicating God as one of the cardinal values is more often done by those who more positively evaluate their whole lives, but also those who show more depression symptoms.



NOTES: scale sense of happiness is addressed: the lower the scale value, the greater the feeling of happiness; main effects: participate in church services  $F(3, 21552)=109.609, p<0.000, \eta^2=0.015$ ; gender  $F(1, 21552)=18.989, p<0.000, \eta^2=0.001$ ; the interaction effect of participation in church services and gender  $F(3, 21552)=3.969, p<0.01, \eta^2=0.001$ , the control variable was the age.

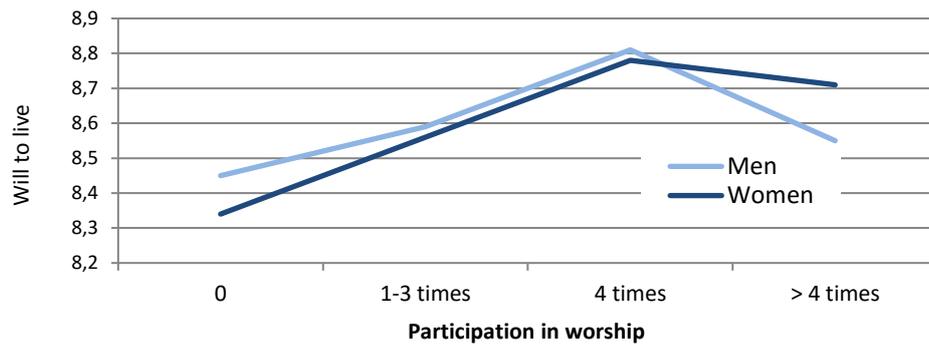
Figure 5.10.14. A sense of happiness, depending on gender and frequency of participation in the worship



NOTES: the scale of the assessment of life is addressed: the lower the scale value, the greater life satisfaction; main effects: participate in church services  $F(3, 21550)=123.990, p<0.000, \eta^2=0.017$ , gender  $F(1, 21550)=22.637, p<0.000, \eta^2=0.001$ , interaction effect participation in church services and gender  $F(3, 21550)=6.695, p<0.000, \eta^2=0.001$ , control variable was the age

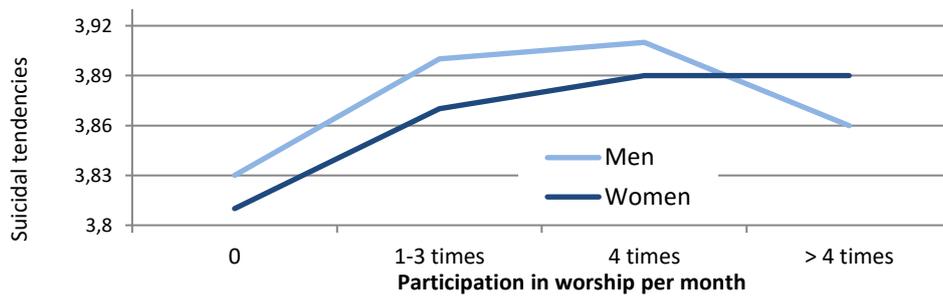
Figure 5.10.15. Evaluation of the whole past life, depending on gender and frequency of participation in the worship

<sup>69</sup> Comparing to the effect of frequency of participation in services, which in terms of depression is, similarly to other well-being indicators, distinctively positive, also regardless of the gender and age ( $F(1, 25267)=137.146, p<0.000, \eta^2=0.005$ ).



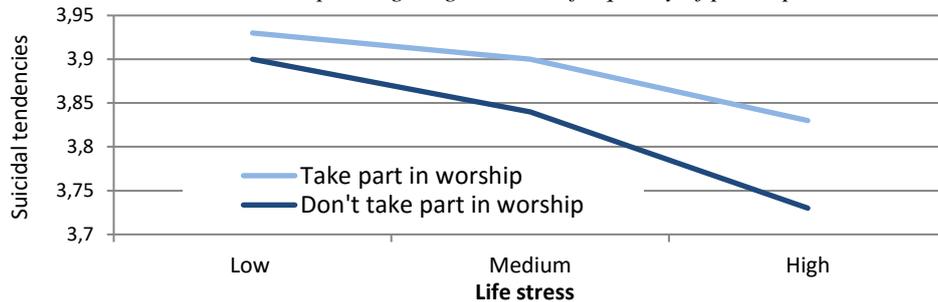
NOTES: the main effects: participation in the worship  $F(3, 21554) = 61.624, p = \eta^2, 0.000 < 0.009$ , gender, the effect of the interaction of the participation in the worship and gender  $F(3, 21554) = 3.433, p .05 = \eta^2 0.000 <$ , variable inspection was the age

Figure 5.10.16. Desire to live according to their gender and frequency of participation in the worship



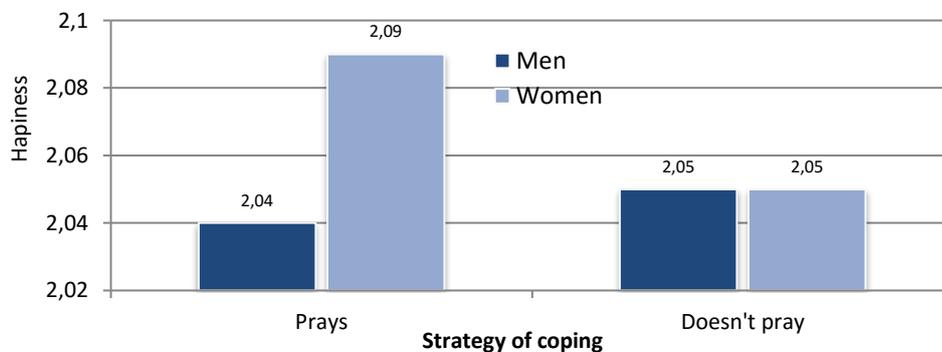
NOTES: the scale of the suicidal tendencies is addressed: the lower the value of the scale the greater the frequency of suicidal; main effects: participate in church services  $F(3, 21541)=36.124, p<0.000, \eta^2= 0.005$ , gender, the effect of the interaction of the participation in the worship and gender.; control variable was the age

Figure 5.10.17. Suicidal tendencies depending on gender and frequency of participation in the worship



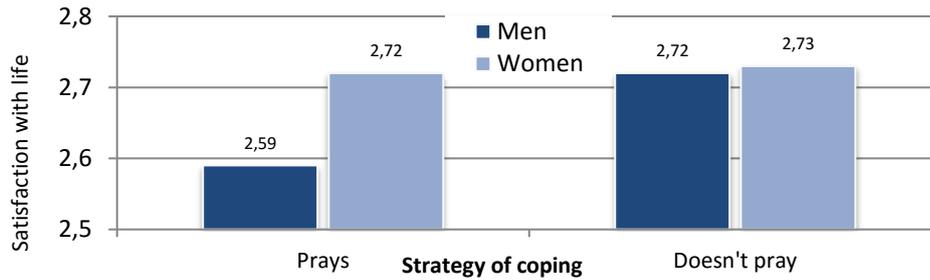
NOTES: the scale of the suicidal tendencies is addressed: the lower the value of the scale the greater the tendency of suicide; main effects: participate in prayer services,  $F(1, 20945)=85.559, p<0.000, \eta^2= 0.004$ , stress intensity  $F(2, 20945)=142.856, p<0.000, \eta^2= 0.013$ , interaction effect participation in church services and the intensity of the stress  $F(2, 20945)=9.744, p<0.000, \eta^2=0.001$ ; the control variables were age and gender

Figures 5.10.18. Suicidal tendencies depending on the intensity of the stress of life and participate in the worship



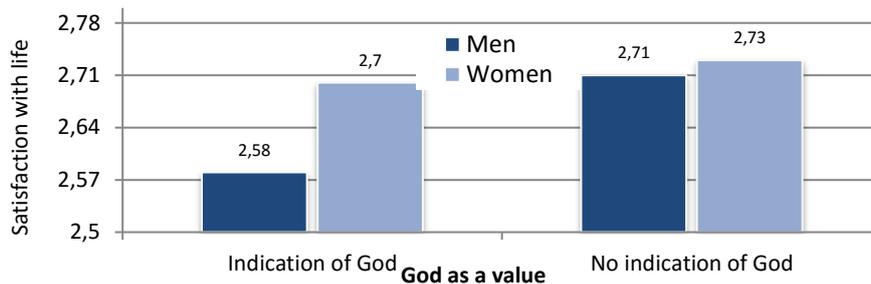
NOTES: scale sense of happiness is addressed: the lower the value of the scale, the greater the feeling of happiness; main effects: prayer., gender  $F(1, 21064)=.351, p<0,05, \eta^2=0.000$ , the interaction effect of prayer and gender  $F(1, 21064)=6.038, p<0,05, \eta^2=0.001$ , control variable was the age

Figure 5.10.19. A sense of happiness, depending on gender and pray in difficult situations



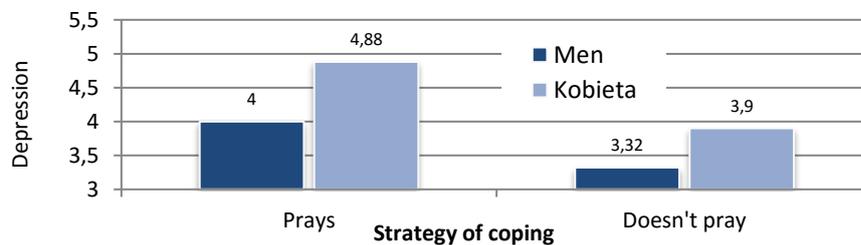
NOTES: the scale of the assessment of life is addressed: the lower the value of the scale, the greater life satisfaction; main effects: prayer  $F(1, 25642)=3.196, p<0.10, \eta^2=0.000$ , the effect of the interaction of prayer and gender  $F(1, 25642)=50.482, p<0.000, \eta^2=0.002$ , control variable was the age

Figure 5.10.20. Evaluation of the whole past life depending on gender and pray in difficult situations



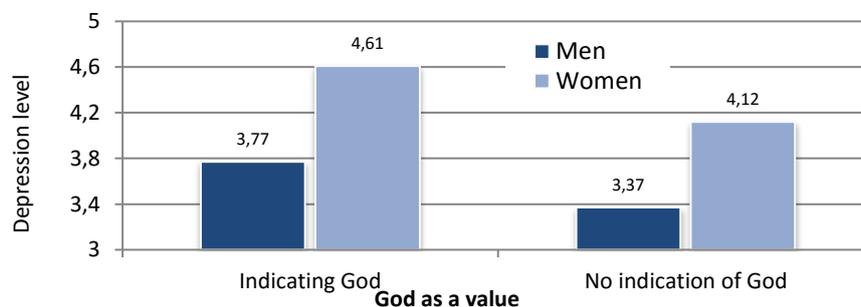
NOTES: the scale of the assessment of life is addressed: the lower the value of the scale, the greater life satisfaction; main effect: indicate the God  $F(1, 21135)=17.495, p<0.000, \eta^2=0.001$ , gender  $F(1, 21135)=9.395, p<0.005, \eta^2=0.000$ ; the effect of interaction to indicate God and gender  $F(1, 21135)=5.349, p<0.05, \eta^2=0.000$ , control variable was the age

Figures 5.10.21. Evaluation of the whole past life, depending on gender and indication of God as one of the cardinal values of the



NOTES: the main effects: prayers  $F(1, 20825)=221.612, p<0.000, \eta^2=0.011$ , gender  $F(1, 20825)=177.512, p<0.000, \eta^2=0.008$ , the effect of the interaction of prayer and gender  $F(1, 20825)=7.612, p<0.01, \eta^2=0.000$ , control variable was the age

Figure 5.10.22. Symptoms of depression depending on gender and pray in difficult situations



NOTES: the main effects: indicate the God  $F(1, 20896)=45.152, p<0.000, \eta^2=0.002$ , gender  $F(1, 20896)=146.412, p<0.000, \eta^2=0.007$  effect interactions indicate God and gender than, control variable was the age

Figures 5.10.23. Symptoms of depression depending on gender and indication of God as cardinality value

The lack of a positive main effect of prayer and indication of God as a value for a majority of well-being indicators follows from the fundamentally different role that prayer and faith in general play for women and men; it is positively connected with well-being in men, and is not connected at all or is connected negatively in women. Women who make recourse to prayer in difficult situations in life and treat God as an important condition for a

good life, when compared to those women who do not pray and do not include God among the three cardinal values, are less satisfied with life, more unhappy and have less of the desire to live, and the proportion may be statistically significant or not. The reverse is true for men; those who look to God for help and include God among cardinal values, are more satisfied with life, are happier and they have a greater desire to live. This could also be interpreted to mean that misfortunes in life bring women closer to God and men away; i.e. faith has a sort of therapeutic role for women but not for men. However, psychological depression brings both men and women closer to God, which suggests the institutional functions and private religious practices differ. The happy ones need God to a smaller degree than the unhappy ones, but they also consider important the social support.

The difference between the positive effect of going to church in respect of various well-being indicators and the lack of such a gender-independent effect in the case of prayer and indicating God as a value suggest that going to church plays a fundamentally different role than prayer; it is an activity that enhances the sense of support, not only from God, but also from other people. And social support is of a crucial importance for psychological well-being (see chapter 5.9). It is also presumably not without significance that we asked about praying in difficult situations only, although the similar pattern of dependence in the case of including God as one of the three major values in life proves that we are dealing with a universal dependence between gender and the role of religious faith.

### 5.10.4. Auto-destructive behaviour

#### 5.10.4.1. Smoking

On average, slightly less than every fourth adult Pole smokes less than 15 cigarettes a day. It is comforting that both the percentage of smokers and the number of cigarettes smoked is systematically decreasing (Table 5.10.10.). As compared to 1995, the percentage of smokers decreased by as much as 13.5%, and in comparison with the beginning of the 1990s by approx. 17%. The number of cigarettes smoked decreased by over 2 compared with 1996.

Table 5.10.10. Percentage of smokers, former smokers among current non-smokers and average number of cigarettes smoked daily in samples of persons aged 18+ between 1995 and 2015

Variable	1995 N= 3042	1996 N=2350	2000 N=661 7	2003 N=960 2	2005 N=878 8	2007 N=1262 9	2009 N=2613 4	2011 N=2637 8	2013 N=2572 9	2015 N=2175 6
Percentage of smokers	37.9	35.9	32.3	30.7	29.3	29.6	27.8	27.2	25.8	24.4
Percentage of former smokers among non-smokers	32.2	No data	34.2	35.6	38.9	36.1	36.1	35.8	36.1	36.4
Average number of cigarettes smoked daily	No data	17.27	16.48	16.22	15.88	15.99	15.81	15.43	14.93	14.89

Source 1995-1996 — Czapiński. 1998; 2000-2013 — *Social Diagnosis*

Smokers are mostly men, the middle-aged, people with basic vocational education and poorer individuals (Table 5.10.11.). Definitely the highest percentage of smokers can be found among the unemployed, people in age between 45-59 y.o., men and those employed in the private sector. The lowest percentage of smokers is found among school and university students (7.8%), the elderly (65 and above at 13.6%), pensioners (16.5%), those with higher education (15.1%) and younger persons (16-24 year olds – 15.5%). Between 2000 and 2015, the percentage of smokers declined in all socio-demographic groups. The most spectacular decrease occurred among school and university students (by 55%), then the youngest (by 45%) and people in age between 35-44 y.o. (by 41%) as well as public sector employees (by 42%) and entrepreneurs (by 40%), and those with higher education (36%).

In terms of voivodships, the greatest proportion of smokers is found in the north-western region, while the smallest in the south-eastern region. The decline in that percentage was the greatest in the Kujawsko-Pomorskie, Małopolskie, Opolskie and Wielkopolskie Voivodships and the lowest in Zachodniopomorskie Voivodship.

In terms of professional group (Table 5.10.12.), mining and construction assistants, construction workers, machine technicians, and truck and bus drivers smoke the most (40% and more), the ones that smoke the least, on the other hand, are teachers, financial specialists, administration and management specialists, academic teachers, IT technicians and lawyers (below 15%). The percentage of smokers among doctors, is the same as in the entire population (23.6%).

There are more “mild” smokers (up to 13 cigarettes a day) among women than men, as well as among the youngest people, students. The ones that smoke the highest number of cigarettes per day are farmers, people with primary education, residents of Zachodniopomorskie and Podlaskie Voivodships and men.

Table 5.10.11. Average number of cigarettes smoked by smoker in 2015, the percentage of smokers in various socio-demographic groups between 200-2013 and percentage change in the number of smokers between 2000 and 2013 in the whole samples

Socio-demographic group	Number of cigarettes	Percentage of smokers					Change in % 2000-2015
		2015	2013	2011	2009	2000	
Total	14.89	24.0	25.4	27.2	28.3	32.3	-25.70
Gender							
Men	16.37	31.1	32.7	33.6	35.5	43.3	-28.18
Women	12.60	17.8	18.8	20.5	20.8	22.7	-21.59
Age							
16-24 y.o.	11.52	15.5	18.1	19.4	21.6	28.3	-45.23
25-34 y.o.	13.87	24.6	25.7	27.3	28.8	35.6	-30.90
35-44 y.o.	15.18	27.2	29.8	33.0	34.7	46.4	-41.38
45-59 y.o.	15.94	31.8	34.0	36.7	37.7	37.3	-14.75
60-64 y.o.	15.81	29.5	28.3	27.9	27.1	21.7	35.94
65+ y.o.	14.68	13.6	12.6	12.1	12.3	12.4	9.68
Place of residence							
Towns of over 500k.	13.72	23.0	24.6	26.4	29.4	31.3	-26.52
Towns of 200-500 k.	13.47	24.3	27.4	27.4	29.6	37.0	-34.32
Towns of 100-200 k.	15.10	26.8	26.9	30.8	30.9	35.0	-23.43
Towns of 20-100 k.	14.59	25.7	27.0	28.5	28.5	31.3	-17.89
Towns < 20 k.	14.72	24.9	26.8	28.8	30.9	34.7	-28.24
Rural areas	15.74	22.7	23.7	24.2	24.8	29.0	-21.72
Voivodship							
Dolnośląskie	14.12	29.7	30.4	31.1	32.8	33.0	-10.00
Kujawsko-pomorskie	14.94	21.7	25.2	29.1	28.4	38.8	-44.07
Lubelskie	14.80	21.6	25.0	24.1	24.9	32.4	-33.33
Lubuskie	15.06	27.1	26.2	30.7	30.8	38.5	-29.61
Łódzkie	14.77	26.2	25.9	25.1	28.3	29.8	-12.08
Małopolskie	13.70	17.9	19.7	22.3	22.0	28.2	-36.52
Mazowieckie	15.29	22.9	26.1	27.6	28.0	32.2	-28.88
Opolskie	13.45	23.2	21.2	24.6	28.4	34.1	-31.96
Podkarpackie	14.41	19.9	21.2	20.1	22.1	24.4	-18.44
Podlaskie	16.07	21.5	22.0	24.1	27.6	31.3	-31.31
Pomorskie	14.88	25.6	26.4	27.4	28.7	32.7	-21.71
Śląskie	15.18	26.7	27.9	27.8	28.6	34.8	-23.28
Świętokrzyskie	14.22	22.6	21.7	23.6	23.7	31.2	-27.56
Warmińsko-mazurskie	15.45	27.3	28.2	29.5	33.6	33.0	-17.27
Wielkopolskie	14.68	22.6	24.4	27.3	27.6	32.4	-30.25
Zachodniopomorskie	16.83	31.6	30.7	32.0	32.9	33.0	-4.24
Education							
Primary and lower education	16.49	24.9	25.1	28.0	27.0	27.0	-7.78
Vocational education	15.94	31.4	32.8	34.5	36.1	44.1	-28.80
Secondary education	14.10	23.7	25.1	26.5	27.1	30.4	-22.04
Higher and post-secondary education	12.29	15.1	16.0	17.7	19.1	23.6	-36.02
Income per capita							
Low quartile	15.99	30.6	31.9	32.4	32.3	39.9	-23.31
Above low quartile	14.68	23.4	24.5	27.1	27.1	35.2	-33.52
Below high quartile	14.54	22.1	23.5	24.3	27.1	29.0	-23.79
High quartile	14.05	21.0	23.3	23.9	25.6	30.3	-30.69
Socio-professional status							
Public sector	14.37	20.1	22.8	25.7	27.3	34.4	-41.57
Private sector	14.76	31.8	32.6	36.1	36.5	43.7	-27.23
Private entrepreneurs	15.39	25.4	26.6	28.3	29.0	42.2	-39.81
Farmers	16.84	24.0	26.7	31.4	33.4	33.3	-27.93
Retirees	15.50	23.7	25.1	26.6	26.5	28.8	-17.71
Pensioners	14.95	16.5	16.4	17.1	17.3	17.1	-3.51
Students	9.95	7.8	9.9	13.3	13.8	17.4	-55.17
Unemployed	15.45	37.3	40.2	43.0	42.6	46.0	-18.91
Other professionally inactive	14.98	28.7	30.2	29.3	36.0	36.0	-20.28

Table 5.10.12. Percentage of smokers, ex-smokers and average number of cigarettes smoked in various professional groups (according to the percentage of current smokers)

Current profession	% of smokers	% of ex-smokers	Average number of cigarettes smoked
Mining and construction assistants	60.2	57.8	17.03
Construction workers - raw state	46.3	51.0	17.40
Construction workers - finishing	42.3	48.4	18.53
Workers, which were not classified otherwise	42.1	41.3	15.48
Machine technicians	40.8	49.1	18.21
Truck and bus drivers	40.0	49.5	17.19
Wood processing workers, papermen, joiners	37.6	44.4	18.87
Moulders, welders	37.4	51.1	15.86
Operators of other machines and equipment	37.2	55.8	15.64
Painters and similar	37.1	53.1	16.43
Assemblers	36.2	41.1	13.73
Blacksmiths and locksmiths	35.6	54.2	16.60
Metallurgists	35.2	61.0	16.25
Other personal services workers	33.3	45.8	17.13
Security workers (fireman, policemen and similar)	33.2	39.9	16.96
Machine and mining equipment operators	32.6	53.9	16.60
Food processing workers	32.4	31.0	14.66
Passenger and delivery car drivers	31.8	44.1	18.49
Trade workers	31.8	27.8	14.70
Electricians	31.0	53.8	13.27
Homecarers and cleaners	30.9	34.8	15.21
Other simple works	30.4	38.0	15.67
Transport and evidence workers	29.8	45.3	12.95
Railwaymen	28.3	40.8	15.36
Cooks	26.5	31.5	15.26
Salesmen	26.1	35.2	12.31
Creators, artists, writers, journalists	25.8	50.8	13.13
Waiters, bartenders, stewards	25.2	38.0	15.59
Other health protection specialists	23.9	33.0	12.22
Authorities	23.8	47.1	14.19
Doctors, vets and dentists	23.6	37.3	12.96
Hairdressers. beauticians	23.1	34.8	14.38
Managers of various specialties	23.0	43.3	13.97
Professional soldiers	22.8	56.9	16.97
Plant production farmers	22.8	31.1	16.69
Other medium personnel	21.9	38.6	14.01
Textile production workers	20.2	27.1	13.94
Personal care specialists	19.9	24.8	11.42
Authorities and managers	19.2	58.9	14.34
Agents and sales intermediaries	17.8	45.3	10.99
Plant and animal production farmers	17.4	26.4	16.46
Marketing specialists	17.3	44.9	7.12
Medium financial personnel	17.2	31.9	12.97
Subsistence farmers	16.5	27.7	16.12
Office workers	16.0	36.4	14.10
Nurses and midwives	15.8	30.4	12.53
Lawyers	14.6	28.4	13.26
IT technicians and similar	14.2	40.1	12.78
Academic teachers	14.0	37.1	13.22
Engineers, architects, designers and similar	13.9	37.1	11.05
Administration and management specialists	13.2	43.1	12.18
Secondary school teachers	12.4	39.3	12.55
Financial specialists	11.5	46.1	12.57
Other specialists	11.4	32.4	12.90
Primary school teachers	10.6	33.0	14.43

In general, the degree of nicotine addiction for the section of professional groups is correlated with the level of addiction (number of smoked cigarettes), although this relationship is not very strong (for 56 groups from Table 5.10.11.  $r=0.65$ ). The group that smokes the highest number of cigarettes and has the highest number of cigarette smokers is workers. Marketing specialist and other groups with relatively low percentage of smokers, such as administration and management specialists, primary school teachers and financial specialists, smoke the lowest number of cigarettes per day.

In order to check which socio-demographic traits are significantly connected with a chance of being a smoker with a control over other traits, we conducted a logistic regression analysis, the results of which are presented in Table 5.10.13.. A chance of meeting a woman that smokes cigarettes is lower by half compared to meeting a man who smokes. In comparison to the youngest persons, all other groups of age have statistically significantly more cigarette smokers, with the exception of the oldest people (65 +), where smoking cigarettes is even less common than among the youngest. The lower class of residence, the lower chance of encountering a smoking person, the lowest being at the rural areas. A chance of meeting a smoking person with higher education is 2/3 lower than for people with the lowest education, assuming all other factors being equal (mainly age). Compared to the public sector workers, the lower chance of encountering a smoking person is among students, and higher among private sector workers, other professionally inactive and especially unemployed (higher by 70%). As far as the marital status is concerned, the desire to smoke cigarettes is the highest after a divorce and the lowest in marriage. Needless to say, the life stress encourages smoking.

Table 5.10.13. Logistic regression analysis results for smokers

Predictor	p	Exp(B)
Man	Ref.	
Woman	0.000	0.516
Age 16-24 y.o.	Ref.	
Age 25-34 y.o.	0.000	1.546
Age 35-44 y.o.	0.000	1.632
Age 45-59 y.o.	0.000	1.870
Age 60-64 y.o.	0.000	1.896
Age 65+ y.o.	0.021	0.757
Towns of more than 500k	Ref.	
Towns of 200-500k	0.932	1.006
Towns of 100-200k	0.339	1.079
Towns of 20-100k	0.239	0.926
Towns of fewer than 20k	0.017	0.840
Rural areas	0.000	0.679
Primary and lower education	Ref.	
Basic vocational/lower secondary education	0.330	0.946
Secondary education	0.000	0.628
Higher and post-secondary education	0.000	0.303
Public sector	Ref.	
Private sector	0.000	1.400
Private entrepreneurs	0.743	1.030
Farmers	0.132	0.870
Pensioners	0.286	0.909
Retirees	0.901	1.011
School and university students	0.000	0.323
Unemployed	0.000	1.741
Other professionally inactive	0.001	1.320
Unmarried	Ref.	
Married	0.000	0.658
Widowed	0.196	0.895
Divorced	0.000	1.442
Life stress - low	Ref.	
Life stress - average	0.000	1.284
Life stress - high	0.000	1.642
Total explained variables		10.1
Cox & Snell $R^2$ x 100		
Total explained variables		15.1
Nagelkerke $R^2$ x 100		

\* Ref. means reference group

#### 5.10.4.2. Alcohol abuse

Two questions in the individual questionnaire concerned alcohol consumption. One was related to the usual reaction to problems or difficult situations in life and included the statement "I drink alcohol" as one of the options, the other one made a straightforward reference to alcohol abuse: "in the last year I drank too much alcohol." The percentage of persons who react to problems by drinking alcohol is lower (3.5%, compared to 3.9% two years earlier) than the percentage of persons who admit to abusing alcohol (6.2%, compared to 6.7% two years earlier)

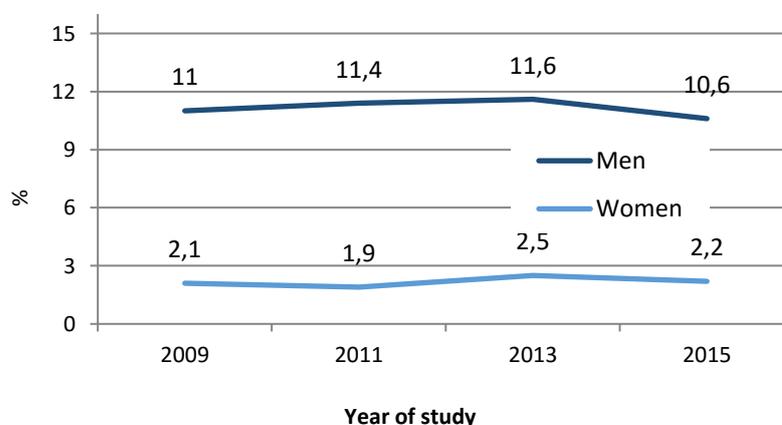
(Table 5.10.14.). The percentage of those who abuse alcohol is similar to the one from 1995, and much greater than 12 years ago (4.4%).

Table 5.10.14. Percentage of people who admit to abuse alcohol and use it during difficult life situation between 1991-2013 in the population of adult Poles

Variable	1991 N=398	1995 N=304	1997 N=235	2000 N=661	2003 N=942	2005 N=854	2007 N=1236	2009 N=2307	2011 N=2307	2013 N=2572	2015 N=2151
Alcohol abuse	9	5	0	5	0	3	5	6	6	9	6
Alcohol for problems	6.6	6.3	5.4	5.3	4.4	6.0	5.8	6.5	6.8	6.7	6.2
Alcohol for problems	nd.	4.3	3.9	3.9	3.4	3.9	3.5	4.4	3.4	3.9	3.5

Source: 1991-1997 — Czapiński, 1998; 2000-2015 — *Social diagnosis*

In a panel sample 2009-2015 the percentage of abusers of alcohol among men grew by 2013, from 11% to 11.6%, and then fell in 2015, 1%, and among women similarly increased in 2013. in relation to the years 2009-2011 and then decreased from 2.5% to 2.2%. Throughout this period the difference between men and women remained similar (Figure 5.10.24.).



NOTES: the main effects: the year of the survey  $F(3, 22305)=7.698, p<0.000, \eta^2=0.001$ , gender  $F(1, 7435)=492.992, p<0.000, \eta^2=0.062$ , the effect of the interaction year of the survey and gender, control variable was the age

Figure 5.10.24. The percentage of alcohol abusers of women and men in four measurement in the panel sample (the people involved in the investigation in all four rounds)

Men admit that in the past year they drank too much alcohol four times more often than women (six years ago it was nearly five times more often). The inhabitants of large towns drink too much alcohol significantly more often than the residents of small towns and rural areas, middle-aged persons more often than older and younger persons, the rich and poor more often than the middle-income; private entrepreneurs slightly more often than employees hired by them (two years ago that difference was reversed) and much more often than public sector employees, unemployed persons more often than the employed, school and university students abuse alcohol more often only in relation to retirees and pensioners (Table 5.10.15.).

Despite the high correlation between drinking alcohol during problems and alcohol abuse ( $r=0.41$ ), the distribution of the percentage of people drinking alcohol in difficult life situations in the section of socio-demographic groups differs, sometimes significantly, from the distribution of the percentage of people abusing alcohol (Table 5.10.15.).

In terms of professional group, the most effected by the problem of alcoholism are artists, machine operator, mining and construction assistants, doctors and metallurgists (more than 12% of abusing alcohol) (Table 5.10.16.); which are typically male professions, apart from artists and doctors. The smallest share of alcohol abuse is among textile worker, medium financial personnel, hairdressers and beauticians, homecarers and cleaners, farmers, and personal care specialists, which, in general, are very female professions.

Table 5.10.15. Percentage of persons aged 16+ who admit to drink too much alcohol and to drink it during difficult situation in the cross-section of socio-demographic groups

Group	Abuse alcohol				Drink during troubles			
	2015	2013	2011	2009	2015	2013	2011	2009
Total	6.21	6.62	6.84	6.45	3.53	3.84	3.42	4.38
Gender								
Men	10.16	10.98	11.80	10.91	6.36	6.71	5.88	7.55
Women	2.73	2.64	2.35	2.38	1.02	1.22	1.19	1.49
Age								
Up to 24	6.03	6.50	7.11	7.25	1.88	2.75	2.14	3.45
25-34 y.o.	8.32	9.00	7.56	6.61	4.21	4.04	3.20	4.33
35-44 y.o.	7.62	8.05	9.59	8.39	4.36	5.04	4.28	4.87
45-59 y.o.	7.18	7.35	7.82	7.78	4.79	5.11	4.91	6.29
60-64 y.o.	4.91	5.38	5.61	5.11	3.86	3.76	3.51	3.63
65+ y.o.	2.23	2.06	1.97	1.80	1.40	1.43	1.60	1.95
Place of residence								
Towns of over 500k.	6.96	7.62	7.67	8.41	2.59	3.48	2.63	4.92
Towns of 200-500 k.	9.29	8.97	8.10	8.45	2.89	2.70	3.44	4.80
Towns of 100-200 k.	7.48	8.28	8.14	7.67	4.29	6.06	3.85	4.06
Towns of 20-100 k.	5.92	6.29	6.85	5.39	3.69	3.87	3.28	3.81
Towns < 20 k.	6.06	5.86	6.75	5.78	3.24	3.91	3.36	3.97
Rural areas	5.22	5.82	6.00	5.75	3.80	3.74	3.67	4.59
Voivodship								
Dolnośląskie	6.36	7.66	8.31	5.92	2.92	5.19	3.09	3.51
Kujawsko-pomorskie	5.29	6.11	5.16	6.54	2.74	4.16	2.84	5.72
Lubelskie	6.15	6.34	7.28	6.02	4.41	3.56	3.92	4.86
Lubuskie	10.27	6.74	8.57	9.18	4.61	2.73	4.06	4.38
Łódzkie	5.81	5.40	4.50	5.68	2.80	2.74	2.72	3.69
Małopolskie	4.33	4.45	6.23	4.90	2.12	2.73	2.78	3.17
Mazowieckie	6.73	6.99	6.76	7.82	3.26	4.01	3.64	5.63
Opolskie	5.92	6.21	6.13	6.36	4.25	2.31	3.72	4.99
Podkarpackie	4.44	5.67	5.39	4.64	1.92	2.15	2.36	3.14
Podlaskie	7.38	6.49	7.63	7.58	2.03	3.90	2.72	4.49
Pomorskie	8.78	9.19	8.14	6.00	2.98	2.38	3.67	3.57
Śląskie	7.66	7.25	6.95	7.02	4.70	4.68	3.67	4.33
Świętokrzyskie	6.04	5.11	7.88	5.24	4.04	4.10	5.45	4.94
Warmińsko-mazurskie	4.16	6.75	7.73	5.56	5.47	7.35	5.70	6.78
Wielkopolskie	3.96	6.78	7.29	6.36	4.05	4.60	2.67	3.18
Zachodniopomorskie	8.32	7.82	6.85	8.28	5.77	3.43	3.78	6.50
Education level								
Primary and lower	4.84	5.80	6.36	5.14	5.44	5.02	4.03	4.88
Vocational	6.84	7.67	8.33	7.61	4.52	4.81	4.33	5.42
Secondary	5.58	6.06	6.31	6.18	2.59	3.22	2.83	3.79
Higher and post-secondary	6.96	6.34	5.74	6.00	2.43	2.42	2.49	3.15
Income per capita								
Low quartile	6.91	7.62	8.08	6.81	5.51	5.87	4.64	5.99
Middle 50%	5.12	5.82	6.32	5.78	2.77	3.42	3.25	3.93
High quartile	7.46	7.50	6.96	7.66	2.96	2.70	2.64	4.21
Socio-professional status								
Public sector	5.90	6.25	5.18	5.48	2.60	3.11	2.59	3.59
Private sector	8.19	9.15	9.79	8.36	4.50	4.40	4.26	5.08
Private entrepreneurs	9.50	7.73	11.33	9.69	4.33	4.89	5.10	5.42
Farmers	5.91	6.27	7.28	8.89	5.00	4.59	4.74	6.87
Retirees	3.51	4.54	5.05	5.23	3.19	4.03	2.75	4.45
Pensioners	2.56	2.55	2.60	2.67	1.51	1.71	1.99	2.28
Students	5.25	5.09	6.27	6.35	0.97	1.46	2.00	3.04
Unemployed	10.47	11.41	12.19	11.24	7.05	7.77	6.95	7.87
Other professionally inactive	7.96	7.37	6.52	6.81	5.98	5.94	3.93	5.86

Table 5.10.16. Percentage of people abusing alcohol and drinking in difficult life situation in various professional groups (order by the percentage of alcohol abuse)

Current profession	Alcohol abuse	Drinking during troubles	N
Creators, artists, writers, journalists	21.5	7.1	93
Machine and mining equipment operators	16.2	7.2	230
Mining and construction assistants	13.8	16.8	218
Doctors, vets and dentists	12.6	7.5	110
Workers, which were not classified otherwise	12.5	9.6	248
Metallurgists	12.1	5.5	91
Trade workers	11.5	9.0	129
Moulders, welders	11.3	7.6	214
Passenger and delivery car drivers	10.9	4.0	267
Engineers, architects, designers and similar	10.7	2.1	447
Painters and similar	10.7	10.1	106
Authorities and managers	10.4	4.0	125
Construction workers - finishing	10.1	6.1	378
Blacksmiths and locksmiths	10.1	6.7	399
Machine technicians	10.1	9.1	296
IT technicians and similar	9.5	3.9	210
Operators of other machines and equipment	9.5	5.6	473
Waiters, bartenders, stewards	9.4	4.1	127
Electricians	9.3	4.0	281
Other simple works	9.1	6.7	788
Security workers (fireman, policemen and similar)	8.9	6.1	305
Wood processing workers, papermen, joiners	8.2	9.3	256
Other medium personnel	7.9	1.4	228
Construction workers - raw state	7.9	8.4	480
Railwaymen	7.6	3.8	106
Managers of various specialties	7.5	3.8	717
Financial specialists	7.5	1.0	200
Agents and sales intermediaries	7.5	3.8	265
Other health protection specialists	7.4	2.8	255
Marketing specialists	7.0	1.0	214
Transport and evidence workers	6.7	3.8	375
Government officials	6.6	2.3	273
Professional soldiers	6.5	3.4	92
Plant production farmers	6.4	3.6	487
Truck and bus drivers	5.9	6.7	340
Fixers	5.6	5.6	177
Cooks	4.9	1.0	207
Primary school teachers	4.6	1.9	501
Salesmen	4.4	2.4	1594
Other specialists	4.2	0.6	166
Food processing workers	4.2	3.5	330
Office workers	3.7	1.4	1032
Academic teachers	3.5	1.8	114
Post-primary school teachers	3.5	0.9	346
Administration and management specialists	3.5	0.8	257
Lawyers	3.4	2.3	89
Plant and animal production farmers	3.4	3.4	1587
Nurses and midwives	3.2	1.4	221
Personal care specialists	3.1	2.0	161
Farmers producing for their own needs	2.8	2.9	249
Homecarers and cleaners	2.6	1.8	735
Hairdressers. beauticians	2.5	2.6	118
Medium financial personnel	2.0	0.2	540
Textile production workers	1.5	0.6	532
Other personal services workers	0.9	2.8	111

To check which socio-demographic traits are significantly correlated with alcohol abuse we conducted logistic regression analysis, the results of which are shown in Figure 5.10.17. The probability of alcohol abuse is 4 times lower among women than among men. In comparison with the youngest respondents (16-24 y.o.) substantially greater likelihood of alcohol problem occurs only among people aged 25-34 y.o.. Factor in differentiating the commonness of alcohol abuse is a class of residence: the most widespread alcohol abuse can be found in large (but not the largest) towns and the smallest in the rural areas. People with secondary education and the essential

professional are less likely to abuse alcohol than people with primary education. Often compared with the other socio-professional groups with the control of the remaining characteristics the alcohol abuse occurs in groups of unemployed persons and other professionally inactive. Married people abuse alcohol half as often, and the widowers more than 2/3 less often than single people. Life stress is very strongly associated with alcohol abuse. People experiencing high levels of stress are more than 4 times more likely to abuse alcohol compared with people who do not experiencing that much stress. Of course the causal relationship may be two-sided in this case: both stress can lead to drinking as well as alcohol abuse can cause various problems in life that increase the stress levels.

Table 5.10.17. Logistic regression analysis results for alcohol abuse

Predictor	p	Exp(B)
Man	Ref.	
Woman	0.000	0.253
Age 16-24 y.o.	Ref.	
Age 25-34 y.o.	0.035	1.317
Age 35-44 y.o.	0.172	1.216
Age 45-59 y.o.	0.137	1.238
Age 60-64 y.o.	0.633	1.092
Age 65+ y.o.	0.261	0.778
Towns of more than 500k	Ref.	
Towns of 200-500k	0.010	1.345
Towns of 100-200k	0.643	1.061
Towns of 20-100k	0.137	0.851
Towns of fewer than 20k	0.186	0.852
Rural areas	0.005	0.747
Primary and lower education	Ref.	
Basic vocational/lower secondary education	0.030	0.794
Secondary education	0.002	0.704
Higher and post-secondary education	0.196	0.858
Public sector worker	Ref.	
Private sector worker	0.062	1.203
Private entrepreneurs	0.230	1.182
Farmers	0.924	0.984
Pensioners	0.289	0.828
Retirees	0.620	1.093
School and university students	0.150	1.297
Unemployed	0.000	2.042
Other professionally inactive	0.000	2.008
Unmarried	Ref.	
Married	0.000	0.522
Widowed	0.000	0.279
Divorced	0.190	1.193
Life stress - low	Ref.	
Life stress - average	0.000	1.812
Life stress - high	0.000	4.100
Total explained variables Cox & Snell $R^2 \times 100$	5.5	
Total explained variables Nagelkerke $R^2 \times 100$	14.8	

\* Ref. Means reference group

#### 5.10.4.3. Drug use

The percentage of persons who admit to using drugs had been increasing until 2005. In this year's study it remained at the level from 2005 (Table 5.10.18. and 5.10.19.).

Table 5.10.18. Percentage of persons admitting to use drug between 1993 and 2015 among adult Poles

1993	1994	1995	1996.	1997	2000	2003	2005	2007	2009	2011	2013	2015
N=2307	N=2298	N=3024	N=2329	N=2100	N=6608	N=9620	N=8609	N=12323	N=23573	N=25768	N=25708	N=22188
0.3	0.3	0.7	0.9	0.9	1.0	0.9	1.3	1.0	1.2	1.3	1.3	1.3

Source: 1993-1997 — Czapiński, 1998; 2000-2015 — Social Diagnosis.

Table 5.10.19. Did you use drugs during the last year? (the percentage of affirmative answers for the entire sample of people aged 16+)

Group	2015	2013	2011	2009	2007	2005	2003	2000
Total	1.34	1.31	1.27	1.16	1.03	1.31	0.96	0.96
Gender								
Men	2.00	2.12	2.11	1.78	1.67	1.91	1.51	1.59
Women	0.76	0.58	0.51	0.58	0.51	0.79	0.48	0.42
Age								
up to 24 years	3.49	4.13	4.61	3.75	3.67	3.83	3.91	3.75
25-34 y.o.	3.33	2.85	1.91	2.14	1.54	2.45	1.31	1.77
35-44 y.o.	1.08	0.61	0.89	0.47	0.53	0.48	0.05	0.30
45-59 y.o.	0.24	0.24	0.15	0.14	0.05	0.27	0.08	0.30
Place of residence								
Towns over 500k	2.85	2.65	2.17	2.60	1.54	2.64	2.03	1.66
Towns of 200-500k	1.67	2.09	2.29	0.93	1.91	1.80	1.91	1.97
Towns of 100-200k	2.67	1.78	1.46	1.74	1.28	1.91	0.60	1.03
Towns of 20-100k	1.21	1.18	1.40	1.09	0.65	1.44	0.68	1.00
Towns below 20k	1.22	1.41	1.19	1.18	1.54	0.99	0.80	0.73
Rural areas	0.69	0.67	0.64	0.66	1.91	0.72	0.63	0.51
Voivodship								
Dolnośląskie	1.13	1.94	1.48	1.21	0.92	1.04	1.57	1.05
Kujawsko-pomorskie	0.51	1.22	1.74	1.13	1.63	1.25	1.64	0.68
Lubelskie	0.71	0.61	1.27	0.53	1.58	0.47	1.08	1.38
Lubuskie	0.36	1.87	1.86	1.26	1.17	1.15	1.24	1.19
Łódzkie	1.51	1.51	0.84	1.13	0.85	1.23	0.68	1.35
Małopolskie	0.72	0.61	0.48	0.81	0.87	1.33	0.43	1.22
Mazowieckie	2.13	2.07	1.03	2.07	0.84	2.20	1.01	0.63
Opolskie	1.13	0.58	0.96	1.20	1.11	0.96	0.66	0.72
Podkarpackie	0.77	0.69	1.07	0.97	0.98	1.44	0.89	0.44
Podlaskie	1.73	1.46	1.02	0.44	1.18	0.97	0.61	0.19
Pomorskie	1.86	1.92	0.90	0.81	1.77	2.17	1.49	2.53
Śląskie	2.36	1.26	1.31	1.06	0.91	1.23	1.15	0.55
Świętokrzyskie	0.72	0.34	0.81	0.44	1.00	1.07	0.80	0.31
Warmińsko-mazurskie	0.25	0.41	1.50	0.80	0.55	1.04	0.58	1.33
Wielkopolskie	0.51	1.13	1.52	1.34	0.83	0.70	0.41	0.00
Zachodnio-pomorskie	2.96	2.06	3.57	1.59	1.08	1.53	0.96	2.19
Educational level								
Primary and lower	0.33	0.95	0.53	0.55	0.34	0.74	1.02	0.69
Basic vocational/lower secondary	1.28	1.19	1.61	1.15	1.47	1.51	0.67	1.16
Secondary	1.29	1.71	1.61	1.43	1.16	1.55	1.41	0.98
Higher and post-secondary	2.03	1.14	0.85	1.26	0.70	1.17	0.55	1.04
Per capita income								
Low quartile	1.07	1.30	1.02	0.88	1.39	0.96	0.53	0.54
Middle 50%	1.03	1.14	1.31	1.16	0.98	1.25	1.15	1.14
High quartile	2.29	1.77	1.38	1.47	0.86	1.95	1.27	1.29
Social and professional status								
Public sector	1.26	0.70	0.72	0.19	0.32	0.43	0.38	0.66
Private sector	1.87	1.76	1.20	1.39	1.58	1.47	1.23	1.29
Private entrepreneurs	2.47	1.26	1.18	2.07	1.44	1.53	0.34	0.65
Farmers	0.35	0.30	0.22	0.14	0.14	0.17	0.00	0.22
Pensioners	0.41	0.81	0.17	0.59	0.59	0.87	0.44	0.44
Retirees	0.11	0.13	0.07	0.03	0.00	0.10	0.23	0.00
School and university students	3.09	3.50	4.26	3.38	3.37	4.31	4.06	5.76
Unemployed	1.16	2.18	1.87	2.65	1.05	2.03	1.42	1.09
Other professionally inactive	2.09	1.78	1.95	1.46	1.06	1.28	0.55	1.20

Drug addiction poses the highest risk to men, school and university students (younger people, in general), residents of large towns, private entrepreneurs, other professionally inactive, people with higher education and well-off; and in the territorial section, to residents of Zachodniopomorskie, Śląskie and Mazowieckie Voivodships (Table 5.10.19).

Results of logistic regression (Table 5.10.20.) show that women use drugs over half less often than men, older people (aged over 59 years old) more than 10 times less often than the youngest (under 24), residents of small towns and rural areas from two to four times less often than the residents of the largest agglomerations (more than 500k inhabitants), other professionally inactive people over 80% more often than public sector employees, unmarried

persons nearly three times more often than married people. Similarly as in the case of alcohol abuse, using drugs is strongly connected with the level of life stress.

Table 5.10.20. Logistic regression results for drug use

Predictor	p	Exp(B)
Man		Ref.
Woman	0.000	0.416
Age 16-24 y.o.		Ref.
Age 25-34 y.o.	0.806	0.955
Age 35-44 y.o.	0.000	0.360
Age 45-59 y.o.	0.000	0.104
Age 60-64 y.o.	0.000	0.101
Age 65+ y.o.	0.001	0.053
Towns of more than 500k		Ref.
Towns of 200-500k	0.018	0.600
Towns of 100-200k	0.987	0.997
Towns of 20-100k	0.000	0.458
Towns of fewer than 20k	0.000	0.433
Rural areas	0.000	0.259
Primary and lower education		Ref.
Basic vocational/lower secondary education	0.140	1.657
Secondary education	0.453	1.296
Higher and post-secondary education	0.147	1.667
Public sector workers		Ref.
Private sector workers	0.863	0.966
Private entrepreneurs	0.055	1.674
Farmers	0.340	0.580
Pensioners	0.736	0.858
Retirees	0.641	1.399
School and university students	0.923	0.973
Unemployed	0.391	0.744
Other professionally inactive	0.018	1.862
Unmarried		Ref.
Married	0.000	0.359
Widowed	0.985	0.000
Divorced	0.117	0.496
Life stress - low		Ref.
Life stress - average	0.001	1.714
Life stress - high	0.000	3.288
Total explained variables		2.7
Cox & Snell $R^2 \times 100$		
Total explained variables		20.2
Nagelkerke $R^2 \times 100$		

\* Ref. means reference group

### 5.10.5. Criminals and victims of crime

As shown in Table 5.10.21., the number of victims of theft and burglary increased between 1993 and 2003, yet no change was observed in regard with the percentage of victims of assaults and battery. In that period, there was also an increase in the percentage of persons in survey samples who had been accused in both criminal and civil law court cases. After 2005, the percentage of victims of theft decreased significantly (in 2015 to 37% of the 2005 level), as did the percentage share of home burglaries (to 31%) and the percentage of victims of assaults and battery (to 58%). It is explained by an increase in the sense of safety (the percentage of persons who are satisfied with the level of safety in their place of residence increased from 2000 by over 30%, see chapter 5.2.). Nonetheless, the percentage of people admitting to break the law had not declined in that period.

It is interesting that a majority of such experiences are stable over time for individual persons. Someone who fell victim to theft or assault and battery in one year, was significantly more at risk of being a victim to those crimes after two, four, and in some cases even six years. What is not surprising is the stability of the criminals' experiences; being accused and detained by the police increases the risk of being accused or detained by the police many years later to a statistically significant extent (all correlations for perpetrators and victims of crimes between 2009 and 2015 are statistically significant). Thus, one may stipulate that not only are there predispositions to breaking the law, but also that there are stable - in respect of certain categories of experiences - features of the victim, which confirms the theses of victimologists; some people are more exposed to the repeated experience of falling victim to aggression than others.

Table 5.10.21. Percentage of persons aged 18+ who admitted to legal problems experienced between 1993 and 2015

Experience	1993	1995	2000	2003	2005	2007	2009	2011	2013	2015
Victim of theft	5.1	5.4	6.8	5.6	5.7	4.3	3.3	2.8	2.8	2.1
Victim of assault or battery	1.6	1.7	1.5	1.3	1.2	1.1	0.9	0.7	1.0	0.7
Victim of burglary	1.2	1.2	2.0	4.1*	3.5	2.1	1.7	1.5	1.6	1.1
Charged in a criminal case	0.5	0.4	1.0	1.1	1.2	1.5	1.2	1.1	1.1	1.1
Sued in a civil case	0.4	0.6	0.8	0.9	0.9	0.9	0.7	0.6	0.6	0.6
Detained by the police	nd	nd	nd	2.2	2.5	3.2	3.4	3.3	3.1	3.1
Arrest or legal problems of a close person	nd	nd	2.9	2.8	3.6	3.8	3.0	2.7	2.5	1.9
Offender of collision or road accident	nd	nd	nd	nd	nd	1.6	1.7	1.7	1.5	1.6

\* since 2003 we asked about burglary or car robbery.

Source: 1993 and 1995 — Czapiński, ; 2000-2015 — *Social Diagnosis*.

It is worth noting that among those accused of criminal acts or detained by the police, the percentage of victims of theft, assault and battery is much higher than in the general population (Table 5.10.22.). This suggests that many crimes are committed within criminal milieus. Those who break the law are themselves more at risk of falling prey to violence on the part of other criminals than law-abiding citizens.

Table 5.10.22. Inter-correlations concerning breaking the law in 2015

Experience	2	3	4	5	6	7	8
1. I was robbed	0.295	0.345	0.075	0.091	0.083	0.039	0.063
2. I was mugged and beaten		0.086	0.130	0.137	0.147	0.059	0.112
3. My home or car was burled			0.070	0.065	0.069	0.072	0.040
4. I was charged with a criminal offence				0.164	0.284	0.091	0.127
5. I was detained by the police					0.158	0.117	0.114
6. I was sued in a civil case						0.106	0.084
7. I caused a traffic collision or road accident							0.052
8. A close person was arrested or in conflict with the law							

NOTE: all correlations are significant statistically at the level of  $p=0.000$ .

Regardless of their nature (the role of the victim or of the criminal), the experiences related to violating the law are correlated with the drinking alcohol and taking drug (Table 5.10.23.). Those who abuse alcohol or drink it in difficult situations in life or take drugs more often become perpetrators, but also fall victim to crime and have close relations with those who break the law.

Table 5.10.23. Correlation between breaking law and drinking alcohol

Experience	Alcohol abuse	Alcohol in difficult situations	Taking drugs
I was robbed	0.083	0.080	0.078
I was mugged and beaten	0.103	0.112	0.128
My home or car was burled	0.046	0.045	0.012
I was charged with a criminal offence	0.083	0.049	0.094
I was detained by the police	0.156	0.117	0.132
I was sued in a civil case	0.105	0.051	0.097
I caused a traffic collision or road accident	0.070	0.048	0.032
A close person was arrested or had a conflict with the law	0.097	0.059	0.143

NOTES: all correlation coefficients with the exception of 0.012 are statistically significant at  $p = 0.000$ .

In 2007, we asked for the first time about collisions and traffic accidents perpetration. In general, the percentage of those who caused road incidents is directly proportional to the level of motorisation in individual groups (Table 5.10.24.); it is the highest among young people and the middle-aged (up to 44), residents of the large towns, people with higher education, those relatively well-off and those who work (excluding farmers) - especially among private entrepreneurs and private sector workers.

Both the percentage of victims and that of perpetrators are considerably higher among men than women (Table 5.10.24.); it is also much higher in younger age groups (with the exception of burglary victims) compared to elderly people. In the largest towns the frequency of experiences related to criminal offences is in many categories much higher than in rural areas and small towns.

Table 5.10.24. Percentage of persons with experience with legal problems in the while sample

Group	Theft victim			Attacked			Car/house robbery			Convicted		
	2015	2013	2011	2015	2013	2011	2015	2013	2011	2015	2013	2011
Total	2.1	2.8	2.8	0.7	0.9	0.8	1.1	1.6	1.4	1.1	1.1	1.1
Gender												
Men	2.6	3.2	3.2	1.0	1.5	1.3	1.5	2.0	1.9	1.5	1.9	1.8
Women	1.7	2.5	2.5	0.3	0.4	0.3	0.7	1.1	1.1	0.7	0.4	0.6
Age												
Under 24	2.4	4.1	3.1	1.5	2.1	1.0	0.4	1.1	1.4	1.9	2.3	1.6
25-34 y.o.	3.0	2.8	2.1	0.9	1.5	0.6	1.3	1.6	1.6	1.7	1.6	1.3
35-44 y.o.	2.1	2.8	2.7	0.2	0.6	0.7	1.4	1.8	1.5	0.6	0.8	1.1
45-59 y.o.	1.6	2.3	3.0	0.6	0.6	0.8	0.9	2.0	2.0	1.1	1.0	0.6
60-64 y.o.	2.1	2.6	2.5	0.6	0.6	0.1	1.4	1.3	0.8	0.7	0.6	0.4
65 and above	1.8	2.6	3.3	0.5	0.3	0.4	1.0	1.0	0.9	0.5	0.4	0.4
Place of residence												
Towns of more than 500k	2.8	4.7	4.3	0.8	0.9	1.0	1.7	3.0	2.4	1.0	1.3	0.9
Towns of 200-500k	3.8	3.6	4.0	1.0	1.5	1.0	2.5	2.9	2.5	2.0	1.1	1.1
Towns of 100-200k	3.6	5.2	4.1	0.6	1.2	0.8	1.5	1.6	1.4	0.9	1.2	0.9
Towns of 20-100k	2.4	2.5	2.8	1.0	1.0	0.7	0.9	1.6	2.0	1.1	1.4	1.2
Towns of fewer than 20k	1.9	2.3	2.4	0.6	0.9	1.1	0.8	1.3	1.0	1.3	0.9	1.6
Rural areas	1.2	1.9	1.9	0.4	0.8	0.5	0.6	0.9	0.8	0.8	1.0	1.0
Voivodship												
Dolnośląskie	3.8	5.2	3.3	0.9	2.0	0.7	1.6	2.6	1.9	1.0	1.1	0.7
Kujawsko-pomorskie	1.4	3.3	2.6	0.7	0.7	1.0	0.6	1.8	1.6	0.6	0.6	1.0
Lubelskie	1.8	1.9	2.5	0.5	0.4	0.7	0.9	1.2	1.3	0.6	0.9	0.4
Lubuskie	3.6	4.0	2.3	1.1	1.4	0.8	2.2	2.2	1.0	3.4	2.6	1.8
Łódzkie	1.6	1.9	1.7	0.6	1.1	0.3	0.6	1.2	1.3	1.1	1.0	1.0
Małopolskie	1.6	2.4	2.1	0.7	0.9	0.5	1.0	1.3	1.0	0.8	1.0	1.1
Mazowieckie	1.6	3.1	3.7	0.5	0.7	1.3	0.9	1.6	1.4	0.9	1.0	1.0
Opolskie	4.1	2.5	2.2	0.6	0.6	1.1	1.6	1.7	1.7	1.8	0.4	1.8
Podkarpackie	2.0	3.0	1.5	0.0	0.5	0.3	0.5	1.2	0.2	0.4	0.5	1.1
Podlaskie	0.9	2.1	2.0	0.0	1.3	1.1	0.3	1.1	0.8	1.9	3.2	1.4
Pomorskie	3.5	2.8	3.5	1.0	0.8	0.6	2.6	1.5	1.6	1.0	1.3	1.0
Śląskie	2.5	2.8	3.2	0.5	1.1	0.6	1.2	1.8	2.0	1.4	1.5	1.2
Świętokrzyskie	0.7	2.8	2.3	1.3	0.6	0.6	0.1	1.0	0.8	1.2	0.7	1.6
Warmińsko-mazurskie	1.0	1.4	2.5	0.4	0.5	1.0	0.5	1.1	0.5	0.8	0.6	1.2
Wielkopolskie	1.7	2.0	3.6	0.3	0.5	0.9	1.0	1.0	2.2	1.2	0.9	1.1
Zachodnio-pomorskie	3.3	2.9	3.2	2.5	2.4	0.7	1.0	2.0	2.8	1.3	1.4	2.0
Educational level												
Primary and lower	1.7	1.9	2.1	0.8	0.9	1.1	0.6	0.9	0.7	0.9	1.1	1.4
Basic vocational/lower secondary	1.9	3.0	3.0	1.0	1.4	0.9	0.6	1.2	1.5	1.5	1.4	1.7
Secondary	2.3	2.7	2.9	0.6	0.9	0.8	1.1	1.7	1.5	0.9	1.0	0.7
Higher and post-secondary	2.5	3.3	2.9	0.3	0.5	0.3	1.8	2.3	2.0	0.9	0.9	0.7
Per capita income												
Low quartile	2.5	2.5	2.9	1.3	1.5	1.1	0.6	1.1	1.1	1.4	1.4	1.7
Middle 50%	1.8	2.8	2.6	0.5	0.8	0.7	1.0	1.3	1.4	1.0	1.1	1.1
High quartile	2.4	3.0	3.2	0.5	0.6	0.5	1.6	2.5	2.1	0.7	1.2	0.7
Social and professional status												
Public sector	1.8	2.7	2.2	0.3	0.8	0.2	1.4	1.9	1.7	1.0	0.9	0.8
Private sector	2.2	2.7	2.4	0.5	1.1	0.9	1.5	1.8	1.8	1.3	1.5	1.7
Private entrepreneurs	3.5	3.8	5.2	0.9	1.1	0.4	2.1	3.7	3.8	0.9	1.2	1.3
Farmers	0.6	1.4	1.5	0.1	0.1	0.4	0.3	1.0	0.6	0.7	0.8	0.8
Pensioners	2.6	3.8	3.3	0.7	0.8	0.8	0.8	1.1	1.1	0.5	1.4	0.9
Retirees	1.7	2.4	2.8	0.4	0.3	0.5	0.9	1.1	1.4	0.5	0.4	0.4
School and university students	2.2	4.1	4.0	1.2	1.0	1.5	0.2	0.9	0.8	1.4	1.4	1.4
Unemployed	2.7	2.9	2.8	1.7	2.2	1.5	0.7	1.9	1.2	2.8	1.8	2.2
Other professionally inactive	3.0	2.7	2.3	1.5	1.7	0.8	0.6	0.9	1.0	1.1	1.3	0.9

Table 5.10.24. Continued

Group	Arrested by the police			Accused in civil case			Perpetrator of collision/road accident		
	2015	2013	2011	2015	2013	2011	2015	2013	2011
Total	3.1	3.2	3.3	0.6	0.6	0.6	1.6	1.4	1.7
Gender									
Men	4.9	5.2	5.8	0.9	0.9	0.9	2.1	2.0	2.4
Women	1.4	1.3	1.0	0.3	0.3	0.3	1.1	0.9	1.1
Age									
Under 24	6.5	7.4	5.6	0.4	1.1	0.7	2.4	1.6	2.6
25-34 y.o.	4.9	4.7	3.4	1.2	1.0	0.7	2.8	2.9	2.1
35-44 y.o.	3.0	3.1	2.2	0.6	0.4	0.8	2.0	2.0	1.5
45-59 y.o.	2.1	2.2	1.5	0.5	0.5	0.7	1.0	0.7	0.7
60-64 y.o.	1.6	1.3	0.4	0.3	0.3	0.6	0.9	1.1	0.4
65 and above	0.8	0.5	0.2	0.2	0.2	0.1	0.4	0.4	0.2
Place of residence									
Towns of more than 500k	2.5	2.6	2.7	0.4	0.4	0.4	2.7	2.2	2.3
Towns of 200-500k	4.2	2.7	2.5	0.8	0.5	0.3	2.8	2.3	2.1
Towns of 100-200k	2.9	2.5	4.1	0.3	0.9	0.6	1.6	2.0	1.9
Towns of 20-100k	2.8	3.0	3.2	1.0	0.7	0.6	1.1	1.0	1.7
Towns of fewer than 20k	3.0	3.0	3.7	0.9	0.6	0.7	1.2	1.3	1.7
Rural areas	3.1	3.7	3.4	0.3	0.5	0.6	1.3	1.2	1.4
Voivodship									
Dolnośląskie	3.3	3.1	3.5	1.0	1.0	0.9	2.0	2.1	1.8
Kujawsko-pomorskie	2.6	3.2	2.2	0.1	0.2	0.5	1.3	1.7	1.7
Lubelskie	2.6	4.0	2.9	0.7	0.5	0.1	1.3	2.0	1.8
Lubuskie	5.0	5.0	4.0	1.1	1.3	1.4	3.1	1.7	1.3
Łódzkie	2.4	2.1	2.7	0.4	0.2	0.3	1.6	1.2	1.3
Małopolskie	2.1	2.5	1.4	0.1	0.2	0.5	1.0	1.4	1.1
Mazowieckie	2.8	3.6	3.6	0.5	0.5	0.5	2.0	1.2	1.7
Opolskie	3.5	3.3	3.4	0.3	0.3	0.9	1.0	0.7	0.9
Podkarpackie	1.9	3.8	3.6	0.8	0.6	0.4	0.5	1.5	2.0
Podlaskie	4.3	4.5	4.8	0.4	1.3	0.7	1.3	0.6	1.2
Pomorskie	4.5	1.8	3.2	0.4	0.6	0.7	2.6	1.6	3.0
Śląskie	2.8	3.1	3.5	0.9	0.8	0.6	1.5	1.8	2.4
Świętokrzyskie	3.5	2.3	3.6	0.1	0.1	1.2	0.7	0.9	1.0
Warmińsko-mazurskie	1.9	2.0	3.3	0.4	0.4	0.5	0.3	0.8	0.6
Wielkopolskie	3.9	4.2	4.5	0.8	0.8	0.6	2.1	1.4	1.9
Zachodnio-pomorskie	4.3	2.8	3.1	1.2	0.9	1.0	1.0	1.0	1.3
Educational level									
Primary and lower	2.1	2.6	3.1	0.3	0.4	0.8	0.2	0.4	0.6
Basic vocational/lower secondary	3.7	4.0	4.2	0.7	0.8	0.8	1.2	1.1	1.3
Secondary	3.1	2.9	3.2	0.5	0.5	0.4	1.6	1.5	2.0
Higher and post-secondary	2.8	2.8	2.2	0.7	0.4	0.4	2.7	2.5	2.6
Per capita income									
Low quartile	3.4	3.7	4.4	0.8	0.9	0.9	0.7	1.0	1.4
Middle 50%	2.8	2.9	2.8	0.3	0.6	0.5	1.6	1.2	1.5
High quartile	3.3	3.1	3.2	0.7	0.4	0.4	2.3	2.5	2.4
Social and professional status									
Public sector	2.5	2.4	2.0	1.0	0.5	0.3	1.8	1.9	2.2
Private sector	4.0	4.3	4.9	0.7	0.7	0.8	2.6	2.6	2.6
Private entrepreneurs	6.1	6.0	4.5	0.4	0.7	2.0	2.5	2.8	4.1
Farmers	3.2	3.5	3.9	0.3	0.2	0.5	0.6	1.2	0.8
Pensioners	1.0	2.8	1.7	0.3	0.7	0.4	0.5	0.3	0.8
Retirees	0.7	0.6	0.6	0.2	0.2	0.2	0.6	0.4	0.5
Students	5.5	5.0	5.3	0.2	0.5	0.5	1.7	1.3	1.9
Unemployed	4.4	4.3	5.8	1.1	1.1	1.3	1.4	1.1	2.1
Other professionally inactive	3.4	2.9	2.9	0.8	1.0	0.4	0.8	0.5	0.7

The relationship between the distribution of incidence of victims and criminals and educational level is particularly interesting. Those with higher and post-secondary education fall victim to theft and home or car burglaries most often, which presumably results from the level of affluence of that group of citizens. This is also evidenced by the high ratio of victims of that type of offence among those with higher income and especially among private entrepreneurs, every twenty eight of whom (every nineteenth, four years ago) was robbed, or experienced a home or car burglary. Criminals, on the other hand, are much more likely to have basic vocational education and a lower

income. The percentage of persons accused of criminal acts and detained by the police is greater - except for graduates of vocational schools - among unemployed persons, school and university students, private sector employees and young people (under 24) than in other groups, but the largest percentage of arrests, except people in age between 16-24 y.o., is among entrepreneurs, and also this year it was one third higher than four years.

By summarising the particular categories of offences we have created three synthetic indicators: victims (victimisation), perpetration, and a general one that combines the previous two – crime. The distribution of those three indicators in the socio-demographic sections from the last three editions of the Diagnosis is presented in Table 5.10.25.

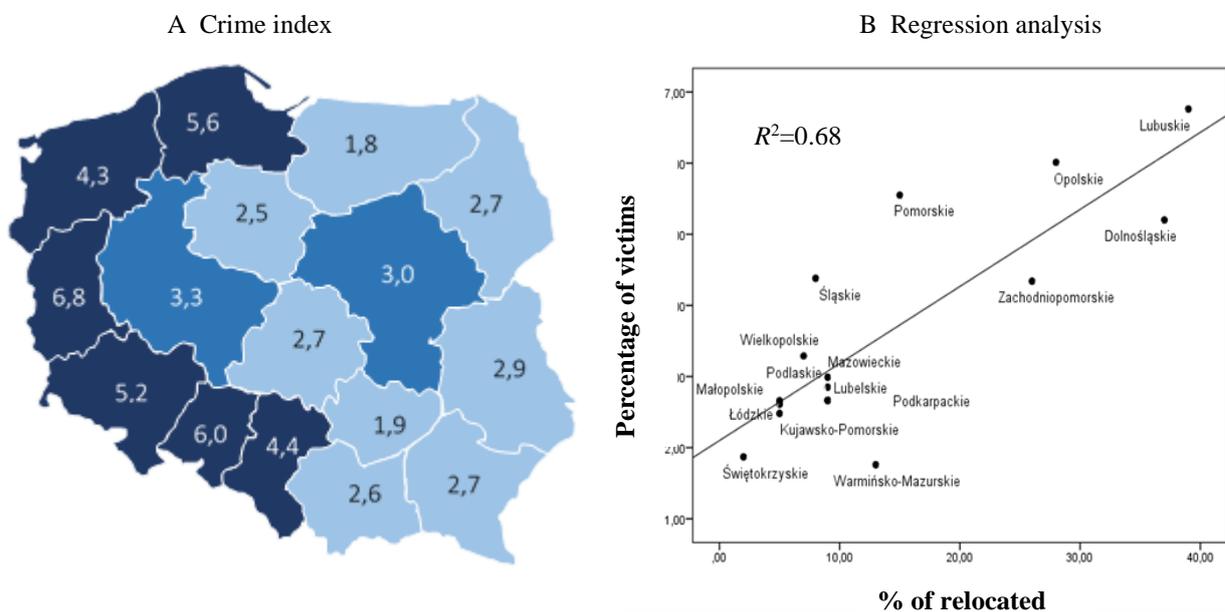
Table 5.10.25. Victimisation, perpetration and crime indicators

Socio-demographic group	Victimisation			Perpetration			Crime		
	2015	2013	2011	2015	2013	2011	2015	2013	2011
Total	0.039	0.053	0.051	0.063	0.063	0.067	0.101	0.116	0.117
Gender									
Men	0.051	0.067	0.063	0.094	0.100	0.108	0.146	0.168	0.171
Women	0.027	0.040	0.039	0.035	0.029	0.029	0.062	0.069	0.069
Age									
Under 24	0.043	0.073	0.064	0.112	0.124	0.123	0.155	0.198	0.187
25-34 y.o.	0.052	0.060	0.045	0.107	0.102	0.092	0.159	0.161	0.137
35-44 y.o.	0.037	0.053	0.046	0.062	0.062	0.074	0.099	0.115	0.121
45-59 y.o.	0.031	0.049	0.052	0.047	0.044	0.053	0.078	0.093	0.105
60-64 y.o.	0.041	0.045	0.059	0.034	0.032	0.032	0.075	0.077	0.091
65 and above	0.032	0.039	0.043	0.019	0.014	0.013	0.052	0.053	0.055
Place of residence									
Towns of more than 500k	0.054	0.085	0.077	0.067	0.065	0.063	0.120	0.151	0.141
Towns of 200-500k	0.072	0.079	0.074	0.098	0.066	0.060	0.170	0.141	0.135
Towns of 100-200k	0.057	0.080	0.064	0.057	0.070	0.076	0.114	0.153	0.138
Towns of 20-100k	0.043	0.050	0.055	0.061	0.059	0.067	0.103	0.108	0.121
Towns of fewer than 20k	0.034	0.044	0.043	0.064	0.058	0.078	0.098	0.104	0.120
Rural areas	0.022	0.035	0.033	0.055	0.064	0.064	0.077	0.100	0.097
Voivodship									
Dolnośląskie	0.063	0.098	0.059	0.072	0.074	0.067	0.136	0.172	0.122
Kujawsko-pomorskie	0.027	0.057	0.053	0.046	0.058	0.054	0.073	0.116	0.107
Lubelskie	0.032	0.035	0.045	0.052	0.073	0.052	0.084	0.108	0.097
Lubuskie	0.069	0.075	0.042	0.125	0.107	0.086	0.194	0.183	0.128
Łódzkie	0.027	0.042	0.033	0.056	0.045	0.053	0.083	0.087	0.086
Małopolskie	0.032	0.045	0.035	0.039	0.051	0.042	0.072	0.097	0.078
Mazowieckie	0.031	0.055	0.063	0.061	0.063	0.068	0.093	0.118	0.131
Opolskie	0.062	0.047	0.051	0.066	0.048	0.071	0.128	0.095	0.121
Podkarpackie	0.024	0.046	0.020	0.035	0.064	0.071	0.059	0.111	0.091
Podlaskie	0.012	0.045	0.039	0.078	0.096	0.075	0.090	0.142	0.113
Pomorskie	0.071	0.050	0.057	0.084	0.052	0.078	0.155	0.103	0.135
Śląskie	0.042	0.056	0.057	0.066	0.073	0.076	0.108	0.129	0.133
Świętokrzyskie	0.022	0.044	0.037	0.055	0.040	0.074	0.077	0.084	0.111
Warmińsko-mazurskie	0.019	0.029	0.040	0.033	0.038	0.056	0.052	0.069	0.097
Wielkopolskie	0.030	0.035	0.067	0.080	0.072	0.082	0.109	0.107	0.148
Zachodnio-pomorskie	0.067	0.073	0.066	0.078	0.062	0.075	0.145	0.127	0.141
Educational level									
Primary and lower	0.031	0.036	0.039	0.035	0.045	0.057	0.065	0.820	0.097
Basic vocational/lower secondary	0.036	0.055	0.053	0.070	0.072	0.080	0.106	0.128	0.133
Secondary	0.039	0.052	0.052	0.062	0.059	0.063	0.101	0.111	0.116
Higher and post-secondary	0.046	0.060	0.052	0.071	0.065	0.060	0.117	0.125	0.111
Per capita income									
Low quartile	0.043	0.051	0.050	0.063	0.066	0.083	0.107	0.125	0.133
Middle 50%	0.033	0.049	0.046	0.057	0.056	0.059	0.090	0.107	0.105
High quartile	0.045	0.061	0.058	0.069	0.066	0.067	0.114	0.135	0.124
Social and professional status									
Public sector	0.034	0.054	0.041	0.063	0.057	0.053	0.098	0.110	0.092
Private sector	0.043	0.056	0.051	0.086	0.091	0.098	0.129	0.147	0.149
Private entrepreneurs	0.065	0.086	0.095	0.098	0.106	0.119	0.163	0.192	0.214
Farmers	0.010	0.026	0.025	0.049	0.056	0.056	0.059	0.082	0.081
Pensioners	0.041	0.058	0.052	0.023	0.052	0.037	0.064	0.109	0.090
Retirees	0.030	0.038	0.047	0.020	0.015	0.017	0.050	0.053	0.063
Students	0.036	0.060	0.063	0.088	0.082	0.090	0.124	0.142	0.154
Unemployed	0.052	0.070	0.054	0.098	0.083	0.114	0.150	0.153	0.168
Other professionally inactive	0.051	0.052	0.040	0.062	0.056	0.050	0.114	0.109	0.090

Almost in all groups there was a significant decrease in victimisation between 2011 and 2015. This is confirmed by statistically significant difference between the two measurements in a panel group ( $t = 9.46$ ,  $p < .000$ ). Factors that are highly differentiating the extent of victimisation are gender (men are more likely to fall victim to the crime), a class of residence (more victims in the large cities), voivodship (the lowest value of the indicator are in Podlaskie and Warmińsko-Mazurskie Voivodships, and the largest in Dolnośląskie, Lubuskie, Pomorskie and Zachodniopomorskie Voivodships) and socio-professional status (the highest victimisation in a group of private entrepreneurs). Similar social differentiation occurs in the other synthetic indicators.

Crime rate is clearly differentiated geographically (Figure 5.10.25., panel A - percentage of the victims of crime). The highest is in the entire Western belt (also called the recovered lands with the exception of Warmińsko-Mazurskie Voivodship) and the lowest, next to Warmińsko-Mazurskie Voivodship, is to the South. This is presumably from the degree of social control, much higher in the communities ingrained for generations in the particular area. In regions where the proportion of the immigrant population is significant, and such are the Western Lands (see 3.4.1. in chapter 3), the local communities are less integrated and have less control over violating the moral and behavioural norms by their members.

This proves a very strong relationship between the immigrant population and committing offences (number of victims) (Figure 5.10.25., panel B). Immigrant population indicator explains more than 2/3 of the crime indicator. Also at the level of the 66 subregions the relationship between the percentage of the relocated people and the crime is statistically significant ( $r = 0.52$ ).



NOTES: the main effect of voivodship  $F(15, 21669) = 8.911$ ,  $p < 0.000$ ,  $\eta^2 = 0.006$ ,

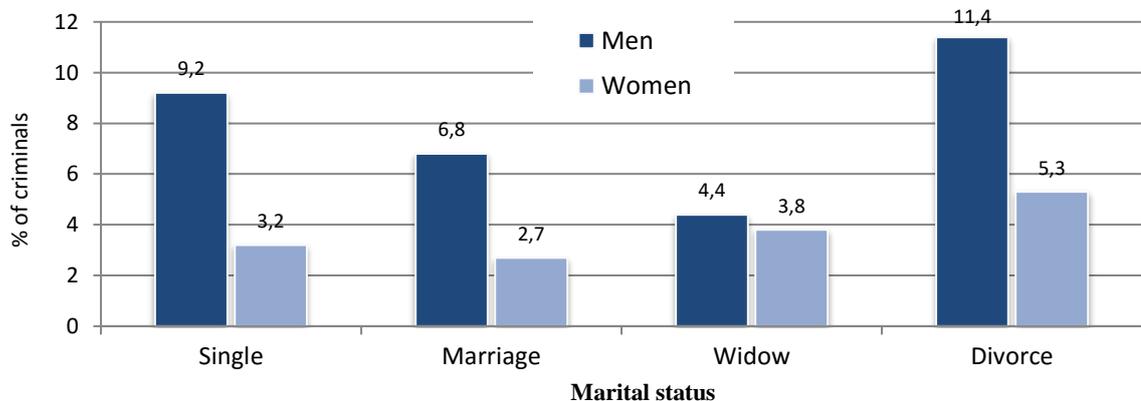
Figure 5.10.25. Crime rate in 2015 in the regional section (panel A) and regression in the percentage of crime victims compared to share of households, whose members lived before World War II on the so-called "Eastern Borderlands" (panel B)

In order to verify the significance of differences in probability of being among the victims or perpetrators and generally victims and perpetrators between particular social groups, we conducted a logistical regression analysis taking into account 8 predictors (gender, age, place of residence class, education, socio-professional status, marital status and alcohol abuse) (Table 5.10.26.). Women commit crimes half as often and are 30% less likely to become victims. The probability of being a perpetrator decreases with age, but not the probability of being a victim. The size of place of residence diversifies the chances of being a victims (the highest in the largest towns), but not a perpetrator. The differentiation effect of education is very weak. Definitely the highest number of both victims and perpetrators can be found among private entrepreneurs. A chance of encountering a crime victim among the divorced people is over 40% higher; and among the widowers, lower by 60% compared to people who are single. Although, this concerns mainly men (Figure 5.10.26.). The marital status also statistically significantly differentiates the probability of becoming a victim, but again, mainly for men (Figure 5.10.27.). Being wealthy does not differentiates the probability of becoming neither a victim nor a perpetrator. It is not a surprise that alcohol abuse increases more than three and a half times a chance of being a perpetrator, and almost three times a chance of becoming a victim.

Table 5.10.26. Logistic regression results for being the perpetrator and victim

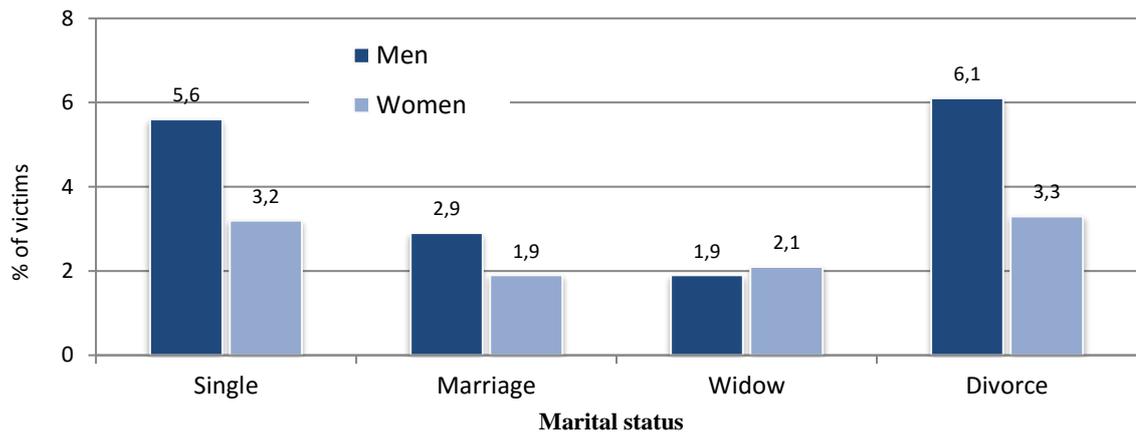
Predictor	Perpetrators		Victims		Perpetrator/victim	
	p	Exp(B)	p	Exp(B)	p	Exp(B)
Man	Ref.					
Woman	0.000	0.453	0.000	0.683	0.000	0.554
Age 16-24 y.o.	Ref.					
Age 25-34 y.o.	0.000	0.654	0.276	1.209	0.000	0.777
Age 35-44 y.o.	0.000	0.484	0.566	0.889	0.000	0.592
Age 45-59 y.o.	0.000	0.335	0.523	0.878	0.000	0.436
Age 60-64 y.o.	0.000	0.333	0.375	1.243	0.000	0.515
Age 65 and above	0.001	0.406	0.406	1.256	0.000	0.614
Towns of more than 500k	Ref.					
Towns of 200-500k	0.010	1.391	0.003	1.561	0.000	1.573
Towns of 100-200k	0.243	0.838	0.106	1.308	0.614	1.062
Towns of 20-100k	0.236	0.863	0.555	0.915	0.178	0.871
Towns of fewer than 20k	0.225	0.844	0.006	0.604	0.032	0.778
Rural areas	0.067	0.806	0.000	0.500	0.000	0.688
Primary and lower education	Ref.					
Basic vocational/lower secondary education	0.723	1.050	0.749	1.052	0.196	1.158
Secondary education	0.877	1.022	0.196	1.229	0.076	1.228
Higher and post-secondary education	0.202	1.216	0.523	1.121	0.032	1.310
Public sector	Ref.					
Private sector	0.218	1.144	0.565	1.092	0.076	1.182
Private entrepreneurs	0.048	1.364	0.001	1.906	0.000	1.622
Farmers	0.973	1.007	0.017	0.342	0.526	0.893
Pensioners	0.039	0.634	0.097	1.442	0.742	0.948
Retirees	0.003	0.501	0.999	1.000	0.018	0.667
School and university students	0.055	0.722	0.900	0.970	0.116	0.790
Unemployed	0.240	1.210	0.653	1.106	0.405	1.126
Other professionally inactive	0.512	0.897	0.078	1.427	0.997	1.000
Unmarried	Ref.					
Married	0.041	0.828	0.000	0.570	0.000	0.760
Widowed	0.001	0.363	0.006	0.556	0.005	0.622
Divorced	0.015	1.477	0.471	0.867	0.025	1.346
Poor	Ref.					
Average wealth	0.595	1.049	0.028	0.781	0.821	0.983
Wealthy	0.574	1.062	0.073	0.786	0.996	1.000
No alcohol abuse	Ref.					
Alcohol abuse	0.000	3.602	0.000	2.764	0.000	3.255
Total variables explained Cox & Snell $R^2 \times 100$	4.1		1.6		4.2	
Total variables explained Nagelkerke $R^2 \times 100$	12.4		6.9		10.1	

\* Ref. means reference group



NOTES: the effect of marital status  $F(3, 21601)=11.038, p<0.000, \eta^2=0.002$ ; the effect of gender  $F(1, 21601)=66.444, p<0.000, \eta^2=0.003$ ; the effect of the interaction of civil status and gender  $F(3, 21601)=5.866, p<0.000, \eta^2=0.001$ ; co-variable was age

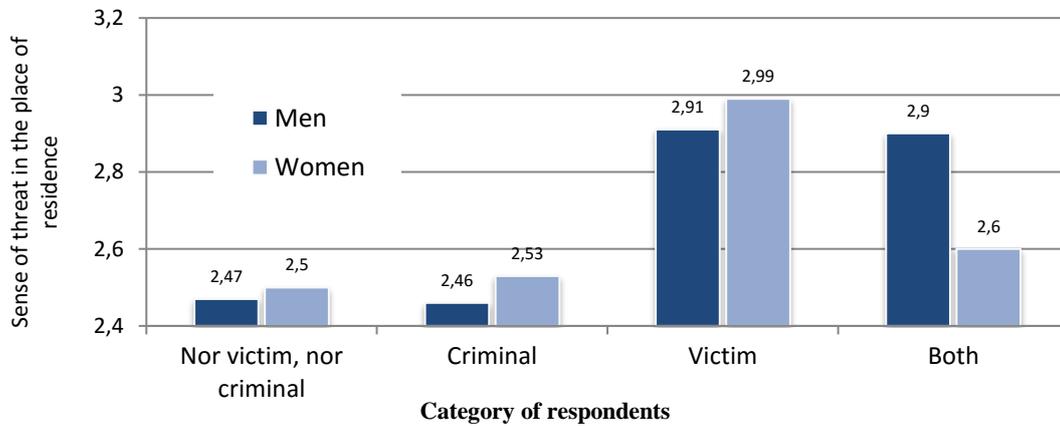
Figure 5.10.26. Being the perpetrator of the criminal acts based on gender and marital status and with age control



NOTES: the effect of marital status  $F(3, 25683)=15.738, p<0.000, \eta^2=0.002$ ; the effect of gender  $F(1, 25683)=28.445, p<0.000, \eta^2=0.001$ ; the effect of the interaction of civil status and gender  $F(3, 25683)=7.866, p<0.000, \eta^2= 0.001$ ; co-variable was age

Figure 5.10.27. Being the victim of the criminal acts based on gender and marital status and with age control

It is no surprise that the victims of aggression are less satisfied with the state of security in their place of residence, even if they happen to have broken the law themselves (Figure 5.10.28.).



NOTES: an indicator of a sense of danger was to assess the scale of satisfaction from the State of safety in the place of residence (1-very satisfied 6-very dissatisfied); the effect of category  $F(3, 21530)=45.609, p<0.000, \eta^2=0.006$ ; gender effect. ; the effect of the interaction of test category and gender; co-variable was age

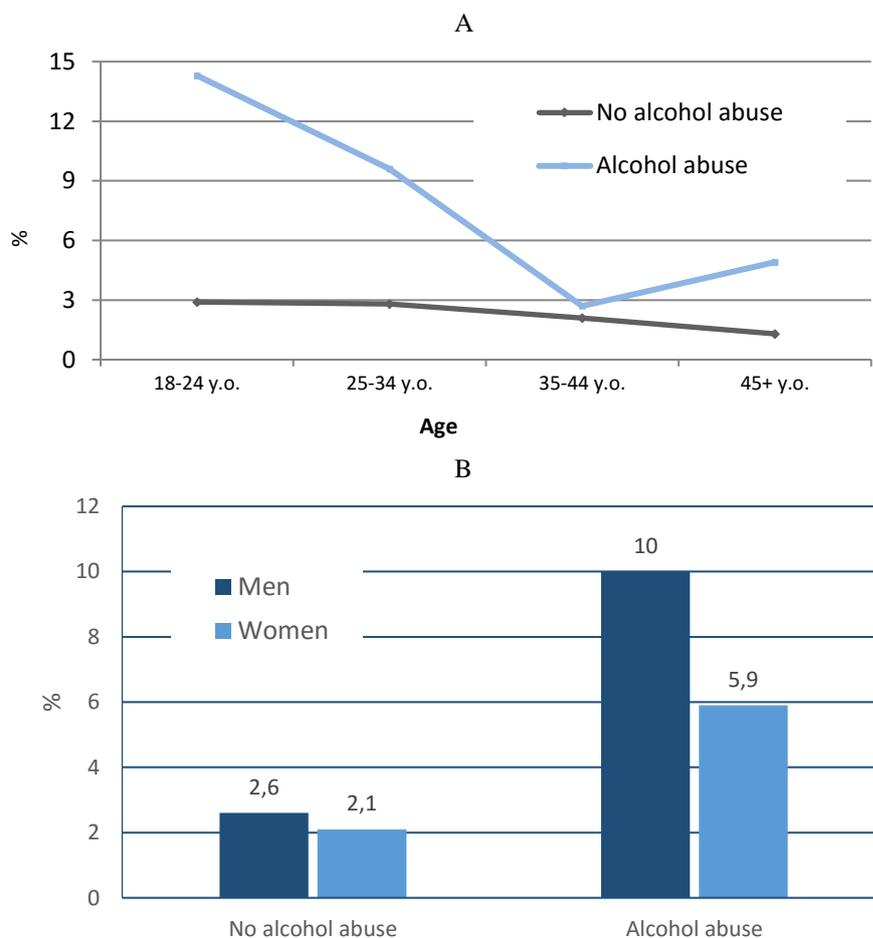
Figure 5.10.28. Sense of insecurity in the place of residence for men and women based on perpetrator and/or victim of aggression category

In the sample of driving licence holders, those who abuse alcohol cause collisions or road traffic accidents over three times more often (Table 5.10.27.), though this concerns mainly younger drivers (up to 34 years old), among whom those abusing alcohol are four times more likely to cause road accidents than those who do not drink alcohol (Figure 5.10.29.). Age itself is related to the likelihood of causing a collision or accident; collisions or accidents are three times less likely to be caused by those who are over 34 years old than by those are less than 34 years old. Gender is also of a certain importance as women cause collisions or road traffic accidents 25% less frequently.

Table 5.10.27. Logistic regression analysis results for the probability of causing a collision or accident according to gender, age, alcohol abuse in the sample of driver's licence holders

	B	S.E.	Valid.	df	p	Exp(B)
Alcohol abuse	1.287	0.149	74.894	1	0.000	3.621
Gender (M)	0.225	0.124	3.313	1	0.069	1.253
Age 60+	Ref.		61.331	5	0.000	
Age 18-24	1.408	0.303	21.563	1	0.000	4.086
Age 25-34 y.o.	1.309	0.283	21.417	1	0.000	3.702
Age 35-44 y.o.	0.889	0.291	9.320	1	0.002	2.432
Age 45-59 y.o.	0.277	0.304	0.832	1	0.362	1.320
Age 60-64 y.o.	0.340	0.380	0.800	1	0.371	1.405
Constant	-3.450	0.095	1329.721	1	0.000	0.032

NOTES: reference groups are people who do not abuse alcohol, women, and people of age 60+.



NOTES: the effect of age  $F(3, 13186)=15.569, p<0.000, \eta^2= 0.003$ ; gender effect  $F(3, 13186)=10.569, p<0.000, \eta^2= 0.001$ ; the effect of alcohol abuse alcohol  $F(1, 13186)=59.599, p<0.000, \eta^2= 0.004$ ; the interaction effect of alcohol abuse and age  $F(3, 13186)=8.589, p<0.000, \eta^2= 0.002$  (panel A); the interaction effect of alcohol abuse and gender  $F(1, 13186)=6.089, p<0.05, \eta^2= 0.000$  (panel B); the interaction effect of alcohol abuse, gender and age  $F(3, 13186)=8.589, p<0.000, \eta^2= 0.002$

Figure 5.10.29. The proportion of perpetrators of collisions and traffic accidents among the holders of driving licence and abusing alcohol according to age (panel A) and gender (panel B)

### 5.10.6. General life orientations

In the present edition of the Diagnosis, similarly as in the previous three, materialist orientation was measured with the use of the abbreviated scale of Richins and Dawson (1992) (Annex 1, individual questionnaire question 57). The factor analysis with varimax rotation for this scale shows two separate attitude factors behind materialistic orientation (Table 5.10.28.). The first, which explains 47% of variance, is proper materialism; i.e. attaching greater importance to material goods, the other is the passion for shopping; i.e. shopaholism, which explains 20% of variance.

The average sum of the reversed scale values of answers for the positions that obtained the scores above 0.5 in the particular factors creates an indicator of materialism and shopaholism.

Many studies, performed mainly in US, prove that the materialistic attitude has a negative influence on the psychological well-being (Czapiński, 2012). There has even been several theories explaining the mechanism of this negative correlation (e.g. Kasser, 2002; Kasser, Ryan, 1996; Lane, 2000). Putting aside the theoretical discussions, let us check whether materialism makes people in Poland less happy and more depressive. Generally yes, but the correlations are tenuous and inconsequential (Table 5.10.29.). People with materialistic attitude evaluate their whole lives in worse terms, are less happy, more often indicate suicidal tendencies, express lesser will-to-live, but, at the same time, they are less depressive. The shopaholism has an opposite effect as it influences all the well-being indicators in a positive manner, apart from the suicidal tendencies.

Table 5.10.28. Results of factor analysis on the scale of materialism with varimax rotation

Materialism scale	Constituent							
	factor 1 (materialism)				factor 2 (shopaholism)			
	2015	2013	2011	2009	2015	2013	2011	2009
I look up to people who have expensive clothes, cars and houses	0.860	0.802	0.744	0.739				
The measure of a successful life is the ownership of various material goods	0.863	0.836	0.816	0.813				
I like having things that may make other people jealous*			0.723	0.696				
I like to buy things without practical application					0.788	0.785	0.769	0.783
Shopping itself gives me a lot of joy					0.851	0.841	0.801	0.771
I pay attention to material things**		0.747	0.744	0.744				
Percentage of variables explained	46.7	46.9	45.2	43.5	25.9	20.3	16.9	17.4

\* Between 2013-2015 there was no such item in the questionnaire

\*\* In 2015 there was no such item in the questionnaire

Table 5.10.29. Partial correlations between indicators of psychological well-being and materialism and shopaholism with control of age

Orientation	Independence test	Assessment of life*	Happiness*	Suicidal tendencies*	Will to live	Depression
Materialism	Correlation	0.041	0.020	-0.060	-0.029	-0.098
	Significance (two-side)	0.000	0.002	0.000	0.000	0.000
	N	22143	22150	22129	22144	21899
Shopaholism	Correlation	-0.085	-0.102	-0.011	0.058	-0.173
	Significance (two-side)	0.000	0.000	0.092	0.000	0.000
	N	22162	22169	22148	22163	21919

\* reversed indicator — the lower the scale value, the more positive the indicator value

Let us see at the social differentiation of materialistic orientation (Table 5.10.30.). the factor that differentiates strongly is gender. Men have more materialistic attitude, while women have the greater indicator of shopaholism. Residents of rural areas and small towns are greater materialists and less shopaholics than residents of the towns with more than 500 thousand residents.

There is a clear linear correlation between age and materialism and shopaholism; the younger the respondents, the more materialistic their attitudes are and the greater their passion for shopping is (this is particularly true for the youngest people, those of age between 16-18 y.o.). Education does not significantly differentiate shopaholism, however it differentiates materialism; the higher the level of education, the lower the attachment to material goods. The higher the level of wealth, the stronger shopaholic attitude, but not the materialism.

Social and professional status is a strongly differentiating factor for the level of materialism. The highest number of materialists can be found among farmers, entrepreneurs, private sector workers, unemployed, and other professionally inactive. However, social and professional status does not differentiate the level of shopaholism. Single people have higher levels of both materialistic and shopaholic attitudes than other groups distinguished by their marital status.

Table 5.10.30. The results of the logistic regression analysis of the likelihood of being a materialist and shopaholic in a cross-section of the various socio-demographic groups in 2013 and 2015.

Predictor	Materialism				Shopaholism			
	2015		2013		2015		2013	
	p	Exp(B)	p	Exp(B)	p	Exp(B)	p	Exp(B)
Man	Ref.*							
Woman	0.000	0.784	0.000	0.752	0.000	2.453	0.000	2.351
Age 16-24 y.o.	Ref.							
Age 25-34 y.o.	0.034	0.857	0.011	0.850	0.000	0.582	0.001	0.811
Age 35-44 y.o.	0.000	0.693	0.000	0.592	0.000	0.487	0.000	0.595
Age 45-59 y.o.	0.000	0.609	0.000	0.571	0.000	0.417	0.000	0.485
Age 60-64 y.o.	0.000	0.556	0.000	0.521	0.000	0.325	0.000	0.400
Age 65+ y.o.	0.000	0.454	0.000	0.405	0.000	0.241	0.000	0.324
Towns of more than 500k	Ref.							
Towns of 200-500k	0.000	1.346	0.039	0.890	0.010	0.844	0.007	0.858
Towns of 100-200k	0.000	1.389	0.459	1.045	0.410	0.944	0.001	0.816
Towns of 20-100k	0.000	1.868	0.000	1.190	0.071	0.902	0.001	0.851
Towns of fewer than 20k	0.000	1.641	0.185	1.074	0.011	0.851	0.000	0.792
Rural area	0.000	1.983	0.000	1.331	0.012	0.872	0.000	0.833
Primary and lower education	Ref.							
Basic vocational/lower secondary education	0.001	0.842	0.035	0.911	0.081	1.097	0.000	1.107
Secondary education	0.000	0.716	0.000	0.664	0.150	1.081	0.001	1.071
Higher and post-secondary education	0.000	0.475	0.000	0.458	0.154	0.916	0.000	0.885
Income per capita – low quartile	Ref.							
Income per capita – middle 50%	0.211	0.954	0.985	1.001	0.000	1.283	0.150	1.057
Income per capita – high quartile	0.055	0.913	0.005	0.883	0.000	1.471	0.002	1.151
Public sector	Ref.							
Private sector	0.009	1.145	0.275	1.051	0.977	1.001	0.028	1.107
Private entrepreneurs	0.001	1.326	0.082	1.130	0.426	0.937	0.139	1.071
Farmers	0.000	1.452	0.019	1.179	0.053	0.852	0.021	0.885
Pensioners	0.579	0.958	0.185	0.913	0.968	0.997	0.091	
Retirees	0.982	0.998	0.580	1.039	0.668	1.035	0.032	0.907
School and university students	0.703	0.966	0.012	0.818	0.010	0.791	0.614	0.965
Unemployed	0.000	1.351	0.003	1.197	0.183	1.111	0.013	0.839
Other professionally inactive	0.000	1.302	0.477	1.044	0.803	1.018	0.017	0.845
Single	Ref.							
Married	0.000	0.829	0.000	0.849	0.000	0.848	0.039	0.849
Widowed	0.000	0.754	0.000	0.795	0.000	0.697	0.010	0.855
Divorced	0.285	0.918	0.001	0.793	0.002	0.778	0.275	0.935
Total variability explained								
Cox & Snell $R^2 \times 100$		6.8		6.7		8.2		8.0
Total variability explained								
Nagelkerke $R^2 \times 100$		9.1		8.6		11.1		10.8

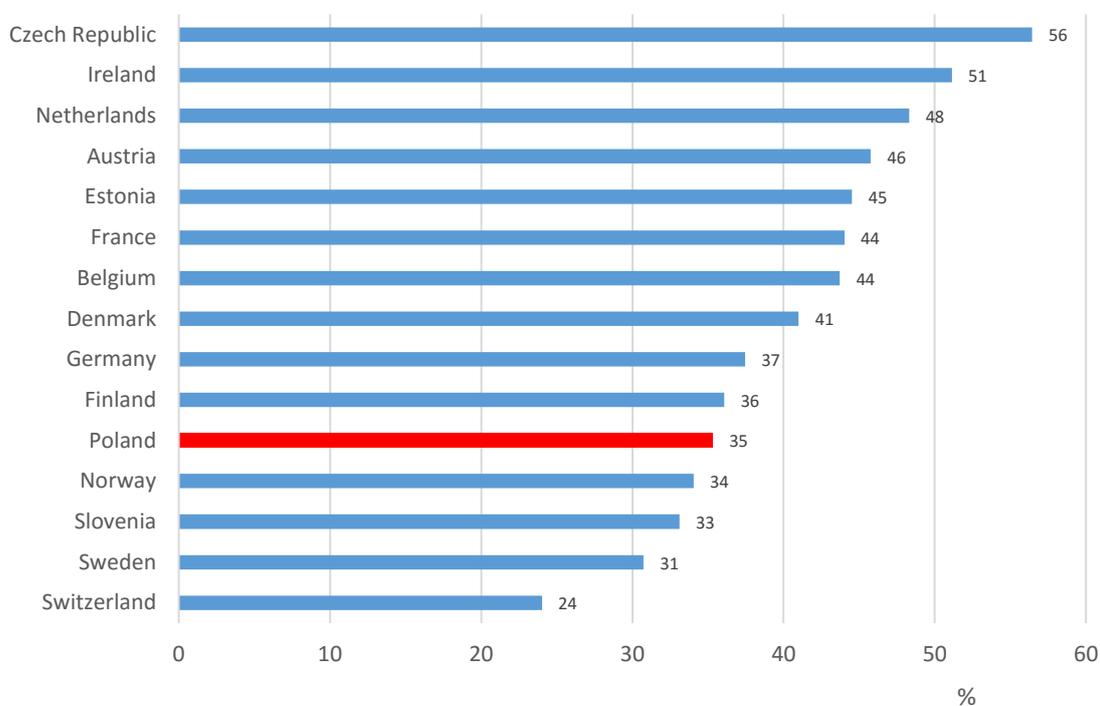
\* Ref. means reference group

## 5.11. Poles and the TV

Television is the main medium connecting Poles to the world. In the past 10 years, the amount of adult Poles spending time not watching television at all doubled (from 2.6% to 5.2%), although it still has not changed the fact that we are very “televsual” society. In 2005, 57% of Poles declared watching television for over two hours a day and 2015 has not changed much (56.5%) (Table 5.11.1.). However, the international survey for the *European Social Survey* from 2014 presents slightly different picture (Table 5.11.1.). Only 35% of Poles in age 16 and above declared that they spend more than two hours watching television every day, which in the group of 15 European countries places us among less “televsual” societies.

Table 5.11.1. Percentage of Poles spending different amount of time every day watching television between 2005 and 2015 for people of age 18 and above

Year	The amount of time spent on watching TV			
	Don't watch	Up to 2 hours	2-3 hours	3 and more hours
2005	2.6	40.3	26.1	30.9
2007	2.7	42.2	25.8	29.4
2009	3.7	39.9	26.1	30.3
2011	3.4	39.6	26.1	30.9
2013	4.3	36.5	26.8	32.4
2015	5.2	38.2	25.8	30.7



Source: *European Social Survey* 2014; 41% on average.

Figure 5.11.1. Percentage of persons of age 16 and above watching television more than 2 hours per day for 15 countries in 2014.

The amount of television watching time depends on certain socio-demographic factors. We created an indicator of “hard” TV viewer (3 or more hours per day watching television) and we checked which groups have the highest number of such viewers, and which ones have the lowest (Table 5.11.2.). The indicator that differentiates the most is social status. Compared to the employees of the public sector, there are much more “hard” TV viewers among the unemployed and other professionally inactive as well as the retirees and pensioners (two or two and a half times more), but also among the private sector employees. The numbers are also higher in large towns compared to the largest agglomeration and rural areas. The higher the education level, the lower the percentage of the “hard” TV viewers, and the older the persons, the higher the percentage. Married and widowed people spent less time watching TV compared to single people. There are 7.5% less “hard” TV viewers among women than it is among men.

Table 5.11.2. Logistic analysis results of probability of being a “hard” TV viewer (spending more than 3 hours a day on watching TV) in section of various socio-demographic groups

Predictor	p	Exp(B)
Man	Ref.	
Woman	0.018	0.925
Age up to 24	Ref.	
Age 25-34 y.o.	0.001	1.285
Age 35-44 y.o.	0.000	1.353
Age 45-59 y.o.	0.000	1.600
Age 60-64 y.o.	0.000	1.976
Age 65+ y.o.	0.000	2.253
Primary and lower education	Ref.	
Basic vocational/lower secondary education	0.007	0.873
Secondary education	0.000	0.679
Higher and post-secondary education	0.000	0.459
Towns of more than 500k	Ref.	
Towns of 200-500k	0.001	1.257
Towns of 100-200k	0.022	1.177
Towns of 20-100k	0.693	0.977
Towns of fewer than 20k	0.138	1.101
Rural areas	0.000	0.709
Single	Ref.	
Married	0.000	0.767
Widowed	0.015	0.840
Divorced	0.540	1.052
Public sector	Ref.	
Private sector	0.005	1.183
Private entrepreneurs	0.155	0.871
Farmers	0.885	0.986
Retirees	0.000	2.595
Pensioners	0.000	2.228
Students	0.261	1.121
Unemployed	0.000	2.615
Other professionally inactive	0.000	2.426
Constant	0.000	0.513
Total variables explained Cox & Snell $R^2$ x 100	9.1	
Total variables explained Nagelkerke $R^2$ x 100	12.8	

Does watching television favour the feeling of happiness or vice versa – do the unhappy spend more time in front of the television screen? This question has not yet been answered by the researchers. There are theories (e.g. Mandler, 1978; Nesse, Williams, 1994<sup>70</sup>; Postman, 1986) that actually place the blame for the epidemic of depression, generally poor psychological condition and low quality of life on television. Its dysfunctional role are demonstrated by the results of various empirical studies (e.g. Kubey and Csikszentmihalyi 1990; Robinson, Martin, 2008). Data from *Diagnosis* shows that the link between psychological well-being and television watching time is non-linear with control of age and gender; people who do not watch television have similarly low indicators of psychological well-being as those who spend many hours every day watching TV. They include a larger percentage of people discouraged and dissatisfied with life, suffering from depression and unhappy compared to group of the “moderate” television viewers (Figures 5.11.2. - 5.11.4.).

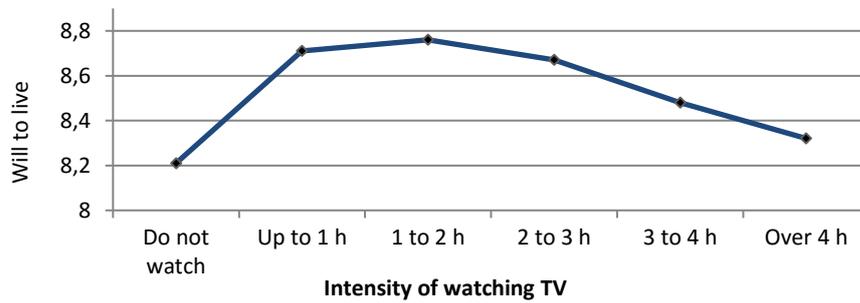
The amount of time spent watching television is also related to the health indicator (Figures 5.11.6. – 5.11.10.). those who do not watch television and the ones who watch it for more than two hours a day are less satisfied with the condition of their health, suffer from higher number of pathological symptoms, more often belong to the group of disabled people. Time of watching television is also linearly related to obesity and physical activity: the lowest percentage of the obese and the highest percentage of those who do sports is found for people who do not watch TV at all, and the highest percentage of the obese and the lowest percentage of those who do sports belongs to people who spend more than here hours a day watching TV.

The highest levels of stress are experienced by people who do not watch TV or watch it rarely (Figure 5.11.11.). Task-focused strategy of solving problems is implemented by the moderate viewers, and the emotional strategy, most

<sup>70</sup> “Mass communications, especially television and movies, effectively make us all one competitive group even as they destroy our more intimate social networks. In the ancestral environment you would have had a good chance at being the best at something. Even if you were not the best, your group would likely value your skills. Now we all compete with those who are the best in the world. Watching these successful people on television arouses envy. Envy probably was useful to motivate our ancestors to strive for what others could obtain. Now few of us can achieve the goals envy sets for us, and none of us can attain the fantasy lives we see on television.” (Nesse, Williams, 1994, p. 220).

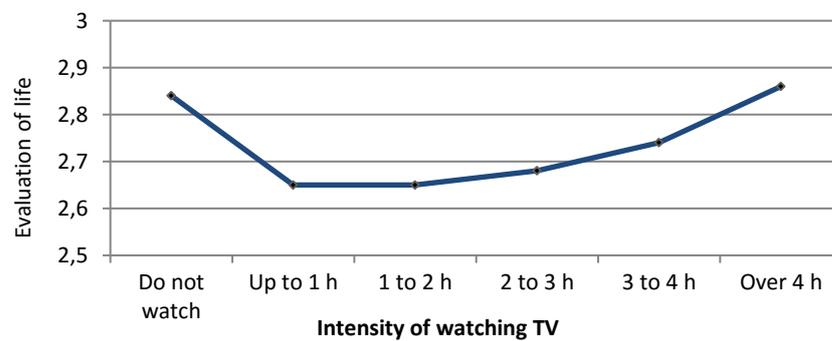
often by the “hard” viewers (Figure 5.11.12.). loneliness can be experienced by the “hard” TV viewers and by those who do not watch it at all (Figure 5.11.13.).

In accordance with Robert Putman's (1995, 2000) thesis, television also undermines social capital (see chapter 6.3). In this case, as with that of obesity, the relation is linear as the more time spent watching TV, the smaller the trust in people and the lower the general level of social capital<sup>71</sup> (see chapter 6.3.)(Figure 5.11.14.).



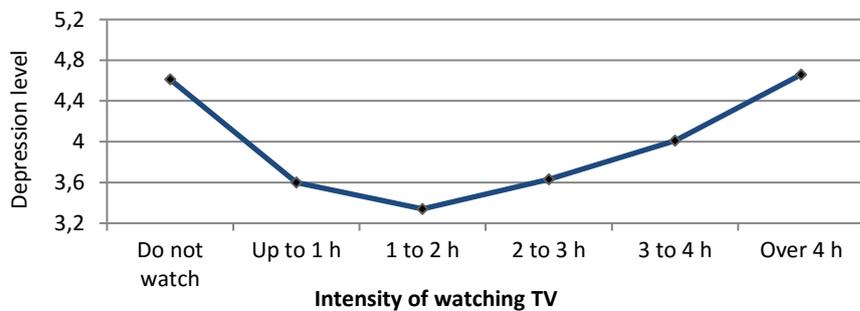
NOTES: the effect of the intensity of watching television,  $F(5, 21545)=43.670, p<0.000, \eta^2=0.010$ ; the control variables: age and gender

Figure 5.11.2. The intensity of watching television and the desire to live with the control of gender and age



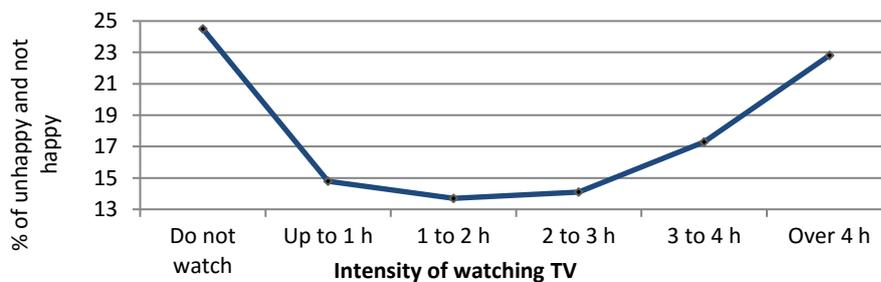
NOTES: life assessment scale inversely directed (the higher the value the lower the rating). the effect of the intensity of watching television,  $F(5, 21543)=28.599, p<0.000, \eta^2=0.007$ ; the control variables were age and gender.

Figure 5.11.3. The intensity of watching television and evaluation of the whole life with the control of gender and age



NOTES: the effect of the intensity of watching television,  $F(5, 21296)=104.182, p<0.000, \eta^2=0.024$ ; the control variables: age and gender.

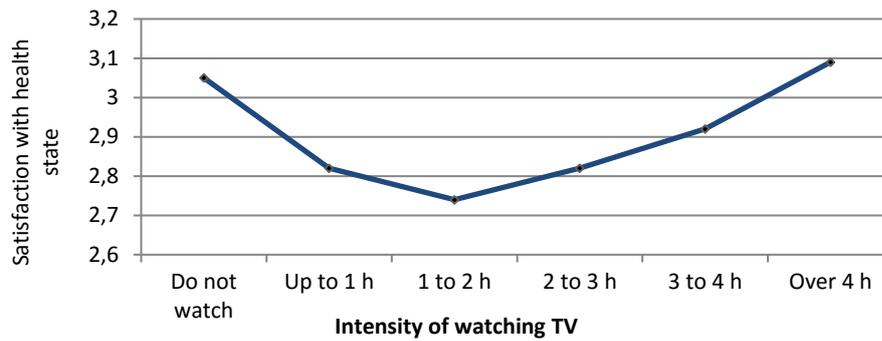
Figure 5.11.4. The intensity of watching television and the intensity of the symptoms of depression with the control of age and gender



NOTES: the effect of the intensity of watching television,  $F(5, 21547) = 43,782, p = \eta^2, 0.000 < 0,010$ ; the control variables: age and gender.

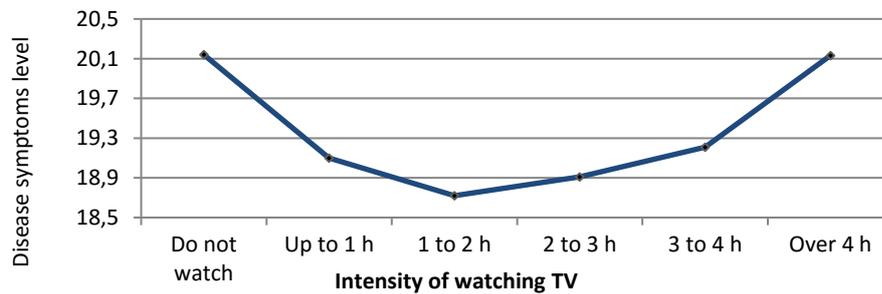
Figure 5.11.5. The intensity of watching television and a sense of unhappiness with the control of gender and age

<sup>71</sup> Construction of the indicator see Chapter 9.1.



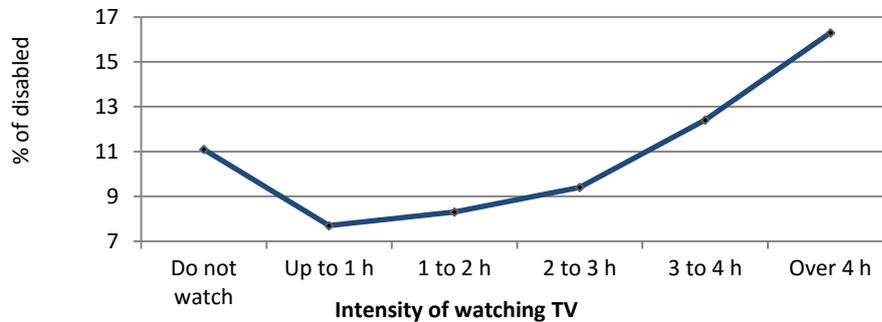
NOTES: the scale of satisfaction with health status is addressed: the lower the value, the greater the satisfaction; the effect of the intensity of watching television,  $F(5, 21493)=51.982, p<0.000, \eta^2=0.012$ ; the control variables: age and gender.

Figure 5.11.6. The intensity of watching television and satisfaction with one's own health status with the control of gender and age



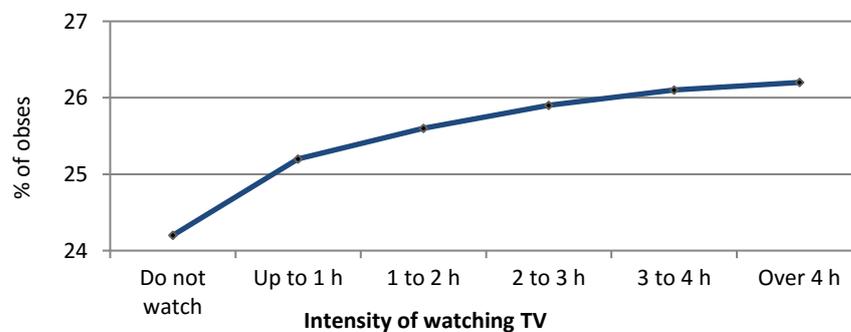
NOTES: the effect of the intensity of watching television,  $F(5, 21236)=65.382, p<0.000, \eta^2=0.015$ ; the control variables: age and gender.

Figure 5.11.7. The intensity of watching television and the symptoms of the disease disorders with the control of gender and age



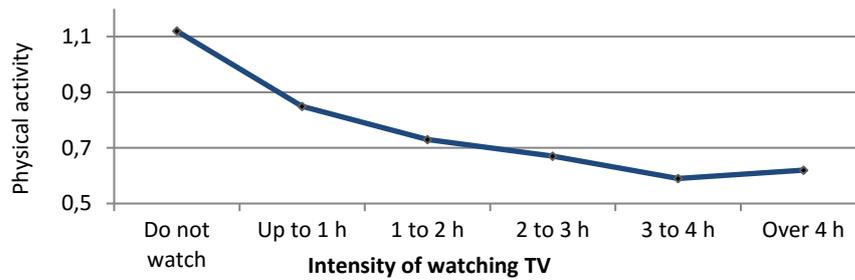
NOTES: the effect of the intensity of watching television,  $F(5, 21236)=65.382, p<0.000, \eta^2=0.015$ ; the control variables: age and gender.

Figure 5.11.8. Intensity of TV use and disability with the control of age and gender



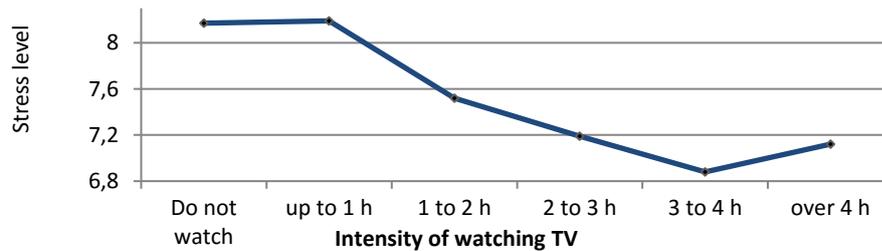
NOTES: the effect of the intensity of watching television,  $F(5, 21408)=9.182, p<0.000, \eta^2=0.002$ ; the control variables: age and gender.

Figures 5.11.9. Intensity of TV use and level of obesity with the control of age and gender



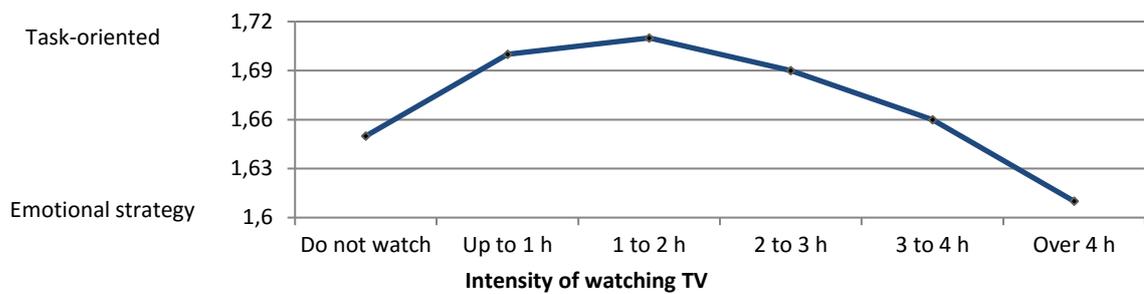
NOTES: the effect of the intensity of watching television,  $F(5, 21569)=61.482$ ,  $p<0.000$ ,  $\eta^2=0.014$ ; the control variables: age and gender.

Figure 5.11.10. Intensity of TV use and level of physical activity with the control of age and gender



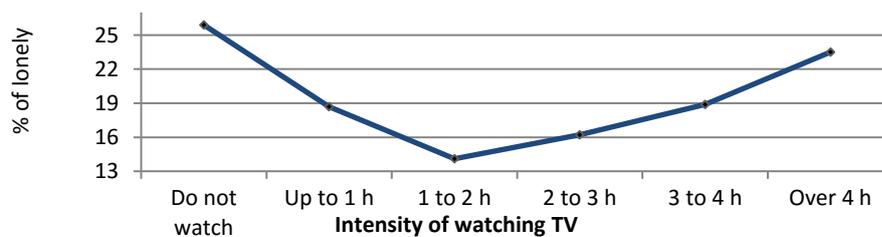
NOTES: the effect of the intensity of watching television,  $F(5, 20966)=24.482$ ,  $p<0.000$ ,  $\eta^2=0.006$ ; the control variables: age and gender.

Figure 5.11.11. Intensity of TV use and level of stress with the control of age and gender



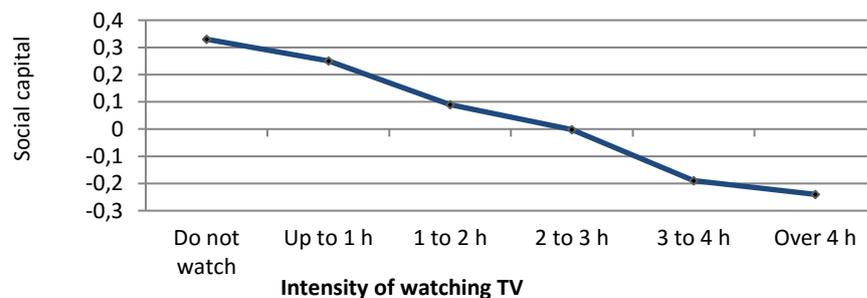
NOTES: the effect of the intensity of watching television,  $F(5, 21125)=20.882$ ,  $p<0.000$ ,  $\eta^2=0.005$ ; the control variables: age and gender

Figure 5.11.12. Intensity of TV use and type of coping strategy with the control of age and gender



NOTES: the effect of the intensity of watching television,  $F(5, 21207)=38.682$ ,  $p<0.000$ ,  $\eta^2=0.009$ ; the control variables: age and gender

Figure 5.11.13. Intensity of TV use and the sense of loneliness with the control of age and gender



NOTES: the effect of the intensity of watching television,  $F(5, 20994)=116.855$ ,  $p<0.000$ ,  $\eta^2=0.027$ ; the control variables: age and gender.

Figure 5.11.14. Intensity of TV use and level of social capital with the control of age and gender

## 5.12. Socio-psychological profile of selected professions

In the sample of professionally active people we identified 51 professional groups, each represented by at least 70 respondents (Table 5.12.1.). We counted their average age, education level (years of study), share of women, share of single persons, married and divorced couples including those living in formal or informal separation, share of internet users, percentage of those with active foreign language abilities, percentage of those overweight by BMI, number of friends, the share of those who trust people, those who believe in the superiority of democracy over other forms of government, percentage of perpetrators and victims of crimes, monthly frequency of religious practices, monthly net income per capita, percentage of those satisfied with the financial situation of their families, number of working hours in a week, percentage of people who changed their job in the past two years (for year 2011, in four years), percentage of satisfied with their work, stress related with work, percentage of planning to go abroad to work in the next two years, percentage of unemployed in the past two years, time in minutes that takes the journey to and from work, the number of somatic symptoms lasting at least two weeks in the last month, percentage of those satisfied with their health, with their own achievements, with the future perspective and with the situation in the country, the share of those with suicidal thoughts in recent months, intensity of psychological depression symptoms, percentage of those who are very happy, percentage of smokers and abusing alcohol. To compare we also measured for all of those variables the data from 2011 (with the exception of time that takes the journey to and from work as four years ago we did not ask that question).

In other part of the report the data can be found on the differentiation of these professional groups in terms of the quality of life (chapter 9.1 and Appendix 5).

All professional groups display marked differences in terms of these indicators (Table 5.12.1.). The youngest, with an age average less than 35 are IT specialists, hairdressers, cosmeticians and waiters, barmen and stewardesses, and the oldest with an average of over 47 are household helpers, cleaners, security workers, nurses and subsistence farmers.

The highest education (more than 17.5 years of studying) have academic teachers, lawyers, creators and doctors, and the lowest (less than 11 years of studying) subsistence farmers and auxiliary workers in mining and construction.

The least feminised (less than 3% women) are the auxiliary workers in mining and construction, construction workers, truck, bus, personal car and delivery driver professionals, machine and equipment mechanics, while the most women (more than 90%) work as personal care professionals, hairdressers and cosmeticians, nurses and mid-level financial personnel (accountants). Among the professions with high social status women predominate in the group of doctors (52%), business and administration specialists (75%), financial specialists (74%), lawyers (66%), and creators (69%), and men among the authorities and upper management staff (72%), engineers, architects, designers and related professionals (77%) and IT specialists (87%).

The share of single people strongly correlates to age, so it is not surprising that the greatest share of singles finds employment in the “youngest” professions as creators, waiters and IT specialists. Fewest singles work as authority representatives and directors, railway workers, nurses and midwives, house care and cleaners. The most married are authority representatives and directors, managers, subsistence farmers and bus and truck drivers, and the least are waiters, barmen and stewards and creators. The greatest divorce and separation readings are among creators, lawyers, nurses and midwives and housecare and cleaners, and the lowest among Smelters and welders, personal car and delivery drivers and farmers.

The highest number of the internet users is off course among academic teachers, engineers, architects, designers and creators, teachers and IT specialists, while the lowest, below 50%, is among farmers, house care and cleaners.

The best language skills have creators, lawyers, academic teachers, marketing specialists, IT and financial specialists (at least 70% use a foreign language with fluency). Farmers, house care and cleaners and food processing workers use foreign languages the least often.

The highest number of people with I, II and III degree of obesity is among security staff and authority representatives and directors, and the lowest among financial specialists, waiters, barmen and stewards.

The highest number of friends have creators, academic teachers, machinery operators and authority representatives and directors, while the least friends have mid-level financial personnel, waiters, barmen and stewards, and secondary education teachers.

The level of general trust in others in Poland is one of the lowest in Europe and in this context only academic teachers, creators, artists, writers, journalists and IT specialists come out positively. Most lacking in trust are operators of machineries, blacksmiths and lathe operators, and food processing workers.

Democracy speaks most to creators, lawyers, marketing specialists and representatives of authority and directors (over 60% agreeing with the statement that democracy as a system is better than all other forms of government). The least positive attitude to democracy is characteristic of farmers and unqualified workers.

Mining and construction machinery operators, academic teachers and operators of other equipment are prone to breaking the law most often (over 10% of perpetrators) and least often hairdressers and cosmeticians, housecare and cleaners and subsistence farmers.

The victims of crimes are mostly auxiliary workers in mining and construction, IT specialists and authority representatives and directors, as well as security officers.

Subsistence farmers most frequently go to church (on average around 4 times a month), followed by the primary school teachers farmers of plant crops and cattle, housecare and cleaners and nurses and midwives. Marketing specialists, doctors, agents and salespersons in trade and business, creators and IT specialists are the least religious.

The level of income is strongly correlated with satisfaction with the financial situation of the family (in the section of 51 groups in 2011  $r=0.82$ , in 2015  $r=0.75$ ). The highest percentage of satisfied and very satisfied with the financial situation of the family is among doctors, authority representatives and directors, lawyers and academic teachers and other specialists, and the lowest among cooks, waiters, barmen, stewards and farmers of plant crops and cattle.

Drivers, construction workers (finish), authority representatives and directors and security staff work the highest amount of hours in a week (at least 45h), on the other hand, subsistence farmers, housecare and cleaners and teachers work the least (no more than 35h).

Work place is changed most often by lawyers, IT specialists, auxiliary workers in mining and construction, and the least often by farmers and academic teachers.

The largest share (over 65%) of those satisfied with their job are the doctors, hairdressers and cosmeticians, post-primary school and academic teachers, representatives of the authorities and directors, and the smallest (less than 32%) among subsistence farmers, auxiliary workers in mining and construction and textile production workers.

The most stressful professions are timber, paper and pulp workers, carpenters, auxiliary workers in mining and construction, blacksmiths and lathe operators and nurses and midwives, and the list are hairdressers and cosmeticians and IT specialists and similar.

Those most often preparing to work abroad in the next two years are construction workers, academic teachers, truck and bus drivers and IT specialists. Representatives of the authorities and directors, primary school teachers and nurses and midwives hardly think of working abroad at all.

Between 2013-2014, one in four mining and construction auxiliary worker, and one in five other unqualified and construction (raw state) worker was out of work. In that period the least often registered as unemployed were representatives of the authorities and directors, nurses and midwives, farmers and teachers.

Somatic symptoms lasting at least half a month most often complain personal care workers, household helpers and cleaners, creators, subsistence farmers, administration and management specialists, so mainly representatives of the most feminised professions (between 45% and 98% women). At the other end of the scale, most healthy are bus and truck drivers, railway workers, auxiliary workers in mining and construction, representatives of the authorities, machinery operators and construction workers (finish), therefore representatives of the least feminised professions.

Going and returning from work takes the most time to academic teachers, lawyers, financial specialists and mining machinery and equipment operators. Off course farmers have their work closest to home.

Construction workers, academic teachers and truck and bus drivers suffer the most from severe pathological symptoms; representatives of the authorities and directors, primary school teachers and nurses and midwives suffer the least.

The highest percentage of satisfied and very satisfied with their health is among lawyers, machine and equipment mechanics and technicians, and the lowest among academic teachers, subsistence farmers and representatives of the authorities and directors.

Over 2/3 of lawyers, academic teachers, various specialist, doctors, creators, artists, writers and journalists are satisfied or very satisfied with their life achievements, while the least satisfied are manual laborers, personal care workers, waiters, barmen and stewards.

The most optimistic attitude towards the future is found among representatives of the authorities and directors, lawyers, other specialists and doctors (over 45% satisfied or very satisfied with their future perspective). The least optimistic are auxiliary workers in mining and construction, personal care workers, mining machinery and equipment operators.

With generally very negative evaluation of the situation in the country the least critical are creators, other specialists and lawyers, and the most critical are waiters, barmen and stewards, assemblers, personal care workers and cooks.

Creators, personal care workers and unqualified workers are most prone to having suicidal thoughts, while representatives of the authorities and directors, IT specialists and engineers, architects, designers are the least.

The most happy people are among doctors, engineers, primary school teachers and IT specialists, and the least are farmers and unqualified workers.

Nicotine addiction is the highest among unqualified workers and construction workers (raw state), and the lowest among lawyers, (only 7% of smokers) primary school teachers, financial specialists and engineers, architects, designers.

Creators, artists, writers and journalists, mining machinery and equipment operators, representatives of the authorities and directors and doctors abuse alcohol most often; least often, on the other hand, personal care workers, textile production workers, hairdressers and cosmeticians, housecare and cleaners and nurses and midwives.

Table 5.12.1. Characteristics of representatives of 50 professions and professional groups

Current occupation	Age		Years of education		% of women	
	2015	2011	2015	2011	2015	2011
Authority representatives and directors	46.2	47.0	16.2	16.9	28	23
Managers of various specialisations	43.1	41.3	15.5	15.4	39	36
Engineers, architects, designers and related professionals	38.3	39.8	17.1	17.1	23	32
Doctors, vets and dentists	45.3	46.4	17.7	17.8	52	59
Nurses and midwives	48.4	44.4	14.8	14.4	97	95
Other health professionals	38.9	41.1	16.1	15.2	72	83
Academic teachers	45.0	44.5	19.7	19.0	50	41
Secondary school teachers	45.0	42.2	17.5	17.4	69	68
Primary school teachers	42.3	41.3	17.3	17.1	82	84
Business and management specialists	39.2	37.9	17.1	16.9	75	69
Financial specialists	38.5	38.6	16.8	17.0	74	61
Marketing specialists	37.4	35.7	16.8	17.1	58	57
IT and related specialists	34.9	34.2	16.4	15.8	13	10
Lawyers	39.6	39.1	18.3	17.8	66	68
Other specialists	39.9	39.9	17.3	16.6	70	77
Creators, artists, writers and journalists	43.4	41.8	17.8	16.8	69	62
Technicians and associate professionals	42.8	41.6	13.8	13.6	21	20
Mid-level financial personnel	43.1	41.9	15.4	14.9	93	89
Agents and salespersons in trade and business	38.5	39.4	15.0	14.2	44	39
Civil servants	42.0	40.1	15.2	15.2	51	49
Other mid-level personnel	40.0	42.0	15.7	14.4	68	69
Office service workers	39.3	38.0	14.5	14.4	82	78
Material recording and transport clerks	39.5	37.7	12.9	12.6	22	29
Cooks	44.0	38.7	11.8	11.9	79	79
Waiters, bartenders and stewards	30.4	35.6	13.9	12.7	85	64
Hairdressers and cosmeticians	34.3	32.8	12.6	12.6	98	96
Sales Workers	37.7	37.0	12.9	12.8	78	70
Personal care workers	41.9	42.9	13.4	12.4	97	92
Security staff (firemen, police and related)	48.0	44.4	12.5	12.6	9	18
Farmers of plant crops	45.3	45.3	11.7	11.6	45	43
Farmers of plant crops and cattle	45.8	44.0	11.3	11.0	46	46
Subsistence farmers	51.3	47.5	10.5	10.5	44	48
Construction workers – raw state	40.6	40.4	11.2	11.2	1	1
Construction workers – finish	38.9	38.3	11.9	11.4	0	0
Blacksmiths and lathe operators	42.1	43.8	11.8	11.6	4	6
Smelters and welders	41.4	40.5	11.5	11.6	5	5
Other unclassified workers	43.7	42.8	11.1	11.1	26	28
Machine and equipment mechanics	38.9	38.6	12.1	11.7	1	3
Electricians and electronics specialists	40.1	40.2	13.0	12.5	9	9
Food processing workers	41.5	37.1	11.3	11.7	43	36
Timber, paper and pulp workers	39.7	37.4	11.8	11.7	15	8
Textile production workers	43.8	42.3	11.6	11.6	75	88
Mining machinery and equipment operators	40.4	40.7	12.4	11.9	4	1
Operators of other machinery and equipment	38.9	40.3	12.1	11.8	18	17
Assembly workers	39.6	37.6	11.8	12.1	43	43
Drivers of personal and delivery vehicles	43.4	42.7	11.9	11.8	2	1
Bus and truck drivers	43.5	41.3	11.7	11.6	1	0
Housecare and cleaners	48.3	46.9	11.2	10.9	90	93
Auxiliary workers in mining and construction	36.9	37.4	10.7	10.9	2	2
Other manual labourers	41.4	37.4	11.4	11.3	57	47
Total	41.6	40.8	13.6	13.3	46	45

Table 5.12.1. Characteristics of representatives of 50 professions and professional groups continued

Current profession	% of single persons		% of married persons		% of divorced	
	2015	2011	2015	2011	2015	2011
Authority representatives and directors	8	7	90	84	3	6
Managers of various specialisations	14	17	82	76	4	5
Engineers, architects, designers and related professionals	38	30	58	64	3	3
Doctors, vets and dentists	28	28	61	59	7	7
Nurses and midwives	10	13	76	77	9	7
Other health professionals	27	26	66	62	5	8
Academic teachers	30	25	62	68	6	3
Secondary school teachers	20	18	71	75	6	7
Primary school teachers	20	21	74	71	4	6
Business and management specialists	18	29	77	64	5	5
Financial specialists	30	26	65	71	5	3
Marketing specialists	32	33	63	61	5	5
IT and related specialists	41	44	57	53	2	2
Lawyers	24	21	66	69	10	9
Other specialists	30	32	64	58	5	6
Creators, artists, writers and journalists	48	50	41	31	12	14
Technicians and associate professionals	29	24	63	72	6	2
Mid-level financial personnel	18	22	67	70	9	5
Agents and salespersons in trade and business	31	22	64	69	4	7
Civil servants	17	17	74	73	8	7
Other mid-level personnel	41	19	51	70	5	2
Office service workers	23	32	65	58	8	5
Material recording and transport clerks	30	33	66	59	2	4
Cooks	20	29	69	61	6	6
Waiters, bartenders and stewards	72	45	23	45	3	7
Hairdressers and cosmeticians	36	32	62	61	2	6
Sales Workers	33	31	60	61	6	5
Personal care workers	21	19	64	58	7	19
Security staff (firemen, police and related)	22	14	69	76	6	6
Farmers of plant crops	16	18	80	77	1	1
Farmers of plant crops and cattle	18	18	77	77	2	2
Subsistence farmers	21	23	73	66	1	3
Construction workers – raw state	32	21	65	74	2	5
Construction workers – finish	33	25	59	71	7	2
Blacksmiths and lathe operators	31	21	63	75	4	4
Smelters and welders	25	20	75	73	0	6
Other unclassified workers	27	32	66	59	5	8
Machine and equipment mechanics	31	34	66	62	2	3
Electricians and electronics specialists	25	24	70	69	3	4
Food processing workers	21	21	71	76	4	2
Timber, paper and pulp workers	30	33	65	64	5	3
Textile production workers	14	14	77	75	4	7
Mining machinery and equipment operators	30	17	67	80	2	2
Operators of other machinery and equipment	31	30	66	65	3	4
Assembly workers	31	35	62	59	3	2
Drivers of personal and delivery vehicles	24	23	73	74	1	2
Bus and truck drivers	15	16	80	79	3	4
Housecare and cleaners	12	9	68	73	9	8
Auxiliary workers in mining and construction	46	42	52	49	2	8
Other manual labourers	29	31	56	55	10	7
Total	26	24	67	68	5	5

Table 5.12.1. Characteristics of representatives of 50 professions and professional groups continued

Current profession	% of internet users		% of those with command of languages		% of obese	
	2015	2011	2015	2011	2015	2011
Authority representatives and directors	95	97	56	66	24	26
Managers of various specialisations	98	95	53	47	15	16
Engineers, architects, designers and related professionals	100	98	68	62	12	9
Doctors, vets and dentists	96	94	64	75	14	13
Nurses and midwives	88	83	25	26	16	14
Other health professionals	96	90	52	49	10	8
Academic teachers	100	96	91	85	12	4
Secondary school teachers	97	98	48	53	16	10
Primary school teachers	99	95	53	47	15	9
Business and management specialists	98	99	60	65	13	10
Financial specialists	98	100	72	52	3	8
Marketing specialists	99	100	78	70	9	10
IT and related specialists	99	99	81	59	13	9
Lawyers	98	98	76	72	10	10
Other specialists	99	98	56	61	10	6
Creators, artists, writers and journalists	100	100	90	78	16	11
Technicians and associate professionals	91	91	41	35	13	19
Mid-level financial personnel	98	96	48	39	13	12
Agents and salespersons in trade and business	99	97	45	47	14	13
Civil servants	99	94	36	43	18	15
Other mid-level personnel	92	88	48	44	15	6
Office service workers	96	91	38	40	12	9
Material recording and transport clerks	88	80	23	28	11	16
Cooks	68	59	14	16	18	14
Waiters, bartenders and stewards	98	90	60	48	4	8
Hairdressers and cosmeticians	91	71	37	26	16	0
Sales Workers	88	81	31	32	12	11
Personal care workers	81	70	37	27	15	8
Security staff (firemen, police and related)	72	72	27	26	32	25
Farmers of plant crops	55	45	19	17	22	18
Farmers of plant crops and cattle	49	37	12	13	22	16
Subsistence farmers	32	27	8	8	22	15
Construction workers – raw state	63	56	17	14	16	13
Construction workers – finish	77	69	26	15	15	14
Painters and related	71	66	22	19	10	13
Blacksmiths and lathe operators	78	60	21	15	16	20
Smelters and welders	73	66	14	13	12	15
Other unclassified workers	52	43	14	22	22	17
Machine and equipment mechanics	79	75	24	22	18	23
Electricians and electronics specialists	87	74	28	23	12	14
Food processing workers	70	64	12	11	14	24
Timber, paper and pulp workers	69	63	14	15	17	13
Textile production workers	72	54	19	11	15	14
Mining machinery and equipment operators	75	71	22	10	22	22
Operators of other machinery and equipment	79	64	25	13	18	19
Assembly workers	79	70	18	19	12	14
Drivers of personal and delivery vehicles	75	71	23	22	22	22
Bus and truck drivers	74	64	24	25	23	24
Housecare and cleaners	48	44	10	10	15	13
Auxiliary workers in mining and construction	69	46	17	14	22	9
Other manual labourers	63	52	15	16	18	13
Total	81	74	34	31	16	14

Table 5.12.1. Characteristics of representatives of 50 professions and professional groups continued

Current profession	Number of friends		% of those trusting others		% of democracy supporters	
	2015	2011	2015	2011	2015	2011
Authority representatives and directors	7.9	9.3	20	25	60	53
Managers of various specialisations	6.1	7.8	21	19	50	44
Engineers, architects, designers and related professionals	7.3	8.5	19	16	46	46
Doctors, vets and dentists	7.3	5.6	23	26	56	57
Nurses and midwives	5.6	7.0	13	16	34	30
Other health professionals	5.5	6.2	18	21	47	38
Academic teachers	8.7	6.4	32	21	49	44
Secondary school teachers	5.3	6.3	21	26	47	51
Primary school teachers	6.9	6.7	24	17	47	48
Business and management specialists	5.8	8.2	22	21	47	39
Financial specialists	5.9	7.0	20	18	53	55
Marketing specialists	6.7	6.7	26	23	61	54
IT and related specialists	6.9	7.0	27	22	39	55
Lawyers	6.4	5.7	12	16	73	68
Other specialists	7.9	6.7	24	26	56	53
Creators, artists, writers and journalists	9.0	8.0	28	20	77	71
Technicians and associate professionals	5.6	7.0	18	12	46	40
Mid-level financial personnel	4.8	6.3	12	16	46	40
Agents and salespersons in trade and business	7.6	6.7	19	14	52	46
Civil servants	6.1	6.6	11	13	46	42
Other mid-level personnel	6.1	7.8	31	17	45	38
Office service workers	5.6	6.6	13	13	30	33
Material recording and transport clerks	5.9	7.6	20	13	34	27
Cooks	5.4	6.2	10	15	26	11
Waiters, bartenders and stewards	5.2	6.4	14	13	29	21
Hairdressers and cosmeticians	6.0	6.8	18	21	35	33
Sales Workers	5.8	6.7	13	12	29	30
Personal care workers	5.6	5.0	21	9	22	18
Security staff (firemen, police and related)	6.1	6.2	12	10	34	26
Farmers of plant crops	7.2	7.8	12	15	26	28
Farmers of plant crops and cattle	6.6	7.5	13	11	19	20
Subsistence farmers	7.0	7.8	10	8	13	14
Construction workers – raw state	6.9	7.6	11	9	22	25
Construction workers – finish	7.0	6.5	15	13	23	29
Blacksmiths and lathe operators	7.1	7.7	6	9	25	24
Smelters and welders	6.3	7.1	11	10	25	23
Other unclassified workers	6.9	6.1	16	12	18	16
Machine and equipment mechanics	7.3	6.6	16	13	20	24
Electricians and electronics specialists	6.0	6.6	17	15	32	32
Food processing workers	6.5	7.1	9	13	24	27
Timber, paper and pulp workers	6.1	6.6	13	10	23	26
Textile production workers	5.9	6.5	14	11	25	17
Mining machinery and equipment operators	8.1	6.8	5	10	27	18
Operators of other machinery and equipment	7.2	7.3	15	15	30	26
Assembly workers	5.6	6.7	16	15	25	17
Drivers of personal and delivery vehicles	7.0	7.3	15	10	32	30
Bus and truck drivers	6.2	7.1	12	9	30	24
Housecare and cleaners	5.7	6.7	14	11	24	22
Auxiliary workers in mining and construction	5.4	7.5	25	10	20	19
Other manual labourers	5.9	6.8	14	13	17	21
Total	6.4	7.0	16	14	34	32

Table 5.12.1. Characteristics of representatives of 50 professions and professional groups continued

Current profession	% of breaking the law		% of victims		Frequency of religious practices	
	2015	2011	2015	2011	2015	2011
Authority representatives and directors	4.9	10.2	8.4	4.8	1.9	2.2
Managers of various specialisations	6.7	9.6	3.6	8.2	2.0	2.1
Engineers, architects, designers and related professionals	10.0	6.0	7.2	5.3	2.2	1.8
Doctors, vets and dentists	9.3	3.3	7.2	7.5	1.3	1.9
Nurses and midwives	2.5	3.1	4.7	2.2	3.0	2.5
Other health professionals	8.8	2.6	5.0	3.2	2.1	2.4
Academic teachers	12.0	5.2	6.0	3.9	2.0	2.2
Secondary school teachers	4.1	3.2	4.3	8.0	2.9	2.9
Primary school teachers	4.7	6.1	3.4	5.0	3.5	3.0
Business and management specialists	4.7	2.7	5.0	4.4	1.9	1.8
Financial specialists	6.7	9.4	6.0	7.7	1.9	2.0
Marketing specialists	7.4	14.0	5.0	6.8	1.1	1.7
IT and related specialists	9.2	3.6	9.1	1.5	1.5	1.6
Lawyers	6.9	10.7	4.1	4.7	1.7	1.9
Other specialists	6.9	0.3	3.4	3.1	2.9	3.6
Creators, artists, writers and journalists	7.1	11.4	5.8	6.5	1.5	1.4
Technicians and associate professionals	7.7	7.7	5.9	4.7	2.0	2.1
Mid-level financial personnel	3.0	4.1	2.0	3.8	2.8	2.7
Agents and salespersons in trade and business	10.4	7.7	5.3	2.3	1.5	1.7
Civil servants	3.1	3.4	3.4	3.2	1.8	1.9
Other mid-level personnel	6.6	4.2	2.0	5.4	3.2	3.6
Office service workers	5.6	4.1	3.7	2.1	2.3	2.3
Material recording and transport clerks	10.0	9.0	3.6	6.7	2.0	1.8
Cooks	3.7	8.3	0.0	4.6	2.5	3.3
Waiters, bartenders and stewards	6.8	14.0	2.0	7.5	1.6	2.0
Hairdressers and cosmeticians	0.3	9.1	2.6	5.4	2.2	1.9
Sales Workers	5.6	3.7	2.9	4.7	2.2	2.1
Personal care workers	3.6	2.1	1.9	2.3	2.9	2.4
Security staff (firemen, police and related)	7.1	4.2	8.2	6.3	1.8	1.9
Farmers of plant crops	6.1	3.3	3.6	1.8	2.6	2.9
Farmers of plant crops and cattle	4.2	5.7	1.4	3.0	3.1	3.0
Subsistence farmers	1.3	3.5	2.1	4.0	4.2	4.0
Construction workers – raw state	6.3	7.0	5.2	3.8	2.0	2.1
Construction workers – finish	11.3	9.2	5.1	6.2	1.9	1.7
Blacksmiths and lathe operators	3.5	7.6	2.5	4.2	2.3	2.4
Smelters and welders	9.1	9.2	2.4	5.3	1.8	2.3
Other unclassified workers	4.2	9.0	2.0	6.6	1.8	1.9
Machine and equipment mechanics	10.1	7.2	4.5	4.2	2.1	1.8
Electricians and electronics specialists	8.5	5.6	6.3	2.9	2.1	2.0
Food processing workers	6.5	7.7	0.8	5.7	2.5	2.8
Timber, paper and pulp workers	7.1	10.0	0.4	5.2	2.0	2.1
Textile production workers	4.6	3.4	3.4	1.3	2.4	2.8
Mining machinery and equipment operators	13.7	11.8	1.2	9.5	2.5	2.1
Operators of other machinery and equipment	12.0	7.4	5.5	4.5	2.1	2.1
Assembly workers	3.6	4.9	1.9	6.0	2.2	1.8
Drivers of personal and delivery vehicles	8.6	11.4	4.0	9.0	1.8	1.8
Bus and truck drivers	8.9	13.4	4.1	7.8	2.1	2.0
Housecare and cleaners	1.3	3.4	0.4	3.8	3.1	2.8
Auxiliary workers in mining and construction	10.0	17.7	11.9	8.9	1.6	1.4
Other manual labourers	7.3	9.8	5.4	4.5	2.4	2.5
Total	6.5	6.6	3.9	4.7	2.3	2.3

Table 5.12.1. Characteristics of representatives of 50 professions and professional groups continued

Current profession	Monthly net income		% of satisfied with financial situation		Number of hours at work during a week	
	2015	2011	2015	2011	2015	2011
Authority representatives and directors	5539	6382	61	62	45	45
Managers of various specialisations	3866	3419	46	49	43	45
Engineers, architects, designers and related professionals	3425	3122	39	41	44	42
Doctors, vets and dentists	5542	4579	61	66	44	46
Nurses and midwives	2435	2278	34	33	41	40
Other health professionals	2415	2137	39	31	40	39
Academic teachers	4360	3632	55	49	44	40
Secondary school teachers	2752	2688	46	43	35	34
Primary school teachers	2436	2391	44	38	35	31
Business and management specialists	2726	2842	42	39	40	40
Financial specialists	3881	3225	36	44	39	40
Marketing specialists	3338	3073	37	47	41	41
IT and related specialists	3893	3036	41	33	44	42
Lawyers	4060	5632	57	50	43	46
Other specialists	2892	3106	58	34	39	38
Creators, artists, writers and journalists	3840	4042	29	25	39	37
Technicians and associate professionals	2668	2504	31	33	42	42
Mid-level financial personnel	2515	2278	39	33	39	39
Agents and salespersons in trade and business	3267	2581	40	30	41	40
Civil servants	2697	2663	38	37	40	41
Other mid-level personnel	1966	1951	21	30	37	38
Office service workers	2026	1893	33	26	39	39
Material recording and transport clerks	2245	1879	44	23	42	42
Cooks	1773	1507	21	29	42	39
Waiters, bartenders and stewards	1643	1664	23	25	36	41
Hairdressers and cosmeticians	1752	1569	32	30	38	42
Sales Workers	1723	1728	34	31	41	41
Personal care workers	1535	1306	29	25	39	37
Security staff (firemen, police and related)	2311	2249	40	30	45	44
Farmers of plant crops	1685	1413	30	30	41	42
Farmers of plant crops and cattle	1451	1308	24	25	43	42
Subsistence farmers	1548	1018	30	31	30	33
Construction workers – raw state	2486	1991	24	30	46	44
Construction workers – finish	2408	1908	33	19	44	44
Blacksmiths and lathe operators	2231	1755	24	29	42	41
Smelters and welders	2456	2474	41	33	44	46
Other unclassified workers	1930	1617	29	17	41	41
Machine and equipment mechanics	2394	1864	38	31	44	43
Electricians and electronics specialists	2569	2200	38	27	42	43
Food processing workers	2025	1934	25	31	43	42
Timber, paper and pulp workers	1907	1743	24	28	44	43
Textile production workers	1682	1410	30	24	43	40
Mining machinery and equipment operators	2541	2344	46	35	41	42
Operators of other machinery and equipment	2048	1935	36	31	43	44
Assembly workers	2027	1700	31	27	41	41
Drivers of personal and delivery vehicles	2467	2183	31	32	46	46
Bus and truck drivers	2805	2305	41	34	48	47
Housecare and cleaners	1426	1205	31	18	35	34
Auxiliary workers in mining and construction	1847	1679	25	24	44	43
Other manual labourers	1592	1410	31	23	39	40
Total	2392	2161	35	32	41	41

Table 5.12.1. Characteristics of representatives of 50 professions and professional groups continued

Current profession	% of those who changed jobs		% of satisfied with work		Stress at work	
	2015 In the last 2 years	2011 In the last 4 years	2015	2011	2015	2011
Authority representatives and directors	7	23	65	65	1.74	1.79
Managers of various specialisations	10	20	57	61	1.85	1.74
Engineers, architects, designers and related professionals	22	16	50	50	1.59	1.54
Doctors, vets and dentists	8	09	75	75	1.51	1.53
Nurses and midwives	6	12	42	54	2.14	1.99
Other health professionals	15	24	51	61	1.66	1.43
Academic teachers	4	13	66	67	1.42	1.36
Secondary school teachers	6	7	58	71	1.41	1.42
Primary school teachers	5	13	66	61	1.49	1.46
Business and management specialists	15	21	46	45	1.72	1.70
Financial specialists	13	18	54	51	1.51	1.86
Marketing specialists	12	37	40	49	1.63	1.65
IT and related specialists	24	20	55	54	1.35	1.15
Lawyers	39	16	55	66	1.96	1.69
Other specialists	5	23	64	54	1.44	1.40
Creators, artists, writers and journalists	16	22	50	50	1.52	1.06
Technicians and associate professionals	14	16	51	49	1.76	1.70
Mid-level financial personnel	12	17	51	51	1.62	1.62
Agents and salespersons in trade and business	21	25	50	45	1.72	1.63
Civil servants	8	14	52	48	1.57	1.85
Other mid-level personnel	21	14	54	61	1.53	1.48
Office service workers	15	19	42	49	1.69	1.55
Material recording and transport clerks	14	26	53	34	1.91	1.98
Cooks	16	21	45	50	1.69	1.81
Waiters, bartenders and stewards	20	25	35	41	1.98	1.99
Hairdressers and cosmeticians	13	16	71	54	1.03	0.94
Sales Workers	14	24	42	45	1.60	1.47
Personal care workers	18	30	41	49	1.45	1.42
Security staff (firemen, police and related)	13	26	45	48	1.57	1.39
Farmers of plant crops	7	5	42	48	1.58	1.38
Farmers of plant crops and cattle	3	4	36	38	1.78	1.67
Subsistence farmers	2	7	32	30	1.50	1.99
Construction workers – raw state	20	26	41	43	1.96	2.06
Construction workers – finish	19	28	41	34	1.94	1.99
Blacksmiths and lathe operators	15	17	40	39	2.18	2.23
Smelters and welders	18	22	44	38	1.94	1.95
Other unclassified workers	18	36	45	44	1.78	1.92
Machine and equipment mechanics	16	17	64	46	1.84	1.84
Electricians and electronics specialists	17	17	53	42	1.70	1.90
Food processing workers	16	19	39	40	2.01	1.87
Timber, paper and pulp workers	16	28	34	43	2.38	1.81
Textile production workers	12	17	32	33	1.87	1.95
Mining machinery and equipment operators	7	15	44	48	2.07	2.52
Operators of other machinery and equipment	14	21	38	46	1.78	1.98
Assembly workers	16	30	35	47	1.67	2.25
Drivers of personal and delivery vehicles	15	21	48	44	1.82	1.76
Bus and truck drivers	11	26	45	45	1.80	2.08
Housecare and cleaners	16	25	43	43	1.76	1.69
Auxiliary workers in mining and construction	24	41	28	32	2.34	2.13
Other manual labourers	23	28	34	37	1.71	1.87
Total	14	19	46	47	1.73	1.72

Table 5.12.1. Characteristics of representatives of 50 professions and professional groups continued

Current profession	% of those willing to migrate		% of unemployed in the last 2 years		Time of commuting to work in minutes
	2015	2011	2015	2011	2015
Authority representatives and directors	0	2	0	2	48
Managers of various specialisations	6	2	3	3	42
Engineers, architects, designers and related professionals	6	8	10	5	52
Doctors, vets and dentists	3	2	5	0	42
Nurses and midwives	1	4	0	1	46
Other health professionals	5	4	3	7	42
Academic teachers	12	5	2	2	63
Secondary school teachers	5	3	2	5	40
Primary school teachers	1	2	3	3	34
Business and management specialists	4	4	5	2	45
Financial specialists	6	4	7	3	56
Marketing specialists	7	3	3	2	47
IT and related specialists	11	3	4	8	42
Lawyers	5	1	5	3	59
Other specialists	4	3	3	5	47
Creators, artists, writers and journalists	6	2	4	4	31
Technicians and associate professionals	10	5	8	8	46
Mid-level financial personnel	5	3	6	7	43
Agents and salespersons in trade and business	5	3	9	2	45
Civil servants	3	8	6	7	49
Other mid-level personnel	8	3	11	11	34
Office service workers	9	3	8	7	41
Material recording and transport clerks	8	12	7	5	38
Cooks	6	12	10	11	27
Waiters, bartenders and stewards	8	5	18	26	31
Hairdressers and cosmeticians	5	1	10	13	33
Sales Workers	7	8	11	15	33
Personal care workers	8	11	17	19	34
Security staff (firemen, police and related)	5	4	7	6	44
Farmers of plant crops	8	5	7	5	13
Farmers of plant crops and cattle	4	4	2	2	5
Subsistence farmers	2	7	2	9	5
Construction workers – raw state	21	15	20	21	47
Construction workers – finish	15	15	11	26	50
Blacksmiths and lathe operators	10	11	7	6	41
Smelters and welders	11	17	12	11	39
Other unclassified workers	17	17	23	34	50
Machine and equipment mechanics	8	11	8	8	34
Electricians and electronics specialists	10	6	13	6	48
Food processing workers	8	11	7	15	42
Timber, paper and pulp workers	3	6	9	18	31
Textile production workers	5	5	10	17	35
Mining machinery and equipment operators	2	2	6	9	55
Operators of other machinery and equipment	11	11	10	16	40
Assembly workers	5	11	7	20	40
Drivers of personal and delivery vehicles	7	16	7	12	31
Bus and truck drivers	12	1,0	3	9	38
Housecare and cleaners	5	4	11	16	36
Auxiliary workers in mining and construction	17	1,9	25	32	48
Other manual labourers	11	9	21	22	38
Total	7	7	8	10	38

Table 5.12.1. Characteristics of representatives of 50 professions and professional groups continued

Current profession	Number of serious disease symptoms		% of satisfied with health		% of satisfied with achievements	
	2015	2011	2015	2011	2015	2011
Authority representatives and directors	0.0	0.2	39	41	58	55
Managers of various specialisations	0.6	0.2	53	53	55	56
Engineers, architects, designers and related professionals	0.6	0.8	52	52	48	53
Doctors, vets and dentists	0.3	0.2	55	67	66	66
Nurses and midwives	0.1	0.4	46	55	50	53
Other health professionals	0.5	0.4	49	49	49	49
Academic teachers	1.2	0.5	35	46	71	65
Secondary school teachers	0.5	0.3	51	56	62	58
Primary school teachers	0.1	0.2	51	46	57	61
Business and management specialists	0.4	0.4	52	57	50	48
Financial specialists	0.6	0.4	61	53	48	47
Marketing specialists	0.7	0.3	52	58	48	51
IT and related specialists	1.1	0.3	51	62	57	46
Lawyers	0.5	0.1	67	64	83	56
Other specialists	0.4	0.3	59	45	66	53
Creators, artists, writers and journalists	0.6	0.2	54	44	63	52
Technicians and associate professionals	1.0	0.5	64	55	52	45
Mid-level financial personnel	0.5	0.3	45	43	48	42
Agents and salespersons in trade and business	0.5	0.3	55	52	41	42
Civil servants	0.3	0.8	52	51	51	55
Other mid-level personnel	0.8	0.3	54	50	48	47
Office service workers	0.9	0.3	49	53	38	43
Material recording and transport clerks	0.8	1.2	61	48	55	30
Cooks	0.6	1.2	47	50	47	35
Waiters, bartenders and stewards	0.8	0.5	62	60	34	45
Hairdressers and cosmeticians	0.5	0.1	61	63	47	55
Sales Workers	0.7	0.8	53	53	39	41
Personal care workers	0.8	1.1	46	43	30	35
Security staff (firemen, police and related)	0.5	0.4	39	53	43	43
Farmers of plant crops	0.8	0.5	48	46	43	44
Farmers of plant crops and cattle	0.4	0.4	44	45	35	33
Subsistence farmers	0.2	0.7	37	37	40	29
Construction workers – raw state	2.1	1.5	57	48	41	36
Construction workers – finish	1.5	1.5	54	54	39	34
Blacksmiths and lathe operators	1.0	1.1	50	47	47	38
Smelters and welders	1.1	1.7	58	60	48	42
Other unclassified workers	1.7	1.7	57	48	37	29
Machine and equipment mechanics	0.8	1.1	66	51	51	45
Electricians and electronics specialists	1.0	0.6	59	54	48	38
Food processing workers	0.8	1.1	60	53	46	39
Timber, paper and pulp workers	0.3	0.6	52	57	42	40
Textile production workers	0.5	0.5	48	42	38	31
Mining machinery and equipment operators	0.2	0.2	60	55	55	45
Operators of other machinery and equipment	1.1	1.1	58	46	36	41
Assembly workers	0.5	1.1	57	51	37	39
Drivers of personal and delivery vehicles	0.7	1.6	60	61	42	39
Bus and truck drivers	1.2	1.0	61	53	45	39
Housecare and cleaners	0.5	0.4	44	42	37	27
Auxiliary workers in mining and construction	1.7	1.9	52	54	30	27
Other manual labourers	1.1	0.9	44	47	30	31
Total	0.7	0.7	52	51	45	42

Table 5.12.1. Characteristics of representatives of 50 professions and professional groups continued

Current profession	% of happy with perspectives		% of satisfied with situation in the country		% of thinking about suicide	
	2015	2011	2015	2011	2015	2011
Authority representatives and directors	58	56	8	12	0.4	3.8
Managers of various specialisations	38	38	10	11	7.3	4.4
Engineers, architects, designers and related professionals	31	31	9	6	2.4	7.3
Doctors, vets and dentists	48	36	10	3	4.2	1.8
Nurses and midwives	18	26	9	6	5.3	8.3
Other health professionals	31	31	8	6	7.4	5.7
Academic teachers	42	37	10	12	11.4	3.1
Secondary school teachers	24	30	9	10	6.8	8.5
Primary school teachers	32	33	9	5	7.9	12.5
Business and management specialists	26	33	7	2	8.7	8.4
Financial specialists	31	31	6	3	7.3	7.5
Marketing specialists	37	38	12	6	8.4	3.2
IT and related specialists	36	41	10	4	1.7	7.2
Lawyers	52	47	14	4	3.8	4.1
Other specialists	50	34	21	7	8.3	7.5
Creators, artists, writers and journalists	43	34	26	4	25.4	14.1
Technicians and associate professionals	26	29	7	5	5.2	4.8
Mid-level financial personnel	27	27	8	3	8.1	8.0
Agents and salespersons in trade and business	32	31	7	7	4.5	8.3
Civil servants	27	33	12	5	10.7	6.9
Other mid-level personnel	21	27	8	7	14.2	10.3
Office service workers	25	26	6	6	7.8	8.4
Material recording and transport clerks	29	20	9	6	10.2	8.6
Cooks	24	31	4	7	12.3	14.4
Waiters, bartenders and stewards	43	26	1	8	3.0	10.3
Hairdressers and cosmeticians	37	39	10	9	2.8	13.9
Sales Workers	25	28	8	8	10.2	10.2
Personal care workers	15	19	4	2	16.9	12.3
Security staff (firemen, police and related)	31	21	6	6	11.4	10.0
Farmers of plant crops	24	27	6	7	7.4	8.7
Farmers of plant crops and cattle	18	21	7	7	7.5	10.6
Subsistence farmers	28	18	6	3	7.3	12.0
Construction workers – raw state	26	26	6	8	7.7	14.9
Construction workers – finish	29	22	9	5	6.8	9.3
Blacksmiths and lathe operators	21	21	10	5	9.7	10.2
Smelters and welders	23	26	9	8	8.5	9.3
Other unclassified workers	26	26	9	11	8.3	11.3
Machine and equipment mechanics	33	27	8	9	6.1	11.3
Electricians and electronics specialists	31	24	7	5	6.4	10.2
Food processing workers	21	26	8	11	9.4	15.1
Timber, paper and pulp workers	25	16	8	8	7.5	8.3
Textile production workers	23	23	10	7	9.3	10.8
Mining machinery and equipment operators	17	28	8	5	11.2	6.7
Operators of other machinery and equipment	21	29	9	10	11.2	9.9
Assembly workers	23	21	3	6	6.3	9.0
Drivers of personal and delivery vehicles	25	30	9	11	5.0	10.8
Bus and truck drivers	27	25	12	7	6.9	9.4
Housecare and cleaners	27	21	12	9	13.4	12.7
Auxiliary workers in mining and construction	13	22	6	10	16.2	12.6
Other manual labourers	18	23	8	8	15.8	8.3
Total	27	27	8	7	8.4	9.2

Table 5.12.1. Characteristics of representatives of 50 professions and professional groups continued

Current profession	Percentage of very happy		Smokers		Alcohol abusers	
	2015	2011	2015	2011	2015	2011
Authority representatives and directors	20	13	24	24	15	8
Managers of various specialisations	18	17	23	23	9	8
Engineers, architects, designers and related professionals	23	19	14	14	12	7
Doctors, vets and dentists	25	18	28	28	13	10
Nurses and midwives	11	9	25	25	3	0
Other health professionals	16	13	19	19	10	3
Academic teachers	20	9	16	16	4	4
Secondary school teachers	19	15	16	16	6	7
Primary school teachers	23	11	12	12	6	3
Business and management specialists	19	17	17	17	4	8
Financial specialists	15	17	13	13	8	5
Marketing specialists	13	20	17	17	8	9
IT and related specialists	23	15	27	27	10	7
Lawyers	13	12	7	7	4	8
Other specialists	19	17	16	16	5	4
Creators, artists, writers and journalists	17	15	29	29	24	14
Technicians and associate professionals	15	12	30	30	6	8
Mid-level financial personnel	15	10	25	25	4	5
Agents and salespersons in trade and business	15	12	27	27	8	11
Civil servants	10	14	30	30	9	2
Other mid-level personnel	21	13	32	32	11	2
Office service workers	12	13	25	25	5	5
Material recording and transport clerks	8	8	44	44	7	17
Cooks	13	16	36	36	10	9
Waiters, bartenders and stewards	16	12	36	36	9	14
Hairdressers and cosmeticians	15	16	30	30	2	8
Sales Workers	11	10	28	28	6	6
Personal care workers	15	4	19	30	0	8
Security staff (firemen, police and related)	13	5	36	40	9	9
Farmers of plant crops	8	8	26	25	8	5
Farmers of plant crops and cattle	8	6	22	29	5	6
Subsistence farmers	5	4	23	29	6	9
Construction workers – raw state	13	7	52	57	7	16
Construction workers – finish	10	8	43	50	9	8
Blacksmiths and lathe operators	10	4	40	40	10	10
Smelters and welders	16	16	32	43	11	12
Other unclassified workers	8	9	53	55	14	20
Machine and equipment mechanics	19	4	43	43	9	11
Electricians and electronics specialists	13	8	29	39	11	8
Food processing workers	8	7	37	30	5	14
Timber, paper and pulp workers	18	9	42	47	6	11
Textile production workers	9	9	26	33	2	2
Mining machinery and equipment operators	14	9	37	41	23	17
Operators of other machinery and equipment	12	11	41	44	11	14
Assembly workers	20	7	40	39	6	9
Drivers of personal and delivery vehicles	14	10	32	38	9	12
Bus and truck drivers	10	11	43	37	5	11
Housecare and cleaners	12	6	36	36	2	6
Auxiliary workers in mining and construction	14	6	65	61	9	17
Other manual labourers	7	7	31	41	10	8
Total	14	11	27	31	7	8

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## 6. STATE OF THE CIVIL SOCIETY

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### Abstract

*This chapter described attitudes (social dominance, authoritarianism, xenophobia and conservatism), relations and social behaviours, such as an attitude to common good and democracy, evaluation of changes in the country and participation in the political life, organizational activity and readiness to cooperate. An analysis of changes of political identification of Poles between 2009 and 2015 shows that the fact that PiS won in the parliamentary elections in 2005 was a result of a change of attitudes towards the right wing. We will sum up the analysis in categories of social capital within the context of international comparisons<sup>72</sup>*

### 6.1. Social attitudes and relations

#### 6.1.1. Attitudes to the common good

In 2015, in comparison with previous years, fewer respondents declared that they did not care at all about harm to the common good or cared little about it (Table 6.1.1.).

Polish people care least about the fact that someone does not pay for public transport or avoids paying taxes. However, in comparison especially with 2007 and 2009, the indifference to these forms of abusing the common good decreased. In relation to the remaining questions, a similar growth in the sensitivity to the abuse of the common good was observed. These differences are of statistical significance (Table 6.1.2.). However, after 26 years of building a democratic state, almost half of its citizens are still indifferent to five forms of how the common good is abused.

Table 6.1.1. Percentage distribution of answers on the abuse of the common good

Categories of behaviour	Year	I don't care at all	I care just a little	I care to some extent	I care very much	Hard to say
Tax evasion	2007	27.8	28.3	24.0	13.5	6.4
	2009	28.6	27.6	22.5	13.5	7.8
	2011	24.9	26.9	26.9	16.0	6.3
	2013	22.9	25.9	27.0	17.6	6.7
	2015	22.5	26.6	26.7	18.1	6.2
Farebeating on public transport	2007	26.6	32.3	22.5	13.3	5.3
	2009	26.9	31.7	21.7	13.5	6.2
	2011	23.6	31.2	24.4	15.8	5.0
	2013	22.4	30.6	24.8	16.7	5.5
	2015	22.0	30.7	24.7	17.2	5.4
Unemployment benefit fraud	2007	21.3	25.1	24.2	23.3	6.0
	2009	22.2	24.5	23.1	23.2	7.0
	2011	18.5	24.5	26.9	24.5	5.6
	2013	18.6	23.4	26.6	25.5	5.9
	2015	17.6	24.0	27.0	26.0	5.4
Welfare benefit fraud	2011	18.7	22.8	25.6	25.8	6.9
	2013	18.0	22.3	25.9	27.0	6.8
	2015	17.9	22.8	25.8	27.2	6.4
Insurance fraud	2011	19.8	23.8	24.0	24.9	7.5
	2013	19.2	23.5	23.4	25.8	8.1
	2015	18.6	23.6	23.9	26.4	7.5

Table 6.1.2. Comparison of attitudes to the public good between in panel samples from 2011, 2013 and 2015

Variable	Year	Average	Standard deviation	Average difference	t	Degrees of freedom	Significance	Correlation
Sensitivity to the common good	2011	2.51	0.956	-0.058	-8.932	8773	0.000	0.419*
	2015	2.57	0.970					
	2013	2.54	0.980	-0.029	-2.354	11832	0.05.	0.466*
	2015	2.56	0.975					

\* p<0.000

<sup>72</sup> Some statements in the chapter are by Antoni Sułek and come from Social Diagnosis 2013.

The five questions form one coherent and highly reliable indicator of degree of sensitivity for common-good (Cronbach alpha 0.95) as the higher the reading, the greater the sensitivity to the public good. Table 6.1.3. shows the average indicator value (percentage of respondents who care a little or very much about the harm to public good) in 2011 and 2015 broken down by socio-demographic group.

Table 6.1.3. Indicator of sensitivity to public good by various socio-demographic groups in 2011 and 2015, in panel samples.

Socio-demographic group	2015	2011
Total	51.9	49.9
Gender		
Men	50.3	48.6
Women	53.3	51.0
Age in 2015		
Up to 24 y.o.	43.3	32.7
25-34 y.o.	47.1	44.4
35-44 y.o.	51.4	49.8
45-59 y.o.	55.0	53.2
60-64 y.o.	54.7	53.5
65+ y.o.	54.0	54.0
Place of residence		
Towns of over 500k	63.0	59.6
Towns of 200-500k	59.5	63.7
Towns of 100-200k	58.9	55.5
Towns of 20-100k	52.8	51.4
Towns < 20k	49.7	49.3
Rural areas	46.2	42.8
Voivodship		
Dolnośląskie	57.4	52.7
Kujawsko-pomorskie	52.3	45.9
Lubelskie	53.7	55.0
Lubuskie	55.9	55.4
Łódzkie	42.6	39.6
Małopolskie	57.7	55.3
Mazowieckie	53.7	51.5
Opolskie	56.5	50.6
Podkarpackie	48.6	44.3
Podlaskie	61.2	52.6
Pomorskie	51.4	49.7
Śląskie	56.9	58.5
Świętokrzyskie	50.7	49.9
Warmińsko-mazurskie	40.0	36.7
Wielkopolskie	42.3	46.4
Zachodniopomorskie	53.2	47.2
Level of education in 2015		
Primary and lower	43.4	42.5
Vocational	45.8	43.5
Secondary	52.7	50.5
Higher and post-secondary	63.3	61.0
Monthly income per capita in 2015		
1 quartile	43.5	43.3
2 quartile	50.8	48.5
3 quartile	52.7	49.8
4 quartile	59.3	56.0
Socio-professional status in 2015		
Public sector	58.8	57.7
Private sector	50.5	47.5
Private entrepreneurs	54.6	52.5
Farmers	52.1	47.4
Retirees	49.4	44.3
Pensioners	55.1	55.6
Students	47.6	34.9
Unemployed	42.7	42.1
Other occupationally inactive	43.1	43.4

Men are slightly less sensitive than women about the damaging of public goods. The least sensitive are the youngest, while the most are people between 45 and 59. The least sensitive are residents of rural areas and small

towns, while the most are residents of the largest metropolis. The least sensitive are the poorest and those with the lowest educational attainment, while the most sensitive are the richest and the best educated. It is exactly the differences in education that explain the differentiation according to previous divisions - there are more educated people in the large and largest cities and among the prosperous than there are among the poor. After consideration of this fact (excluding education), difference between rich and poor and the residents of cities and rural areas almost disappeared. So, education is the main factor responsible for at least some demographic and economic differences in sensitivity to the common good<sup>73</sup>. The lowest sensitivity was recorded in Warmińsko-Mazurskie, Łódzkie and Wielkopolskie, and the highest in Podlaskie, Małopolskie and Dolnośląskie. The most sensitive are employees of the public sector, while unemployed are the least sensitive group. And, in this case, it also results from differences in education level. In comparison to 2011, in almost all groups there was an increase of the number of persons sensitive to infringement of the common good; it was lower only in Wielkopolskie, Lubelskie and Śląskie voivodships and in big cities (200-500k residents).

Regression analysis once more reveals the high importance of education (Table 6.1.4.), a variable that explains the greatest portion of variations. Other significant predictors are: age (the older, the more sensitive), class of place of residence (the smaller the location, the weaker the sensitivity to the common good), religiousness (the more religious people are more sensitive), materialistic attitude (weakens the sensitivity), income (the richer are more sensitive), attitude toward democracy (positive attitude strengthens the sensitivity to harm of common good). Farmers, employed persons (especially in public sector) and entrepreneurs are more sensitive compared to other professional social groups.

Table 6.1.4. Factors explaining differences in sensitivity to the public good

Predictor	Beta	t	p
(Constant)		28.798	0.000
Educational attainment	0.160	16.771	0.000
Age	0.114	10.545	0.000
Public sector worker	0.045	4.919	0.000
Private sector worker	0.022	2.295	0.022
Farmer	0.040	4.991	0.000
Retiree	0.008	0.699	0.485
Entrepreneur	0.022	2.669	0.008
Per capita income	0.048	5.663	0.000
Attitude to democracy	0.043	5.594	0.000
Materialistic attitude	-0.048	-6.134	0.000
Religiousness	0.061	7.735	0.000
Gender	-0.004	-0.482	0.630
Class of place of residence	-0.076	-9.139	0.000

Sensitivity to the common good is growing, which is without doubt an effect of Poles' rapidly improving education. Thanks to education, ever more citizens are aware that we are "all in the same boat" and that sooner or later the dishonesty of others will bounce back on us. However, this rise in sensitivity is not sufficient to be able to say that we have already built a civil society.

### 6.1.2. Social dominance, authoritarianism and conservatism

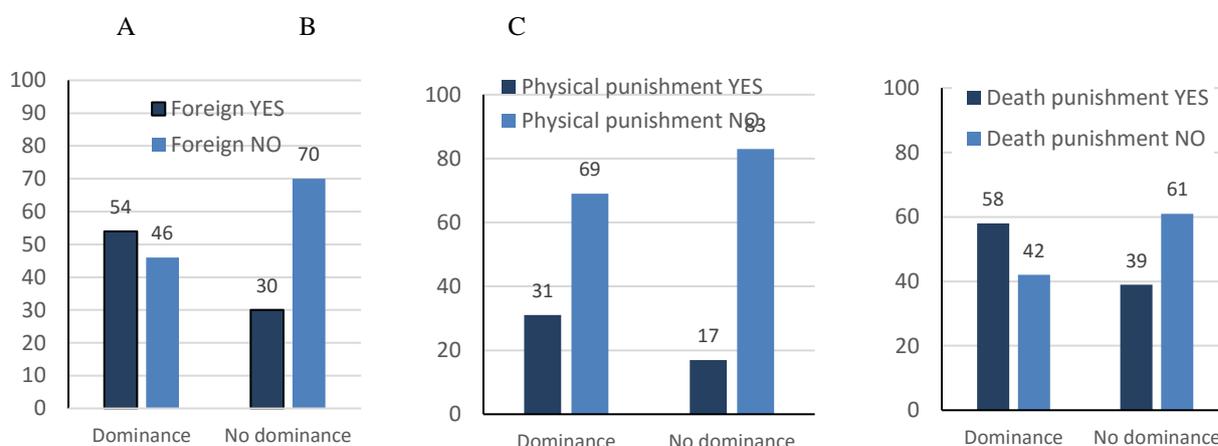
Jim Sidanius and Felicia Pratto's social dominance theory (1993, 1999; Pratto, Sidaniu, Stallowrth and Malle, 1994), derives from the influential theory of social identity (Tajfel, Turner, 1979). It assumes that people, to various degrees, prefer inequalities between groups in order to defend social hierarchy and their own positions in it, usually favouring the groups to which they themselves belong and discriminating foreign groups. The theory proposes a Social Dominance Scale (ODS) as a tool to gauge the strength of the inequality orientation. Persons of a high indicator level towards social domination seek to maintain the hierarchical structure in which certain groups dominate and others are subordinate. Studies with the use of this scale prove its considerable predictive capacity, as it allows the accurate definition of attitudes to foreign groups, especially minority groups. It is therefore a good instrument to assess

<sup>73</sup> The education effect is the strongest among these social categorisation criteria,  $F(3.18812)=207.226$ ,  $p<0.000$ ,  $\eta^2=0.032$ .

xenophobic, authoritarian and racist attitudes. This year in the Diagnosis we have included 2 questions from the Social Dominance Scale (Annex 1, individual questionnaire, questions 57.11 and 57.13).

The dominance attitude (an average of answers on a scale from 1 – definitely yes to 3.5 – rather yes) is represented by 46.5%. This means that Poles frequently deny certain people and groups the right to respect, by using moral discrimination.

Social attitude resulting from orientation on social domination has a significant bearing on behaviours and attitudes, and is connected to prejudice against foreigners, authoritarian child rising and acceptance of death punishment. Figure 6.1.1. shows the distribution of percentage of positive and negative answers (neither yes, nor no answers excluded) to 3 questions: „do people of foreign origin have much to say in our country”, „it is impossible to raise children well without physical punishments” and “the death punishment should be applicable once again in Poland”. Among persons oriented towards dominance there are more supporters of these of: the excessive influence of foreigners on the country’s matters, the physical punishments for children, and the restoration of death punishment in Poland, than in the group without such orientation. In case of negative attitude towards foreigners and death punishment there are more people who are oriented towards dominance. That means this is the syndrome of authoritarian attitude which rejects the idea of moral equality of persons, is reluctant towards foreigners, treats weaker persons (children) as objects and thinks that dangerous criminals do not have the right to live. Persons who fulfilled at least three of four criteria of authoritarianism amounted to 16.7% of persons in our sample. The proof of the authoritarian attitude is the result of the factor analysis of 7 statements concerning social relations.



NOTES: panel A Chi-square=808.604, df=1, p<0.000; panel B Chi-square=385.669, df=1, p<0.000; panel C Chi-square=510.002, df=1, p<0.000.

Figure 6.1.1. Percentage of supporters and opponents of the statement that persons of foreign origin have too much to say in Poland (panel A), supporters and opponents of physical punishments applied to children (panel B) and supporters and opponents of restoration of death punishment (panel C) among persons oriented and non-oriented towards social dominance.

As a proof of the authoritarian attitude there is the result of the factor analysis of answers to 7 questions concerning social relations (Table 6.1.5.). Five statements create the constituent of authoritarianism, while the two remaining – the constituent which may be treated as a measure of conservatism. Let us assume that disapproval of at least one constituent of conservatism allows for classification of a person as conservative – the percentage of conservatives is 48.2 then, that is similar to the one of persons oriented towards dominance. However, these are different attitudes – only 50% of people oriented towards dominance are conservative.

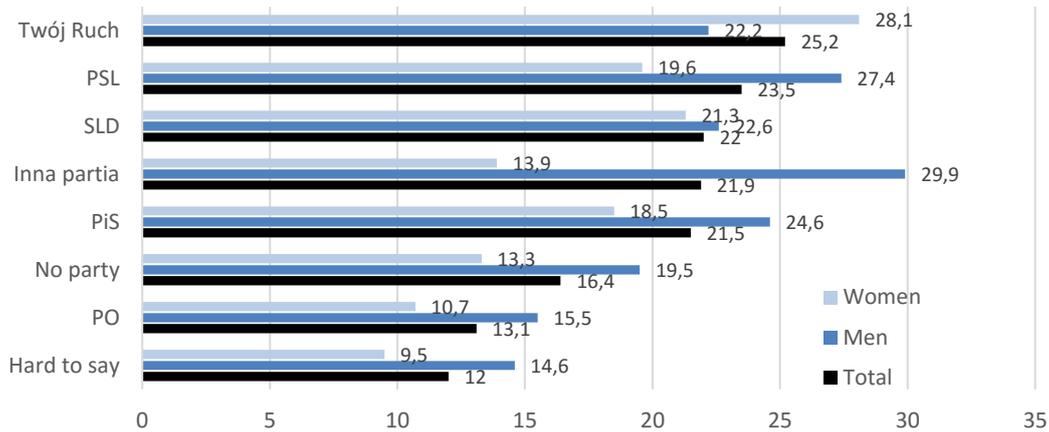
Authoritarian attitude and conservatism are connected to political preferences (Figures 6.1.2. and 6.1.3.). The authoritarian attitude is the most frequent among Twój Ruch supporters, mainly because of women (it is the only electorate where there are more authoritarian women than men, but in general, according to the assumed criteria, women are less authoritarian than men). On the second place, in terms of authoritarianism, there is the electorate of PSL, then SLD, and, at the end, PO. Among PO supporters there are 40% less authoritarian persons than among PiS supporters.

What is more distinctive and of slightly different nature among electorates, is the conservative attitude (Figure 6.1.3.). The highest percentage of conservatives is among the supporters of PiS, and the lowest – contrary to authoritarianism – among supporters of Twój Ruch. The remaining electorates do not differ between each other in this matter.

Conservatism is explained by all basic socio-demographic factors, while the strongest is attachment to Church (Table 6.1.6.). The conservatism level is higher for, the more advanced age, lower education, lower city class, lower income and greater religiousness. Gender, as well, is a differentiating factor: men are significantly more conservative than women.

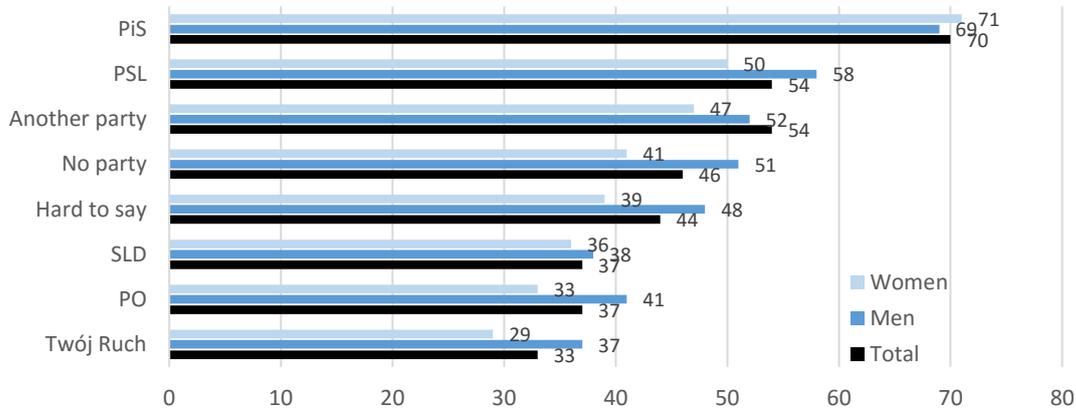
Table 6.1.5. Results of varimax analysis with Kasier normalisation of 7 statements from the scale of social attitudes

Statements	Constituent	
	Authoritarianism	Conservatism
Foreign people have too much to say in our country	0.500	
Some people are more valuable than other	0.720	
Some groups of people do not deserve respect	0.745	
It is impossible to raise children well without physical punishments	0.459	
The death punishment should be once again applicable in Poland	0.545	
Legal partnerships should be legalised in Poland		0.834
Homosexual can live how they want		0.832
% of variation explained	26.3	21.6



NOTES: main effect of a party  $F(7, 21539)=28.406, p<0.000, \eta^2=0.009$ ; main effect of gender  $F(1, 21539)=29.626, p<0.000, \eta^2=0.001$ ; interaction between party and gender  $F(7, 21539)=3.242, p<0.005, \eta^2=0.001$ .

Figure 6.1.2. Percentage of authoritarian persons among supporters of various parties



NOTES: main effect of party  $F(7, 21588)=141.486, p<0.000, \eta^2=0.044$ ; main effect of gender  $F(1, 21588)=33.700, p<0.000, \eta^2=0.002$ ; effect of interaction between gender and party  $F(7, 21588)=6.819, p<0.000, \eta^2=0.002$ .

Figure 6.1.3. Percentage of conservatives among supporters of various parties

Table 6.1.6. Regression analysis for conservatism level

Predictors	Non-standardised factors		Standardised factors	t	p
	B	deviation	Beta		
Constant	9.290	0.157		59.116	0.000
Gender	-0.826	0.041	-0.137	-20.120	0.000
Age	0.013	0.001	0.081	11.068	0.000
Class of residence	0.166	0.013	0.096	13.243	0.000
Education	-0.086	0.007	-0.095	-11.995	0.000
Religiousness	0.325	0.009	0.243	34.428	0.000
Income per person	0.000	0.000	-0.072	-9.728	0.000

## 6.2. Civil experience and civil skills

Democracy requires civil attitudes and behaviors. The very democracy should create and strengthen such attitudes and behaviors. Now, after the 26 years since the system shift from authoritarian to democratic, have Poles

learnt the civic behaviors? Have they accepted socio-economic changes and the rules of conducting politics? Have we already created a civil society?. The places where citizens may gain experience and learn civil skills include voluntary organisations, activities and contacts that fill the space between an individual and the society, citizen and the state. Have we filled the “social gap” between the family and the state, about which Stefan Nowak (1979) wrote in 1979?

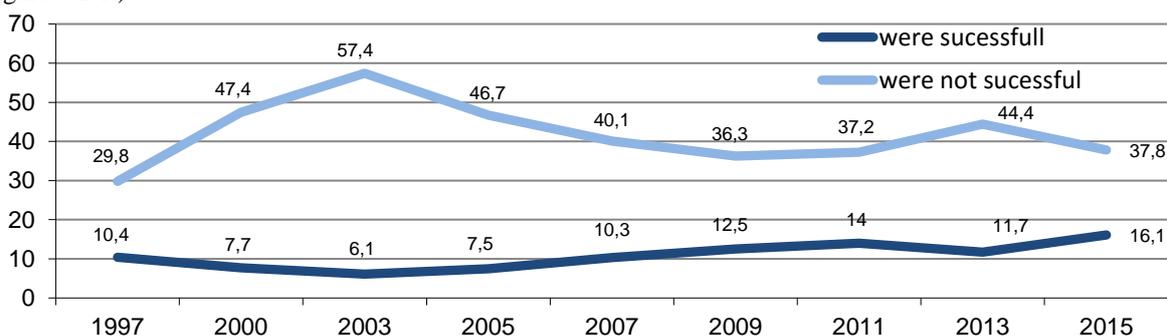
### 6.2.1. Assessment of systemic changes and *their* influence on the life of Poles

The political and economic systemic changes in Poland since 1989, the establishment of democracy in the place of authoritarianism and the replacing of the command economy with the market economy, brought with them deep and far-reaching changes in society, changed the position of basic social groups and influenced the fate of millions. In order to assess these changes, the following question was asked: Do you believe that the reforms in Poland since 1989 were a success or rather not? (Annex 1, question 42). The question has been posed since 1997, which allows us to follow changes in assessment over time. This is important because the influence, memory and assessment of such an enormous historical event as this have their own dynamic.

The general assessment of the reforms initiated in 1989 is a difficult material for respondents. Only just over half of those surveyed (53%) were able to provide answers at all - 46.7% of these found themselves in the "difficult to say" category, and even among people with a higher than secondary education, this share is not much lower (40.1%) (Table 6.2.1.).

The difficulty in formulating this assessment has many reasons connected to the complex character of the events assessed as well as the process by which these assessments are created. Each consecutive reform, apart from benefits for certain social groups, brought, at least in the initial period, some losses for other social groups. Groups which might have felt harmed, were not the same after particular reforms. As an effect, almost each Pole could benefit from one reform, and suffer losses from another; hence the difficulty in formulating an unambiguous joint assessment of all reforms. But that is not only why the post-1989 reforms cannot count on a consensus opinion generally accepted in society. For that to be possible, a consensus among the political and media elite is essential in that it would shape mass opinion and raise it to the level of a socially accepted "common imagination". However, for many more years many Poles will not know what to think of the 1989 reforms, and so opinions will differ.

There is no constant opinion in the matter during the study period. First, between 1997 and 2003, the still slight minority of respondents positively assessing the reforms decreased, whereas the percentage of people convinced that the reforms were not successful, doubled. Nevertheless, in the subsequent years, from 2005, the change takes a different direction: the assessment of reforms consequently improves, from 6.1% in 2003, to 14.0% in 2011. At the same time, the percentage of negative assessments lowers, from 57.4% to 37.2%. In 2013, the tendency becomes reversed again: negative assessments increase to the level from before 2007, while positive assessments decrease to the level from before 2009. In 2015, however, an upward tendency of positive assessments is observed (reaching the highest level during the whole period: 16.1%), along with a decrease of negative assessments to the level from 2011 (Figure 6.2.1.).



Source: 1997 — Czapiński, 1998; 2000-2015 — Social Diagnosis

Figure 6.2.1. Percentage distribution of answers to "In your opinion, were the reforms in Poland after 1989 in general successful or unsuccessful? ", in the years 1997-2015, for the 18+ (the "hard to say" answer was omitted).

The distinct dominance of negative assessments over positive assessments, that prevails throughout the whole study period, results from the negativity effect, well known in psychology (Baumeister et. Al., 2001; Czapiński, 1988; Peeters, Czapiński, 1990; Kahneman, Tversky, 1979): a loss bears a stronger impact on emotions and is remembered more than a profit. Even if a balance of effects of several reforms was neutral for an individual, their assessment will be significantly more influenced by the loss, than by the profit.

The opinion that the reforms had been successful varies with social position, however it is inferior to the opposite opinion in all social categories by gender, age, education (excluding Ph.Ds and MAs), income, social and professional status and class of place of residence. Therefore, it is the real opinion of a definite, though relative minority.

Of significance to the assessment of the post-1989 reforms is educational level (Table 6.2.1 and 6.2.2.), behind which label is concealed number of years of received education and its kind, as is also profession and belonging to a definite level of society. Only by people with PhD and master's degrees the reforms are assessed positively more frequently than they are assessed negatively. This group less frequently lacks opinion on this matter, in comparison with lower educated people. When analysing other criteria of social division (gender, age, class of place of residence, income and social and professional status), it occurred that in the group of people with higher or post-secondary education, the dominance of positive assessments is three times higher than in the group of people with education lower than secondary.

Table 6.2.1. Percentage distribution of answers to "In your opinion, were the reforms in Poland after 1989 in general successful or unsuccessful?"

Educational attainment	Were successful	Were not successful	Hard to say	N
Higher education with at least a PhD title	45.6	26.9	27.5	160
Higher education with at least an MA degree or an equivalent degree	33.1	29.9	37.0	3582
Higher education with an Engineer or Bachelor's degree	23.1	27.6	49.3	1201
Post-secondary education	15.3	41.5	43.2	665
Secondary vocational	15.2	40.8	44.0	4489
Secondary general	15.5	34.1	50.4	2134
Basic vocational education	9.8	43.2	47.0	5600
Primary	7.7	44.2	48.1	2860
No education/primary not completed	5.5	35.9	58.6	181
Total	16.0	37.3	46.7	20872

Chi-square=1722.883, df=16, p<0.000

Women 20% less frequently than man give positive assessments of the reformation (Table 6.2.2.). It may mean that the costs they suffered were greater than those of men or that their life aspirations increased and the changes did not follow them, or render their fulfilment more difficult.

Relatively, the most positive evaluation of reforms is given by middle-aged persons (35-59 y.o.), and the oldest and youngest persons are the least satisfied (Table 6.2.2.).

The positive assessment of reforms is strongly influenced by class of place of residence (Table 6.2.2.). Among residents of rural areas, the ratio of such assessments constitutes barely a half of the ratio in the largest cities (over 500k residents) ; in other cities, however, it is also statistically significantly lower.

When it comes to regions, the Warmińsko-Mazurskie residents are the ones with the most positive assessment (Table 6.2.2.), which is paradoxical as it is one of the poorest voivodship, with the biggest unemployment rate. The residents of Pomorskie Voivodship assess the reforms far more positively than the others, Śląskie and Zachodniopomorskie—slightly better, while the resident of Małopolskie, Podkarpackie and Podlaskie have more negative opinions.

Household income also influences the assessment of the reforms (Table 6.2.2.). The lowest per capita household income quartile assesses the reforms as successful twice less frequently than the respondents in the highest quartile. This proves that one of the major criteria of reform assessment is the material standard of living.

As far as the great social and professional groups are concerned, it is the private entrepreneurs who most often rate the reforms positively; however, in comparison with public sector employees, more positive assessments can be encountered also among private sector employees, and even among pensioners. Let us keep in mind, however, that these differences appear after excluding effects of other stratification criteria, such as education, which is significantly higher among public sector employees, than among private sector employees and pensioners. In other words, if pensioners and private sector employees possessed an average education level equal to that of public sector employees, their assessments would be more positive than these of the public sector employees.

Generally, beliefs about the success of the post-1989 reforms culminate in the upper-regions of the social ladder, while occurring much more rarely in the lower reaches where the dominant opinion that the reforms did not succeed is especially strong. This culmination of positive and negative ratings of reform is strengthened by the fact that the basic dimensions of social position like educational level, income and place of residence size interrelate. As a result, for example, there are categories in which the combined influence of education, class of place of residence and income cause positive assessment to be clearly dominant. Such a category would be group of residents of the largest cities, those with higher education in the upper income quartile, 42% of whom assess the reforms positively. The opposite position is occupied by residents of rural areas with education below secondary in the lowest income quartile, only 6% of whom consider the reforms successful.

Table 6.2.2. Logistic regression analysis for probability of positive assessment of changes by various socio-demographic groups

Socio-demographic group	Significance	Exp(B)
<b>Gender</b>		
Men	Ref.*	
Women	0.000	0.762
<b>Age</b>		
Up to 24 y.o.	Ref.	
25-34 y.o.	0.418	1.086
35-44 y.o.	0.000	1.490
45-59 y.o.	0.014	1.289
60-64 y.o.	0.897	1.017
65+ y.o.	0.495	0.909
<b>Education</b>		
Primary and lower education	Ref.	
Vocational education	0.728	1.031
Secondary education	0.000	1.544
Higher and post-secondary education	0.000	2.897
<b>Place of residence</b>		
Towns of over 500k	Ref.	
Towns of 200-500k	0.000	0.700
Towns of 100-200k	0.000	0.490
Towns of 20-100k	0.000	0.541
Towns < 20k	0.000	0.615
Rural areas	0.000	0.487
<b>Voivodship</b>		
Dolnośląskie	Ref.	
Kujawsko-pomorskie	0.238	1.153
Lubelskie	0.084	0.801
Lubuskie	0.152	1.230
Łódzkie	0.303	0.891
Małopolskie	0.016	0.775
Mazowieckie	0.444	0.932
Opolskie	0.353	0.863
Podkarpackie	0.016	0.727
Podlaskie	0.048	0.739
Pomorskie	0.000	1.913
Śląskie	0.050	1.217
Świętokrzyskie	0.137	0.794
Warmińsko-mazurskie	0.000	2.210
Wielkopolskie	0.122	0.848
Zachodniopomorskie	0.028	1.317
<b>Income per capita</b>		
1 quartile	Ref.	
2 quartile	0.238	1.093
3 quartile	0.000	1.517
4 quartile	0.000	2.112
<b>Socio-professional status</b>		
Public sector	Ref.	
Private sector	0.001	1.251
Private entrepreneurs	0.000	1.747
Farmers	0.273	1.152
Retirees	0.632	1.058
Pensioners	0.000	1.468
Students	0.153	1.205
Unemployed	0.282	0.874
Other occupationally inactive	0.058	1.213
Constant	0.000	0.152
Total percentage explained Cox & Snell $R^2$ x 100	8.3	
Total percentage explained Nagelkerke $R^2$ x 100	14.4	

\* Ref. means reference group

The differentiating influence of social position (education, class of place of residence and income) on the assessment of reforms may be explained with the aid of various factors that, being correlates or components of features of social position, influence that position more directly.

In previous editions of Social Diagnosis, it was demonstrated that there continues to be a positive relation between the ratings of the conditions of one's own life and the general assessment of reform after 1989. People who answered the question "When was life easier for you - before 1989 or today?" as today, also clearly better assess the post-1989 reforms. For example, in 2009, among the respondents who subjectively felt that their life had been better before 1989, only 7.4% assessed the reforms positively and 59.9% negatively. However, of those who reported that their life had improved after 1989, 30.2% assessed the reforms as successful and 31.4% as unsuccessful. Because as time goes by the share of persons who can actually make the comparison between their lives before and after 1989 is shrinking all the time, this question has not been posed in this edition of Social Diagnosis.

An important shaping factor of the general assessment of post-1989 reforms is political values and the belief that democracy is a good system. On the acceptance of democracy scale, 29% of respondents chose the opinion that "democracy is superior to all other forms of government", 14% that "sometimes non-democratic government can be better than democratic", 17.2% that "it does not matter whether the government is democratic or non-democratic" while 4.7% believes that "democracy is a bad form of government", 35.2% gave no opinion. Therefore, unreserved acceptance of democracy as a form of government is in Poland low (see chapter 6.2.6.).

Such a low unreserved acceptance of political democracy cannot benefit the positive assessment of post-1989 reforms by the society. Nevertheless, it explains a part of individual differentiation of the assessments (Table 6.2.3.). Persons considering democracy to be the best form of government, are clearly distinguished with a positive assessment of reforms (33.3%) from supporters of all other views on democracy, as they considered the reforms successful more frequently than representatives of all other groups jointly. On the opposite end of the scale, with 68.8% of respondents inclined to believe that "democracy is a bad form of government" – virtually, all that can assess the post-1989 reforms – assesses the reforms as unsuccessful.

The affirmation of democracy influences the assessment of the reforms on each of the four main levels of education as those who accept democracy without reservation much more often than is the norm of the given level, see the reforms as successful (19.6% compared to 7.6% in the basic education group, 21.0% compared to 9.7% in vocational education group, 30.2% compared to 15.3% in secondary education group, and 44.4% compared to 29.2% in the higher education group), which is similar in all the classes of residence and income quartiles, and is therefore the real influence of acceptance of democracy on the assessment of the post-1989 reforms. Most likely, people who value democracy value the fact that Poland has been heading towards the right direction.

Table 6.2.3. Percentage distribution of answers to "In your opinion, were the reforms in Poland after 1989 more successful than not?" by attitude to democracy as a form of government

Which of these statements on democracy is closer to your opinion?	In your opinion, were the reforms after 1989 successful?			
	Yes	No	Hard to say	N
Democracy is form of government superior to all other forms of government	33.3	28.9	37.7	6398
Sometimes non-democratic rule is better than democracy	16.4	47.2	36.4	3084
It does not really matter whether the government is democratic or not	9.6	49.0	41.4	3786
Democracy is a bad form of government	5.9	68.8	25.3	1039
It is hard to say	6.0	30.3	63.7	7738
Total	16.0	37.3	46.7	22045

Another subjective factor which may moderate the position in the social structure and assessment of the changes is satisfaction with one's own life and satisfaction with situation in the country. People satisfied with their life and situation in the country are two times more likely to assess the changes positively than persons which are not satisfied.

### 6.2.2. Participation and serving functions in organisations

The degree of participation in associations, that is the percentage of the citizens who belong to a voluntary organisation, is the simplest measure of the state of a civil society. In 2015 in Poland, 13.4% of respondents belonged to some "organisations, associations, parties, committees, councils, religious groups or clubs". 10.3% were members of only one association, 2.2% of two associations, and 1.9% of two or more.

Supplementary to the question on formal membership was one on real activity in organisations like this (Do you currently take active part in the activities of this kind of organisation?). 70.8% of association members say they

participate actively in their actions. Few people belong to organizations, but once they are members, then they (say they) are active, with those who are members and active amounting to 9.0% of society.

The current edition of Social Diagnosis for the second time investigates to which kind of organizations active respondents belong. The following results were gained (Figure 6.2.2.). Those who belong to whatever organisation and participate actively, definitely more often (24.5%) are active in religious organisations. This result is worth noting because, in discussions about voluntary organisations and civil society etc., religious organisations are often missed out altogether. Second position is taken by sport clubs (13.8% of all people actively participating in organisations), and hobby associations (13.6%). 12.1% of active members admit to participate in trade unions, constituting 1% of citizens of more than 15 y.o.. The public sector witnesses a significantly higher amount of unions (4.9% of employees are active in trade unions) than the private sector (0.7% of employees, being only a slightly higher ratio than among pensioners – 0.6%).

Serving functions in organisations constitutes a higher level of participation in the civil society. 45.4% of respondents who declared membership in an organisation stated that they "fulfil some functions in these organisations". This means that at present (only) 6.1% of Polish people serve roles voluntarily. This experience is of double importance for them; these persons not only participate in managing the organisation, but also have been elected to do so. The remaining 94% are deprived of this experience and the skills that it shapes.

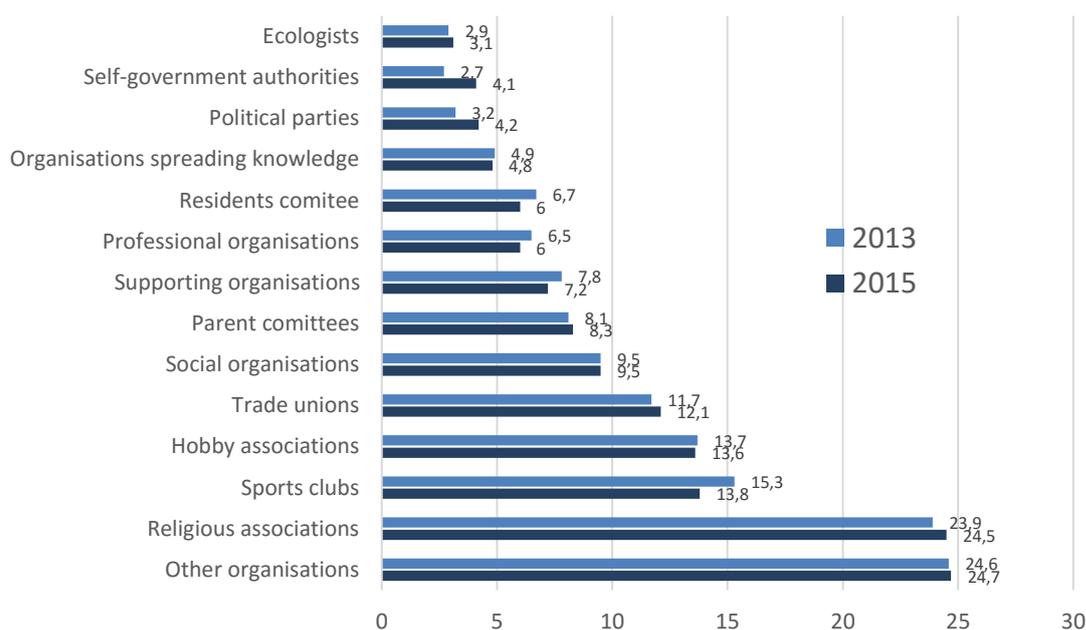


Figure 6.2.2. Percentage of persons actively involved in activities of various organisations among persons belonging to some organisation

In comparison with 2011, there has been a fall in the percentage of the persons participating in associations by 1%; however, we have no basis to interpret this fall (Table 6.2.4.). In twelve years of research (2003-2015) there has not been either any systematic increase or systematic decrease in interest in civil organisations, the association indicator changes irregularly between 12.1% and 15.1% (Table 6.2.4.). Civil society in Poland, understood as participation in voluntary organisations, has not been developing and has been failing to attract more people to its networks and structures. Similarly, to fulfilling functions in organisations - between 2003 and 2015, the share of persons performing functions among respondents changed irregularly between 4.8-6.8%.

Table 6.2.4. Percentage of active organisation members, persons performing functions in organisations, and the active in the community in 2003, 2005, 2007, 2009 and 2011, 2013 and 2015 for the 18+

	2003 N=9380	2005 N=8539	2007 N=12747	2009 N=25568	2011 N=25580	2013 N=26170	2015 N=21747
Organisation members	12.2	12.1	15.1	13.2	14.8	13.7	13.4
Actively fulfilling functions among members	45.1	55.7	41.4	37.9	32.2	46.0	45.1
Actively fulfilling functions in general	5.3	6.8	6.3	5.0	4.8	6.3	5.9
Active in the community	12.9	13.6	14.1	15.6	15.6	15.2	15.4

Participation in associations is socially stratified and the differences between the groups result from diverse organisational offers addressed to specific groups, and from various degrees of their willingness to join an organisation (Table 6.2.5.). The percentage of persons participating in associations is slightly higher among men than among women, the lowest in the age group of up to 34, and the highest in the age group of 45-59. It increases slightly together with the size of place of residence from 12% in the rural areas up to 17% in large cities. On the other hand, this percentage increases regularly together with the educational level of achievement (from 7% among the persons with primary education up to 24% in the case of the persons with higher education) and income (from 8% among the poorest, up to 21% among the richest). The group with the highest percentage of persons participating in associations is the group of public sector employees (26%) while the groups with the lowest percentage of such persons include the unemployed and other professionally inactive (8%) and pensioners (9%).

The percentage of persons in association fell down significantly (by 1.6p.p.) in comparison to 2011 in all socio-demographic groups, with the most significant fall among private entrepreneurs (by 5.2p.p.).

Table 6.1.5 Percentage of persons in various socio-demographic groups in 2011 and 2015 in the panel study

Socio-demographic group	2015	2011
Total	13.7	15.3
Gender		
Men	14.1	15.8
Women	13.4	14.9
Age in 2015		
Up to 24 y.o.	10.7	13.5
25-34 y.o.	11.8	10.3
35-44 y.o.	15.0	14.5
45-59 y.o.	15.4	17.6
60-64 y.o.	14.3	16.6
65+ y.o.	12.3	16.4
Place of residence		
Towns of over 500k	15.1	17.3
Towns of 200-500k	18.4	18.4
Towns of 100-200k	15.1	15.7
Towns of 20-100k	14.2	15.4
Towns < 20k	14.2	16.0
Rural areas	11.6	13.7
Education in 2015		
Primary and lower education	5.7	8.6
Vocational education	8.3	12.2
Secondary education	14.9	17.0
Higher and post-secondary education	24.3	24.3
Monthly income per capita in 2015		
1 quartile	7.8	10.9
2 quartile	11.3	15.0
3 quartile	13.7	14.5
4 quartile	20.9	22.0
Socio-professional status in 2015 r.		
Public sector	26.4	26.9
Private sector	10.8	12.3
Private entrepreneurs	14.9	20.1
Farmers	13.3	15.9
Retirees	9.3	9.4
Pensioners	13.6	18.0
Students	16.7	19.6
Unemployed	8.4	10.0
Other occupationally inactive	8.1	9.9

As some social categories are related to see the net correlation, after excluding other criteria of division, we conducted a logistic regression whose results are presented in Table 6.2.6. They confirm the social diversification, but we can also see a probability ratio of membership in the first group of the given category and the statistical significance of the difference between probabilities. For example, women (after excluding the effects of all other variables) join organisation 20% less frequently than men, people with higher education four times more frequently than persons with primary education, the fact of living in rural areas does not lower the probability of membership in comparison with residents of large cities, but higher income fosters association as well as work in the public section in comparison to all other socio-professional groups, with the exception of students.

Table 6.2.6. Logistic regression analysis for probability of positive assessment of reforms by various socio-demographic groups

Socio-demographic	Significance	Exp(B)
Gender		
Men	Ref.*	
Women	0.000	0.818
Age		
Up to 24 y.o.	Ref.	
25-34 y.o.	0.000	0.675
35-44 y.o.	0.158	1.173
45-59 y.o.	0.005	1.358
60-64 y.o.	0.034	1.327
65+ y.o.	0.133	1.239
Education		
Primary and lower education	Ref.	
Vocational education	0.005	1.297
Secondary education	0.000	2.263
Higher and post-secondary education	0.000	4.022
Place of residence		
Towns of over 500k	Ref.	
Towns of 200-500k	0.462	1.067
Towns of 100-200k	0.165	1.139
Towns of 20-100k	0.022	1.194
Towns < 20k	0.333	1.089
Rural areas	0.087	1.138
Income per capita		
1 quartile	Ref.	
2 quartile	0.085	1.135
3 quartile	0.000	1.295
4 quartile	0.000	1.556
Socio-professional status		
Public sector	Ref.	
Private sector	0.000	0.458
Private entrepreneurs	0.000	0.695
Farmers	0.067	0.810
Retirees	0.001	0.700
Pensioners	0.001	0.711
Students	0.208	1.175
Unemployed	0.000	0.509
Other occupationally inactive	0.000	0.535
Constant	0.000	0.129
Total variables explained Cox & Snell $R^2$ x 100	4.9	
Total explained percentage Nagelkerke $R^2$ x 100	9.1	

\* Ref. means reference group

The influence of social position factors on the fact whether members of the organizations take part in them is low. In four groups of education it is in the range between 64 and 71%, in quartiles of income – in the range between 66-71% and in the category of class or place of residence - in the range between 66 and 74%.

The pattern of differentiation for fulfilling functions in organisations is similar. The higher the category of educational attainment, the more persons served in organisations. In the four major educational categories, the percentage of associated members who serve functions in their organisations amounts to, respectively: 25%, 38%, 45% and 52% - the difference between outermost groups is extremely high. The differentiation is lower in terms of income - in particular income quartiles, functions are served respectively by: 38%, 42%, 45%, and 51% of members of organisations.

If we compare the diversification in the case of serving functions with the differences related to participation in organisations, these differences become more visible. At present, 1.6% of respondents with primary education serve in organisations, just as 3.3% of respondents with vocational education, 6.3% with general secondary education and 11.1% with higher education. Educational attainment, especially in the case of higher education, not only contributes to membership in voluntary organisations - persons with higher education are also more likely to work in such organisations. As a result, persons from the upper social strata, and in particular persons with higher education, are several times more likely to be elected and serve in civil organisations. Below the group with general secondary education, such experience is very rare and at the lowest educational level even extremely rare as it is shared by only one and a half percent of persons from this category

### 6.2.3. Joint actions and work for the benefit of others

Participation in organisations is only one of the possible measures of a civil society's development. In Poland, persons who want to do something for their communities are unwilling to establish formal organisations to this end. It is enough for them to initiate or join some activities for the benefit of their own community. However, the research shows that this phenomenon is as rare as membership in organisations. Only 15.4% of respondents in the past two years were involved in "activities for the benefit of the local community (municipality, housing estate, town or neighbourhood)" which would be important enough to recall in answering the question. In 2013, the amount of such persons was slightly lower – 15,2%; the highest amount was in the years 2011 and 2009 – both with 15.6%, but in 2007 they constituted 14.1%, in 2005 – 13.6%, in 2003 – 12.9% (see Table 6.2.4.). This slow but systematic growth in the involvement in the works for the benefit of the community observed during the last decade halted and it is not known when this will change.

Table 6.2.7. Logistic regression analysis for probability of participation in voluntary work and local community activities by various socio-demographic groups

Socio-demographic group	Work for benefit of local society		Voluntary work	
	Significance	Exp(B)*	Significance	Exp(B)
<b>Gender</b>				
Men	Ref.**		Ref.*	
Women	0.000	0.778	0.000	0.696
<b>Age</b>				
Up to 24 y.o.	Ref.		Ref.	
25-34 y.o.	0.036	0.807	0.000	0.751
35-44 y.o.	0.000	1.446	0.949	1.005
45-59 y.o.	0.000	1.475	0.275	1.087
60-64 y.o.	0.009	1.382	0.848	1.019
65+ y.o.	0.076	0.783	0.000	0.548
<b>Education</b>				
Primary and lower education	Ref.		Ref.	
Vocational education	0.000	1.479	0.000	1.411
Secondary education	0.000	2.409	0.000	2.034
Higher and post-secondary education	0.000	3.995	0.000	3.188
<b>Place of residence</b>				
Towns of over 500k	Ref.		Ref.	
Towns of 200-500k	0.003	0.768	0.471	0.951
Towns of 100-200k	0.735	1.031	0.784	0.980
Towns of 20-100k	0.530	0.954	0.066	0.892
Towns < 20k	0.936	0.993	0.420	1.057
Rural areas	0.000	1.347	0.381	1.053
<b>Income per capita</b>				
1 quartile	Ref.		Ref.	
2 quartile	0.823	0.985	0.477	0.963
3 quartile	0.530	1.041	0.022	1.124
4 quartile	0.000	1.315	0.000	1.398
<b>Socio-professional status</b>				
Public sector	Ref.		Ref.	
Private sector	0.000	0.585	0.000	0.738
Private entrepreneurs	0.094	0.852	0.022	1.205
Farmers	0.251	0.890	0.011	1.236
Retirees	0.000	0.530	0.000	0.472
Pensioners	0.308	0.901	0.002	0.763
Students	0.943	0.991	0.008	0.771
Unemployed	0.000	0.614	0.000	0.627
Other occupationally inactive	0.000	0.699	0.000	0.634
Total	0.000	0.138	0.000	0.329
Total percentage explained Cox & Snell $R^2 \times 100$	4.7		7.3	
Total percentage explained Nagelkerke $R^2 \times 100$	8.1		10.6	

\* is the probability ratio for the given group and the reference group

\*\* Ref. means reference group

An even more informal form of taking part in the community's life is unpaid work or services for persons outside the family or for a social organisation, which was measured only in the two previous editions of Social Diagnosis. This type of social activity covers many diverse actions, from spontaneous neighbourly help in rural areas to organised voluntary services. During the year, this type of activity was performed by 27% of respondents (7% - frequently and 20% - rarely). In 2013, there was a little bit less than 25.6% of respondents (7.5% frequently and 18.1% - rarely).

Table 6.2.7. presents differences in frequency with which major socio-demographic groups engage in works for the benefit of local communities and voluntary works. Men engage in local activities slightly more often than women. This type of activity is the most frequent among the age group of 35-64, and increases together with education level (persons with higher education perform such activities 4 times more frequently than persons with primary education, and two times more frequently than persons with vocational education). Residents of rural areas participate in such activities more frequently than residents of cities, the rich more frequently than the poor. Public sector employees become engaged significantly more frequently than private sector employees, pensioners, the unemployed and the other occupationally inactive.

Socio-demographic categories are a definitely stronger differentiating factor of probability of undertaking unpaid works for persons outside of family or for the benefit of social organisations, than is the commitment to works for the benefit of local communities. However, the profiles of these differences are very similar, with the exception of the class of place of residence: voluntary works in the rural areas are equally frequent (or, rather, equally rare) as in the city. Again, the strongest differentiating factor is education: persons with higher education undertake voluntary work over 3 times more frequently than persons with primary education, and two times more frequently than persons with vocational education. In the profile of socio-professional groups, voluntary work is the most probable for entrepreneurs and farmers and, then, public sector employees. The ones to provide unpaid services the least frequently are: pensioners (who, in most cases, are in need of help themselves), the unemployed and other occupationally inactive.

Therefore, not only the membership and active participation in formal civil organisations are clearly dependent on the social group, measured by educational attainment, but also participation in work for the benefit of the community as well as work for other persons or for a social organisation. Social inactivity, avoiding grassroots initiatives for the benefit of others or social organisations are common in Poland, and among the persons with primary education, the experience of social activity is very rare, several times less frequent than among the persons with higher education. The persons with higher education visibly stand out above the rest.

#### **6.2.4. Participation in public meetings**

People participate in democracy not only when they participate in organisations or do something jointly for others or for the benefit of their community, but also when they gather, discuss and decide on something together. Participation in public meetings is an easily accessible phenomenon. Moreover, the participants may take part in voting, elect bodies at least for the time of the meeting, and sometimes also choose their representatives, listen to their reports and learn about the meeting's procedures and organisation's procedures. Preparing and leading meetings, commenting on a certain matter publicly as well as participating in decision making processes all constitute important civic skills.

The research demonstrates that every fifth respondent (19.4%) participated in a public meeting during last year (outside the workplace). Some meetings were probably forgotten as unimportant, though on the other hand certain earlier meetings were probably remembered as being more recent (the telescoping effect). Since 2003, this percentage rose up to 2011, after which it dropped sharply by 5p.p. to the lowest observed level (Figure 6.2.3.). Those variations have a timing relation, probably a horizontal relation, with elections (years of parliamentary elections are: 2007, 2011 and 2015 – these were the years where the number of people taking part in public meetings increased. Only in 2005 there was no increase of the number of people taking part in the meetings, in comparison with 2003. To be honest, the question concerned the past year, but increased political emotions in the public discourse in the year of parliamentary and presidential elections (2007 and 2015) may increase the telescopic effect and make residents take into account the period before filing in the questionnaire. The biggest increase of declarations of taking part in public meetings in 2011 could result from the fact that in the previous year, there were unscheduled presidential elections during the time of political conflicts concerning the disaster in Smoleńsk, and self-government elections. Self-government elections also took part in 2006 and 2014, the years which the question about public meetings concerned in the 2007 and 2015 research. There was an important correlation between the declared participation in self-government elections in 2010 and 2014, and participation in public meeting in this year (respectively:  $r=0.17$ ,  $N=25371$  during Diagnosis 2011 and  $r=0.15$ ,  $N=21674$  during the 2015 edition).

There is an important relation between the criteria of social stratification and declared participation in public meetings (Table 6.2.8.). The probability of taking part in meeting is more than 20% lower in case of women than for men. Residents of rural areas are the ones who take part in meetings the most frequently, including farmers, as well as persons with higher education (four times more frequently than persons with primary education and almost three times more frequently than graduates from vocational schools), persons aged 35-64. The persons who take part in

meetings the least frequently, are private sector employees, pensioners, the unemployed and other occupationally inactive.

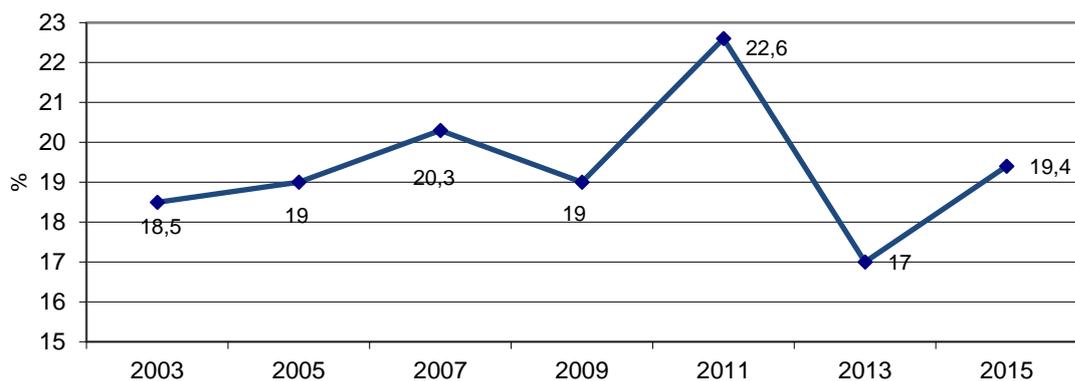


Figure 6.2.3. Percentage of persons taking place in public meeting in 2003, 2005, 2007, 2009, 2011, 2013 and 2015 among respondents aged 18+ and more

Table 6.2.8. Results of logistic regression analysis of probability of positive evaluation of reforms by various socio-demographic groups

Socio-demographic group	Significance	Exp(B)
<b>Gender</b>		
Men	Ref.*	
Women	0.000	0.776
<b>Age</b>		
Up to 24 y.o.	Ref.	
25-34 y.o.	0.813	0.978
35-44 y.o.	0.000	1.846
45-59 y.o.	0.000	1.547
60-64 y.o.	0.000	1.756
65+ y.o.	0.044	1.288
<b>Education</b>		
Primary and lower education	Ref.	
Vocational education	0.000	1.561
Secondary education	0.000	2.476
Higher and post-secondary education	0.000	4.251
<b>Place of residence</b>		
Towns of over 500k	Ref.	
Towns of 200-500k	0.118	0.880
Towns of 100-200k	0.467	1.064
Towns of 20-100k	0.549	0.958
Towns < 20k	0.911	0.991
Rural areas	0.000	1.661
<b>Household income per capita</b>		
1 quartile	Ref.	
2 quartile	0.824	0.987
3 quartile	0.081	0.905
4 quartile	0.168	1.086
<b>Socio-professional status</b>		
Public sector	Ref.	
Private sector	0.000	0.660
Private entrepreneurs	0.289	0.908
Farmers	0.001	1.330
Retirees	0.001	0.708
Pensioners	0.147	0.871
Students	0.625	0.944
Unemployed	0.005	0.760
Other occupationally inactive	0.000	0.695
Constant	0.000	0.187
Total percentage of variables explained Cox & Snell $R^2 \times 100$		4.9
Total percentage of variables explained Nagelkerke $R^2 \times 100$		7.9

\* Ref. means reference group

### 6.2.5. Participation in elections

Participation in elections is the most common civil experience. When asked about the participation in the last (2014) self-government elections, 66.5% of respondents responded positively, 29.9% answered negatively, and 3.7% were not yet 18. In 2013, when asked about parliamentary elections of 2011, 64.6% of respondents confirmed their participation (30.1% responded negatively, and 5.3% were not yet 18). The percentage of persons who voted in the elections resulting from the research is highly overstated in relation to the actual turnout of the 2014 self-government elections - 47.4%, as announced by the National Electoral Commission ([www.pkw.gov.pl](http://www.pkw.gov.pl)).

The retrospective overstating of the turnout by voters is common in surveys and explained by how respondents conform to the good citizen model. Approximately 2/3 of Social Diagnosis respondents declare their participation in elections, regardless of the election type and the actual turnout. In 2007, 65% of respondents declared voting in the local government elections in November 2006, whereas the actual turnout was 46%. Similarly, in 2009, 66% of respondents declared voting in the parliamentary elections in 2007, with the actual turnout of 54%. However, it may be assumed that this bias is not systematically connected with social factors and thus, in general, it does not prevent an analysis of the social conditions of participation in elections.

The declared participation in local government elections in 2014 is strongly related with social factors (Table 6.2.9.).

Table 6.2.9. Results of logistic regression analysis of probability of taking part in self-government elections in 2014 by various socio-demographic groups

Socio-demographic group	Significance	Exp(B)
Gender		
Men	Ref. *	
Women	0.000	0.999
Age		
Up to 24 y.o.	Ref.	
25-34 y.o.	0.000	1.406
35-44 y.o.	0.000	2.403
45-59 y.o.	0.000	3.538
60-64 y.o.	0.000	4.386
65+ y.o.	0.000	3.460
Education		
Primary and lower education	Ref.	
Vocational education	0.000	1.634
Secondary education	0.000	2.484
Higher and post-secondary education	0.000	3.339
Place of residence		
Towns of over 500k	Ref.	
Towns of 200-500k	0.094	0.889
Towns of 100-200k	0.373	1.069
Towns of 20-100k	0.000	1.344
Towns < 20k	0.000	1.568
Rural areas	0.000	1.859
Household income per capita		
1 quartile	Ref.	
2 quartile	0.000	1.347
3 quartile	0.000	1.587
4 quartile	0.000	1.826
Socio-professional status		
Public sector	Ref.	
Private sector	0.000	0.703
Private entrepreneurs	0.091	0.851
Farmers	0.001	1.379
Retirees	0.000	0.583
Pensioners	0.027	0.818
Students	0.027	1.259
Unemployed	0.000	0.635
Occupationally inactive	0.000	0.707
Constant	0.000	1.924
Total percentage of variables explained Cox & Snell $R^2 \times 100$	8.0	
Total percentage of variables explained Nagelkerke $R^2 \times 100$	11.2	

\* Ref. means reference group

Only gender does not differentiate the probability of taking part in the elections. Persons with higher education declare participation over three times more frequently than persons with primary education, and two times more

frequently than persons with vocational education. The participation is more frequently declared by the rich and by residents of rural areas and small towns; significantly more frequently by senior persons than by youths, and the least frequently by the youngest (up to 24 y.o.). In comparison with public sector employees, farmers and students declare participation more often (please note, that the age is excluded from this effect), whereas private sector employees, retirees, pensioners, the unemployed and other occupationally inactive – less frequently. In fact, similar results and correlations were observed in the previous editions of the Social Diagnosis, both in 2009 and 2013 when people were asked about parliamentary elections, and in 2011, when questions about local government elections were asked.

### 6.2.6. Index of social experience and civic actions

The study shows how small is the number of social and civic experiences of Poles which were gathered through membership in organisations, taking part in social initiatives, social meeting and voluntary work. If Poles are not inclined to form associations, they rarely take actions for the benefit of others, organisations or their own societies. They are unwilling to get together to make decisions and then implement them. Hence, they have no opportunity to learn how to organise social activities and get capabilities needed to live in a civil society. Poles are not able to organise themselves and work together, unless it is a strike – against construction of a nearby road, a landfill or a hospice in their place of residence. They cannot do that because they did not learn how to do that. And they cannot do that because they do not act, and they do not act because they cannot – it is a vicious circle for communities.

Certain groups (especially persons with higher education) have more such experience, whereas other groups have less. Social experiences tend to accumulate; the persons who are members of an organisation, those who act for the benefit of the community, work for others and for social organisations and participate in public meetings are very often the same people. All these experiences constitute a civic syndrome, which is confirmed by intercorrelations between the six already discussed experiences (6.2.10.). The most tightly interrelated are the activities for the benefit of local communities and the participation in public meetings. The high correlation ratio between the membership in organisations and the serving of a function in an organisation results from the formal relation of these variables: only members of an organisation can serve functions.

Table 6.2.10. Intercorrelations (Pearson's  $r$ ) between civic experiences for the 18+

	2	3	4	5	6
1. Voting in local government elections in 2014	0.132*	0.157*	0.110*	0.119*	0.079*
2. Community service		0.425*	0.393*	0.387*	0.364*
3. Public meeting participation			0.303*	0.337*	0.294*
4. Voluntary work for others or for social organisations				0.308*	0.276*
5. Member of an organisation					0.631*
6. Served a function in an organisation					

\*  $p < 0.000$

A summary measure of the social experiences and civic activities is presented as an index - which consists in the number of experiences where each of the six experiences was counted equally, as one point. The index has the following distribution (Table 6.2.11.). What is positive is that the value of the index raised during the last two years: in 2015, there are 10p.p. more of people with more than one experience than in 2013.

Table 6.2.11. Distribution of the index of social experience and civic activities among respondents aged 18+

Civil behaviour index	2015	2013
0	21.6	28.0
1	42.5	47.1
2	17.4	11.2
3	8.4	5.6
4	4.6	3.1
5	3.0	2.7
6	2.5	2.4

The index demonstrates the importance of educational attainment and other criteria of social stratification for all social and civic experiences (Figure 6.2.4. and Table 6.2.11.).

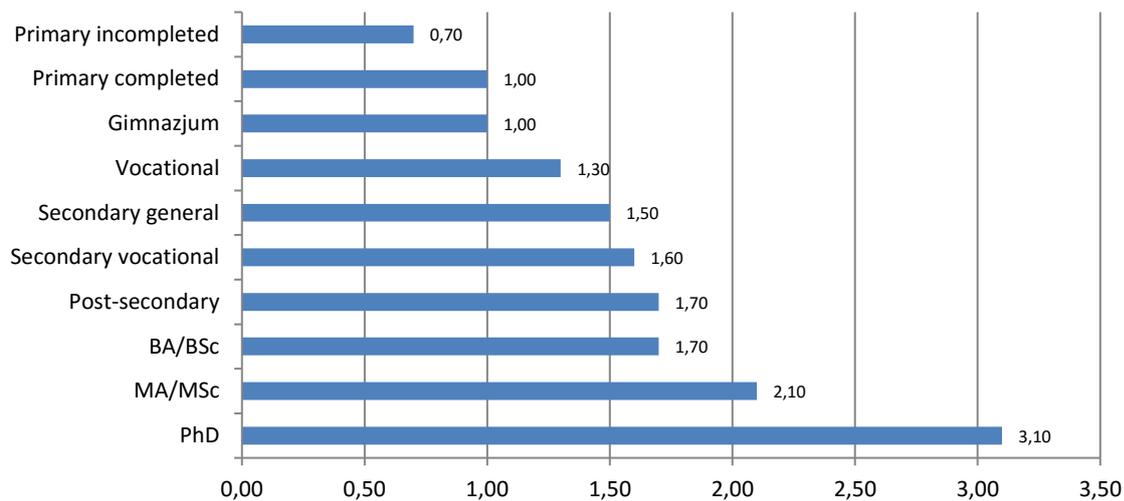


Figure 6.2.4. Index of social experiences and civic activities according to educational level among persons aged 18+

Table 6.2.12. Regression of the civil behaviour index by chosen socio-demographic variables

Predictors	Non-standardised factors		Standardised factors	t	P
	B	Standard error	Beta		
Constant	-0.675	0.082		-8.197	0.000
Gender (M-1, W-2)	-0.148	0.020	-0.053	-7.552	0.000
Age	0.009	0.001	0.115	10.602	0.000
Education	0.121	0.004	0.287	32.617	0.000
Class of place of residence (1-the biggest cities, 6- rural areas)	0.067	0.006	0.084	11.097	0.000
Household income per capita	0.005	0.000	0.074	9.524	0.000
Public sector employees	0.335	0.041	0.081	8.238	0.000
Private sector employees	-0.121	0.034	-0.039	-3.599	0.000
Entrepreneurs	0.208	0.055	0.031	3.787	0.000
Farmers	0.421	0.051	0.067	8.176	0.000
Retirees	-0.056	0.045	-0.017	-1.237	0.216
Unemployed	-0.149	0.049	-0.025	-3.068	0.002
Pensioners	-0.193	0.050	-0.035	-3.880	0.000

$R^2 = 0.114$

### 6.2.7. Acceptance of democracy and trust in people in relation to social and civil experiences

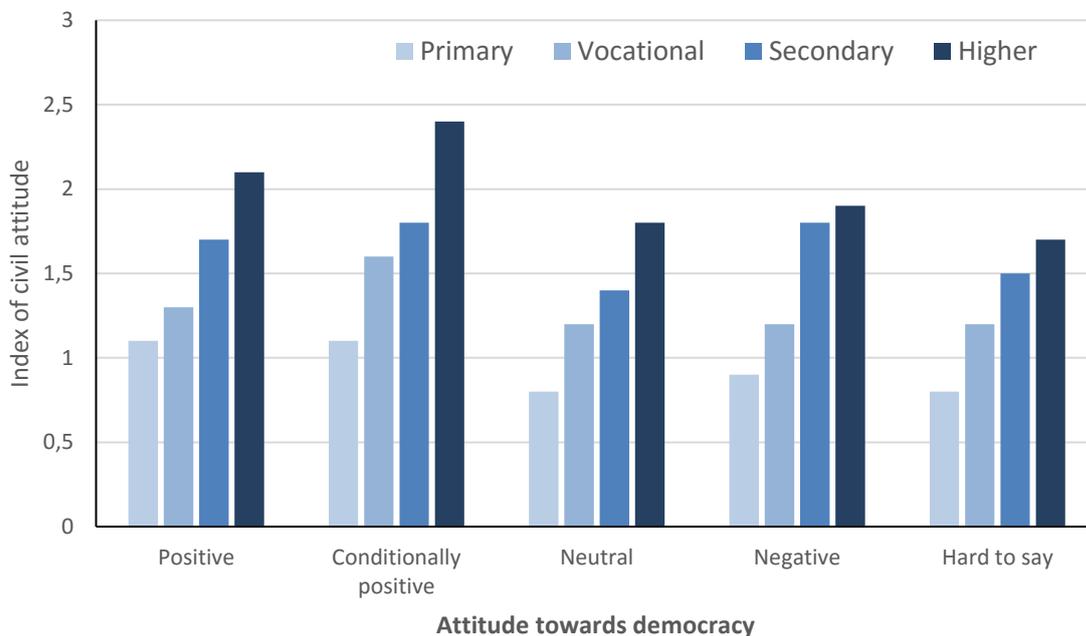
The social experiences and civic activities of Polish people are visibly dependent on social status. Theoretically speaking, they should be also dependent on individuals' political values (acceptance of democracy) and their psychological dispositions (trust in other people). The acceptance of democracy as a form of government may include the acceptance of democracy as a general rule of living in a society as well as an idea of local democracy and civil society. It is commonly understood that trust in other people contributes to self-organisation in society and participation in collective actions, which in turn reinforces trust.

Data analysis suggests that the acceptance of democracy does not increase in any systematic way the value of the index of social experiences and civic activities (Figure 6.2.5.). While it is true that in every group of educational attainment, those persons who accept democracy unconditionally have a higher index value than the respondents that see democracy as a bad form of government, in none of the educational groups, with the exception of the primary education group, those who conditionally accept democracy ("sometimes non-democratic governments might be better") have the highest values of that index. In the group of persons with secondary education, the higher index is observed even with those, who declare a negative attitude towards democracy. The acceptance of democracy as a political principle has, therefore, no great impact on participation in civil life at the local level and the observed here correlations have to a great extent a superficial character linked to the influence of education on both of these variables.

Trust to people has an independent positive influence on civic activity (Figure 6.2.6.). The highest index of civic activity in all education groups is among persons declaring to be trustful. However, education is again of more

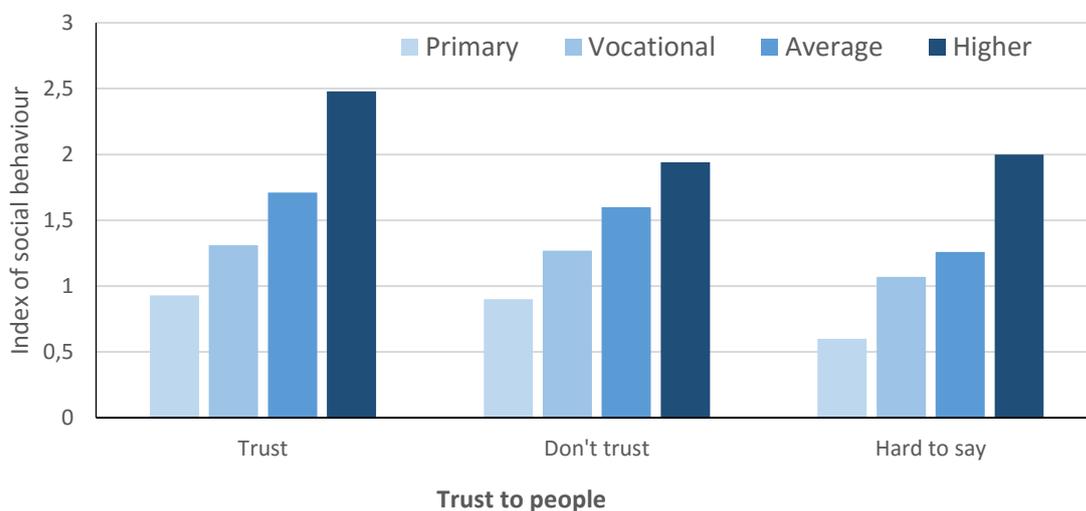
significance (explains 4% of variety of the social index in comparison to 0.3% explained by trust). Trust reinforces civic activity only after reaching or exceeding the threshold of secondary education.

Other factors related to education have greater influence than trust towards people. These factors include, for example, greater interest in public matters, a more developed network of social contacts, lifestyle with more space for motivations other than the economic, as well as organisational skills connected with knowledge of procedures and regulations. The impact of these factors is not overly high though, since the indicators of active citizenship in Poland are low and thus their diversification explained here is also slight.



NOTES: main effect of attitude towards democracy  $F(4, 20312)=57.916, p<0.000, \eta^2=0.011$ ; main effect of education  $F(3, 20312)=221.993, p<0.000, \eta^2=0.032$ ; effect of interaction between attitude towards democracy and education  $F(4, 20312)=3.674, p<0.000, \eta^2=0.002$ ; co-variables were gender and age.

Figure 6.2.5. Index of civic activity according to attitude to democracy and education level



NOTES: main effect of trust  $F(4, 20376)=33.591, p<0.000, \eta^2=0.003$ ; main effect of education  $F(3, 20376)=283.843, p<0.000, \eta^2=0.040$ ; effect of interaction between attitude towards democracy and education  $F(4, 20376)=12.356, p<0.000, \eta^2=0.004$ ; co-variables were gender and age.

Figure 6.2.6. Index of civic activity according to trust to people and education

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Nowak S. (1979). System wartości społeczeństwa polskiego. (Value System of the Polish Society). *Studia Socjologiczne*, 75, 4.

### 6.3. Social capital

A compilation of various attitudes and civic behaviours discussed in the previous subchapters, is reflected in a concept which, in the last 25 years, has developed an enormous popularity in social sciences – the social capital. According to researchers, social capital is the essence of civil society and surely of an effectively developing society (e.g. Czapiński, 2011; Halpern, 2005; Woolcock, 1998)<sup>74</sup>. Why is social capital thought to have impact on the economic development of a community? The theoretical answer is as simple, nearly obvious, as it is still poorly documented by research (e.g. Sabatini, 2007): social capital facilitates negotiations, lowers transaction costs, shortens investment processes (reduces the probability that subsequent administrative decisions will be contested), reduces corruption, increases the reliability of contractors, contributes to long-term investments and diffusion of knowledge, prevents the abuse of the common good and fosters inter-group solidarity and, through the development of the third sector, contributes to social control over the authorities' actions (Coleman, 1990; Halpern, 2005; Glaeser, Laibson, Sacerdote, 2002; Knack, Keefer, 1997; LaPorta et al., 1997; Putnam, 2003, 2008; Sztompka, 2007). Obviously, the advantages of social capital go beyond mere economic effects as they comprise the broadly understood quality of social life – it is more pleasant to live among people who trust each other and cooperate with each other. The term “social capital” has no precise definition or, at least, it is defined differently by various researchers. However, it is very vast – it covers all that determines sound social relations, care for the common good and cooperation<sup>75</sup>. All operational definitions include one common factor – the generalised trust towards people.

According to Robert Putnam (2003, 2008), social capital is a cultural phenomenon and covers the civil attitude of society's members, social standards supporting joint actions, and interpersonal trust as well as the citizens' trust towards public institutions. The research conducted by Putnam in Italy proves that social capital is created within a long-term historical perspective and constitutes a public good - it is not a resource or a feature of specific individuals, although it depends on individuals, their approaches, beliefs and the system of values.

Francis Fukuyama (1997, 2000), similarly as Putnam, defines social capital as „a set of informal values and ethical norms shared among members of a defined group that permits an effective cooperation among them.” The cooperation for the benefit of the public good is based on the mutual trust of the group members. The principles which create social capital range from the norm of reciprocity between two friends to very complex and codified doctrines, such as Christianity or Confucianism. However, not every system of norms creates a social capital.

In our research, we have assumed a definition close to the concepts of Putnam and Fukuyama. Social capital is understood here as the social networks regulated by moral norms or customs (and not by formal legal regulations, or not solely), binding an individual to society in a manner which enables him or her to cooperate with others for the benefit of the common good. Based on his research conducted in Italy, Putnam argued a considerable economic importance of social capital. The level of economic development may be treated as a result of social capital or as one of its functions. Moreover, social capital contributes also to:

- social integration and solidarity, thus preventing exclusion and discrimination;
- supporting and replacing ineffective state institutions;
- the control of the government sector and enforcing the accountability of government;
- the control of the commercial sector;
- building local culture and its protection against commercialisation.

The indicators of social capital thus defined can include general interpersonal trust, voluntary (not imposed, for instance, by the nature of the professional self-government) membership in organisations and serving functions in such organisations, participation in voluntary public meetings and speaking at such meetings, organising public meetings, voluntary actions for the benefit of the local community, including unpaid work for those in need (voluntary services), participation in parliamentary (or local government) elections and a positive attitude towards democracy which creates the best conditions for the development of social capital and feeds on it, attitude towards minorities, e.g. sexual minorities, and in general openness towards others<sup>76</sup>.

If a properly high level of social capital is the essence of a civic society capable of a common development in the ever more competitive market surroundings, Poland with extremely low indicators of factors that constitute social capital does not have the greatest perspectives ahead. As regards general trust, it is at one of the lowest positions among the countries covered by the European Social Survey (ESS) in 2006 and 2010 (Figure 6.3.1.). Only 10.5% of respondents in Poland agreed that "most people can be trusted" in 2003 and 2005, 11.5% in 2007, and 13.4% in 2009 and in 2011, as well as 12.2% in 2013, and 15.2% in 2015, and under the ESS in 2012 - 18%, while in 2014 – 16%. agreed with this statement. Polish result is over 4 times worse than in Denmark, Norway and Finland, which in the rank of the quality of life conducted among 185 countries placed, respectively, 10th, 1<sup>st</sup> and 24th (Poland 35th) (UNDP, 2014)<sup>77</sup>.

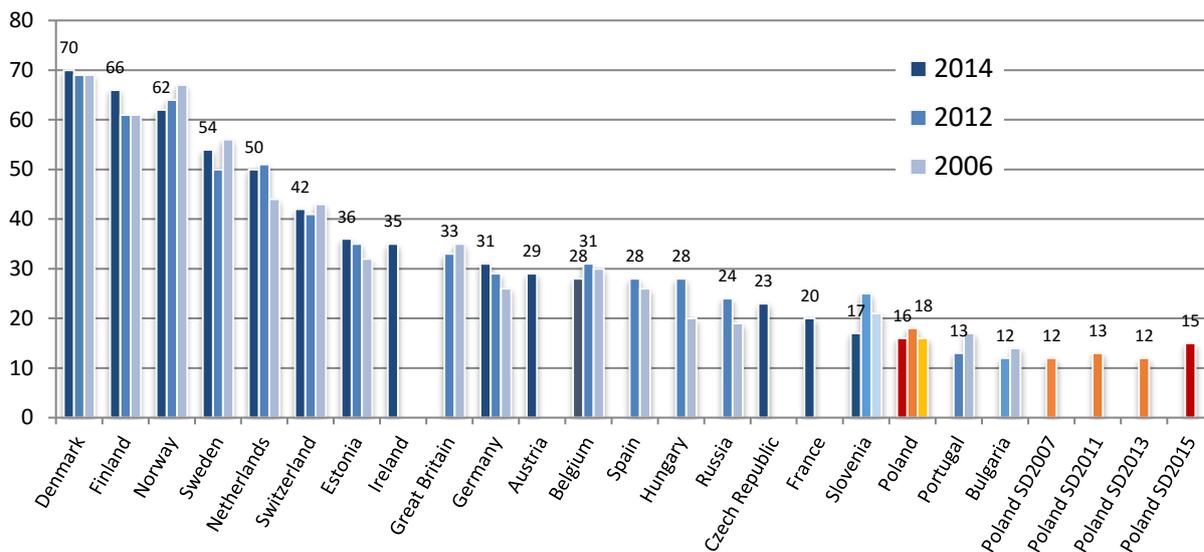
<sup>74</sup> Particularly in the richer countries (Czapiński, 2008, 2011b).

<sup>75</sup> Critical review of the social capital can be found in Hardin (2009).

<sup>76</sup> The results of some of these indices will be discussed here. The majority of them were used for the purpose of the synthetic index of social capital which constitutes one of the dimensions of the quality of life (see chapter 9.1.).

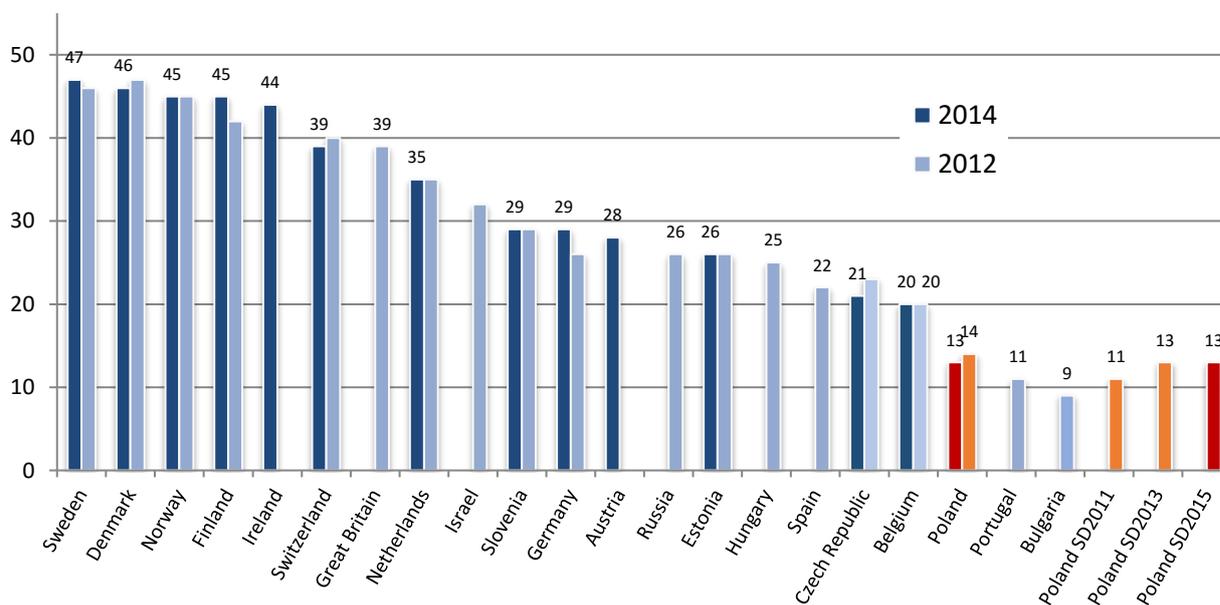
<sup>77</sup> Poland's position in this rank improved by 9 places in comparison to 1998 (UNDP, 2000).

In comparison with the representatives of other societies, Polish people have also less faith in the good intentions of the others. According to the ESS of 2014, only as little as 13% of Polish people (lower results were recorded only for Bulgaria and Portugal), only slightly more than found in Social Diagnosis 2011 and equally to 2013 and 2015 (Figure 6.3.2.)<sup>78</sup>.



Source: for all countries, including Poland, ESS - European Social Survey 2006, 2012 and 2014 (percentage of answers from 7 to 10 on the following scale: 0- “Does not hurt to be cautious”, 10- “Most people can be trusted”), average for all countries in 2014 38.1; for Poland DS – Social Diagnosis of 2007-2015 (percentage of answers “most people can be trusted” on the following scale: most people can be trusted, does not hurt to be cautious, hard to say).

Figure 6.3.1. Percentage of persons aged 16+ trusting other people

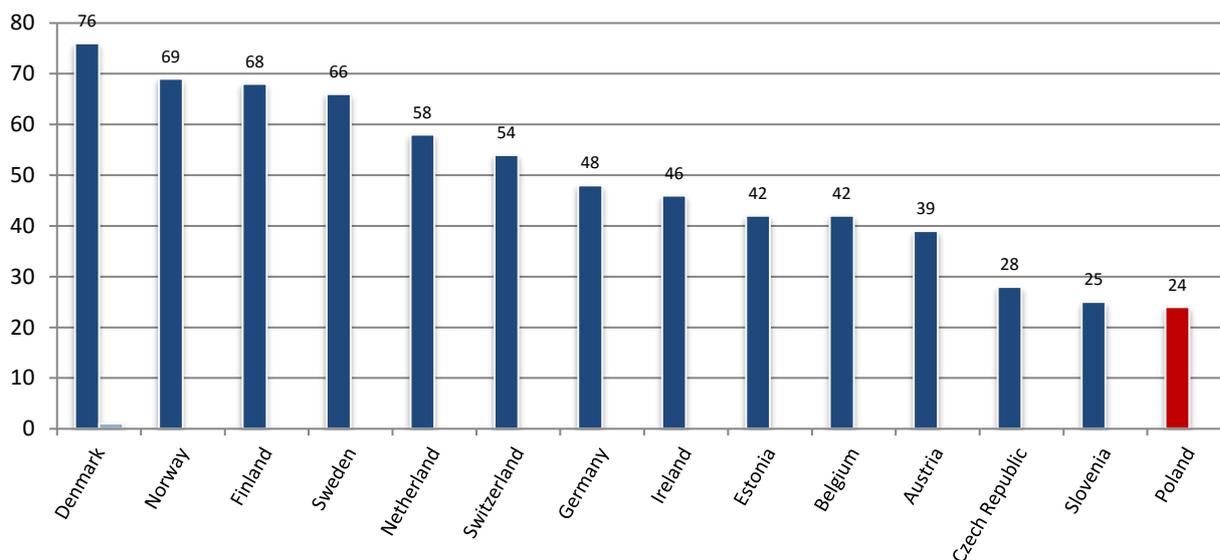


Source: for all countries - European Social Survey 2012 (percentage of answers 7-10 on the following scale: 0- “People mostly look after themselves”, 10 – “Most people try to be helpful”), average for all countries in 2014 - 32.2; for Poland DS – Social Diagnosis between 2011 and 2015 (percentage of answers „definitely yes”, „yes” to the question „People are mainly trying to help the others”).

Figure 6.3.2. Percentage of persons aged 16 and more who think that people are usually trying to be helpful

Poland believe in good intentions of other the least in the group of 15 European countries (Figure 6.3.3.). Only 24% in comparison to 76% of Danish people believe that people try to act honestly toward us.

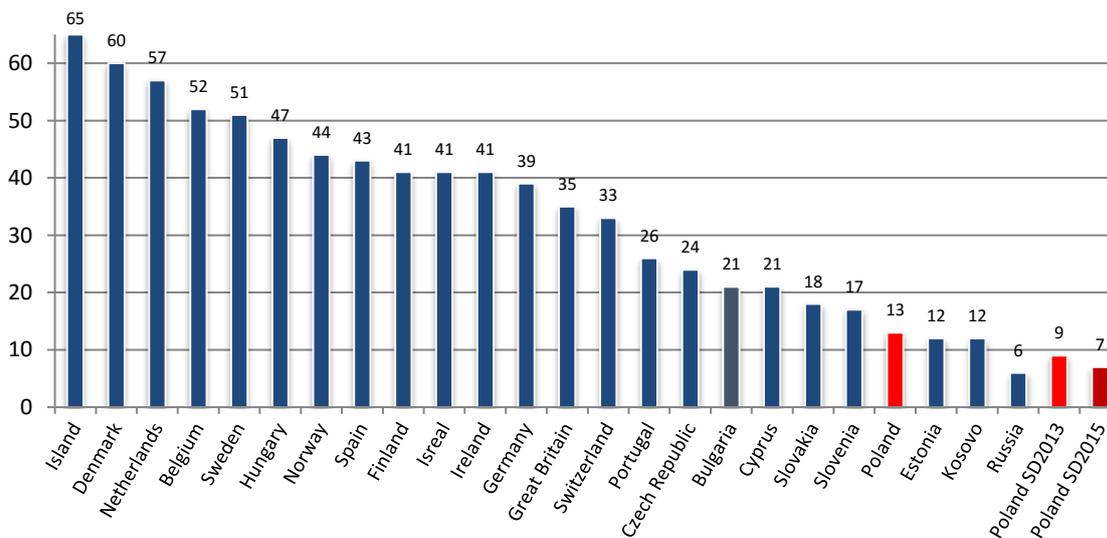
<sup>78</sup> In the Diagnosis, the scale did not include 11 points but 7, from „definitely yes” to „definitely no”. The percentages cover also „definitely yes” and „yes” answers.”.



Source: for all countries -European Social Survey 2014 (percentage of answers on a scale 7-10: 0-„majority of people try to cheat”, 10 – majority of people try to act honestly); average for all countries – 48.4.

Figure 6.3.3. Percentage of persons aged 16 and more who think that people are usually trying to be act honestly

One of the signs of low tolerance among Polish people is their attitude towards homosexuals (Figure 6.3.4.). According to the ESS 2012, only 13% (4th from last of 24 countries) and even less according to Social Diagnosis 2013 and 2015, decisively agree with the opinion that homosexuals should be allowed to live accordingly to their beliefs.

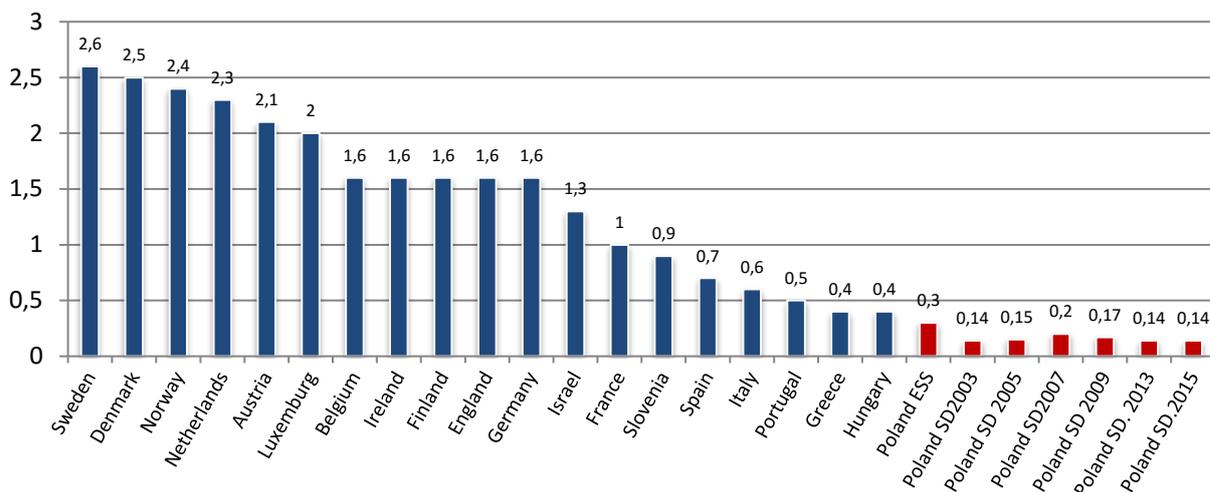


Source: for all countries together with Poland - European Social Survey 2012, for Poland DS2013 and DS2015 – Social Diagnosis

Figure 6.3.4 Percentage of people who agree very much with the statement that homosexuals should be able to live accordingly to their own beliefs.

The willingness to participate in organisations - with membership fully voluntary after transformation of the political system - dropped from 30.5% in 1989 (World Value Survey) to 14.8% and remains at this level until today (13.4% in 2015). In terms of this matter, just as in the case of trust, we have one of the last positions among the countries covered by the European Social Survey (ESS) in 2002 (Figure 6.3.5.).

Of those who are members of associations, 67% claim active participation in association activities. In this year's edition of Diagnosis, we also asked in what kind of organisations Poles actively take part. Religious (church) organisations have the greatest number of active members (24.5%), then sports clubs (13.8%), interest clubs (e.g. fishing, stamp collecting, motoring etc.) (13.6%) and trade unions (12.1%). In the remaining 11 organisation types included in the questionnaire, there are less than 10% of those indicating activity in organisations, and 24.5% claim activity in organisations not mentioned in the questionnaire (Figure 6.3.6.).



Source: for all countries, together with Poland ESS - European Social Survey 2002, for Poland DS – Social Diagnosis 2003-2015.

Figure 6.3.5. Average number of organisations to which respondents aged 16 and more belong

Each type of organisation differs in its active members' gender and age structure. Typically, male are the sports clubs, political parties, interest clubs, and elected local authorities, while there is a marked majority of women in parents committees, social (clubs) and religious organisations, as well as organisations that broadcast knowledge (Figure 6.3.7.).

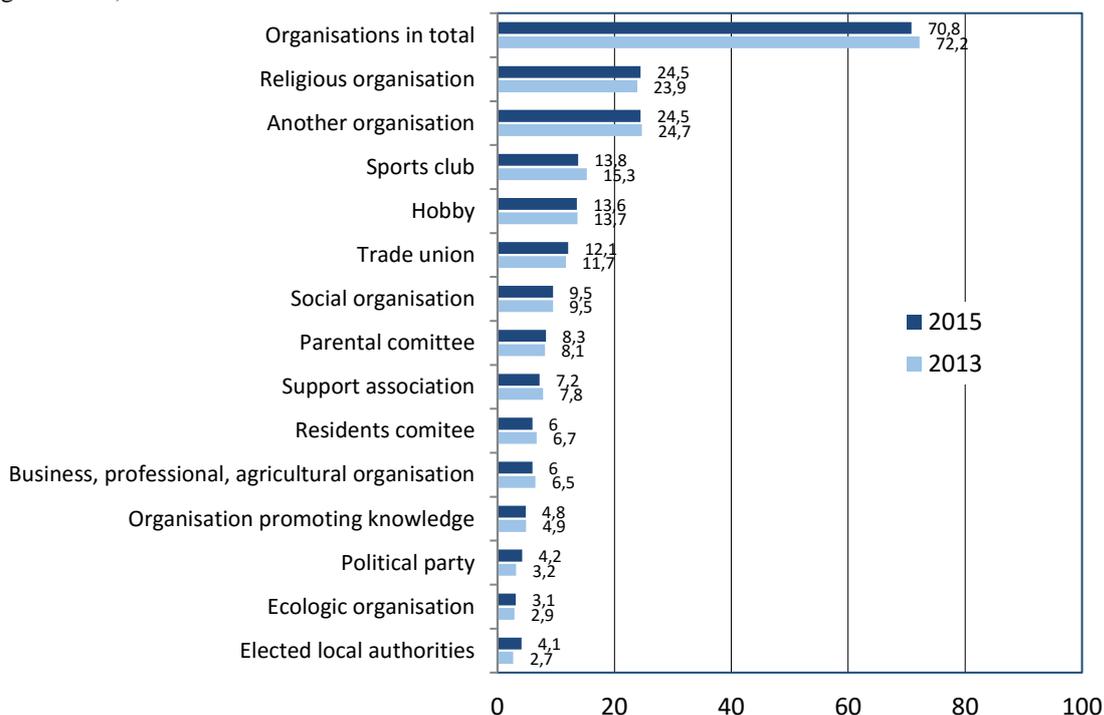


Figure 6.3.6. Percentage of active members of organisation in total and types of organisations among those who belong to at least one

As far as age structure is concerned, sports clubs, interest clubs, and ecological organisations have the greatest number of young members (up to 29 y.o.), while “the oldest” are local authorities, organisations that broadcast information (largely due to universities for the elderly), religious organisations and social clubs and housing committees. In parents' committees, most members are parents of schoolchildren and in trade unions and professional organisations, members tend to be 45 to 59 y.o.. In the remaining organisation types, the age structure is quite balanced (Figure 6.3.8.).

Active members of organisations are mostly better educated (38% have a higher education diploma and 33% have graduated high-school). The highest proportion of members with higher education is in professional corporations,

political parties, ecological organisations, organisations that broadcast information, while the smallest share is in sport, social and religious clubs (Figure 6.3.9.).

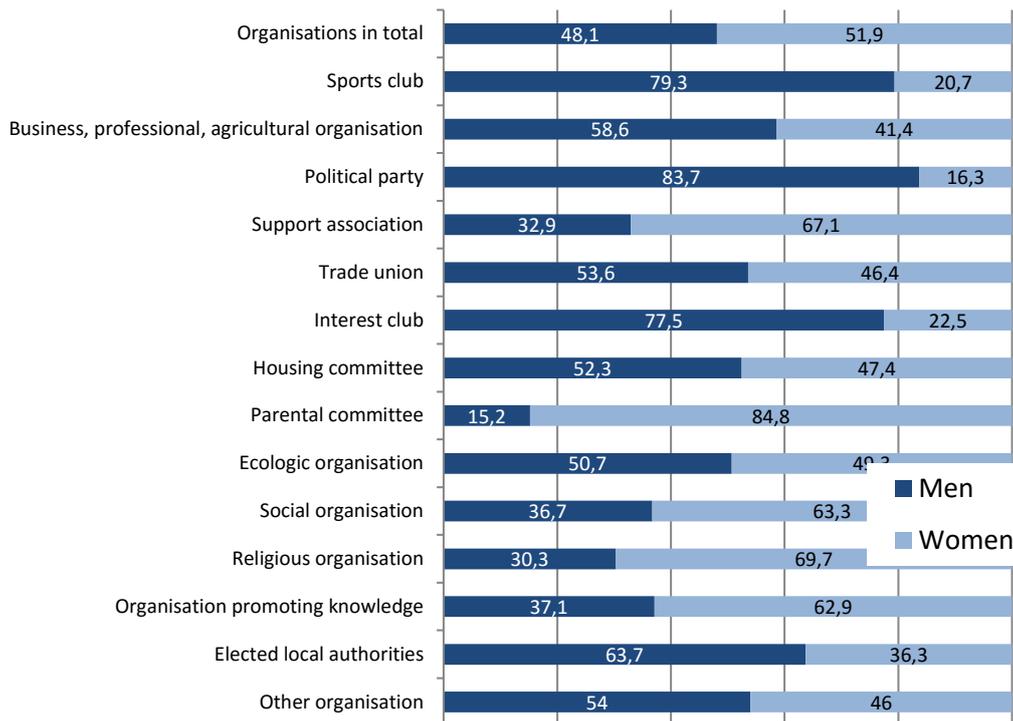


Figure 6.3.7. Percentage participation of men and women among active members of an organisation

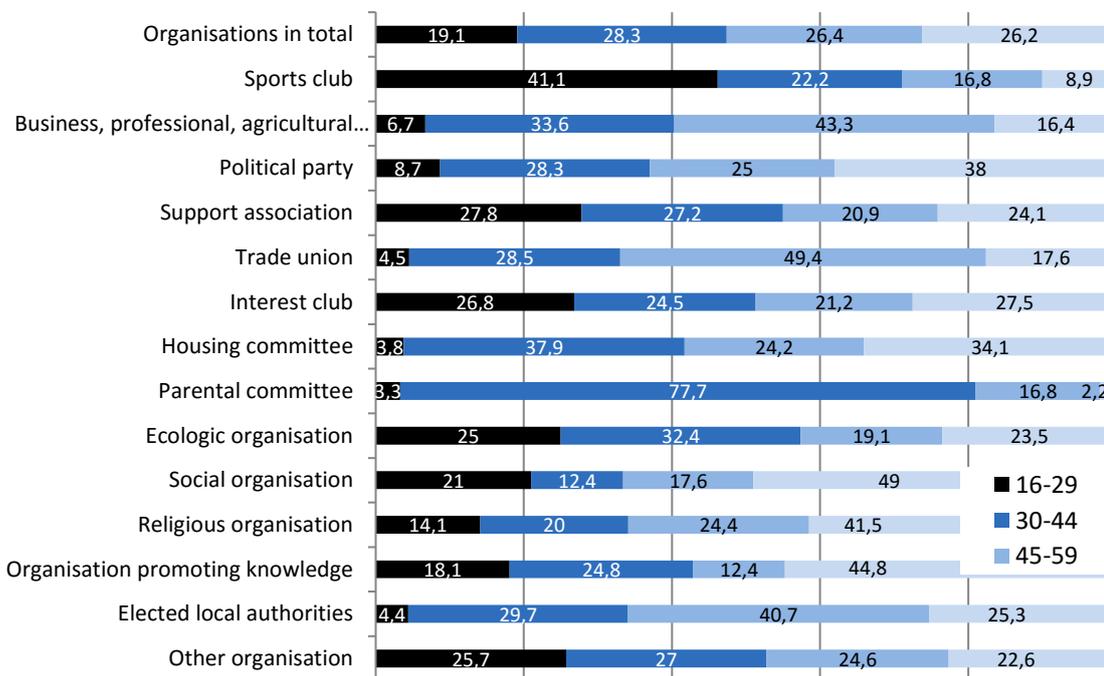


Figure 6.3.8. Percentage of four age groups among active members of organisation (due to the small number of persons, consumer organisations were omitted)

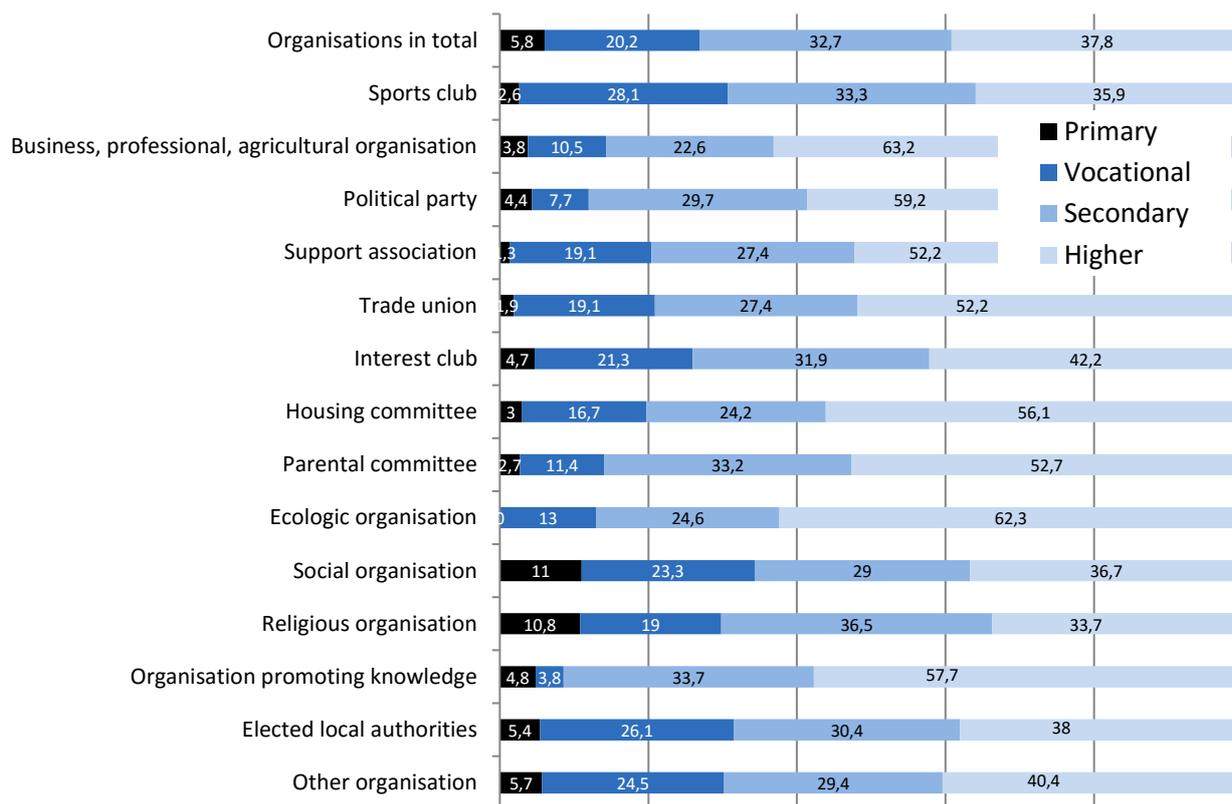
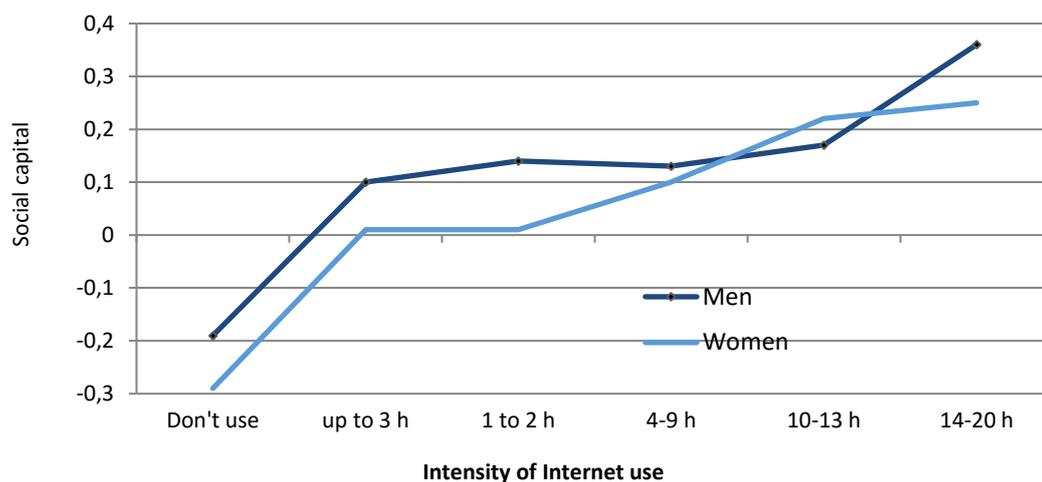


Figure 6.3.9. Percentage of four groups of education among active member of organisation (due to the small number of persons, consumer organisations were omitted)

According to Putman, social capital is created by culturally-defined social relations. The culture creates norms (e.g. reciprocity, respect and honesty), determines the value of common good, indicates the place and character of meetings. An important element of culture are now the media, especially the electronic media. Putnam (1993, 2008) blames them for erosions of the social capital in the USA. He does concentrate on the destructive role of TV, but also on the Internet. However, there are also supporters of the positive influence of electronic media, especially the Internet. A comprehensive critical review of statements in the case can be found in the work by Krystyna Skarzyńska and Kamila Henne (2007). In Diagnosis, we asked about the time devoted to watching TV daily, and to using the Internet weekly. We can thus check if the two main electronic media do have the same destructive influence on the social capital. It turns out that the relation of those media with the social capital is different: it is negative for TV (as Putnam said) and positive for the Internet (Table 6.3.1.). The more somebody spends the time on TV, the lower the indicator of the social capital and the more the time devoted to the Internet, the higher the indicator. As using the Internet and TV is related to age and education, just like social capital, a question can be asked if those relations are not of a fictional character. They are not, as they are still significant after exemption of the effects of age and education (Figures 6.3.10.-6.3.11.).

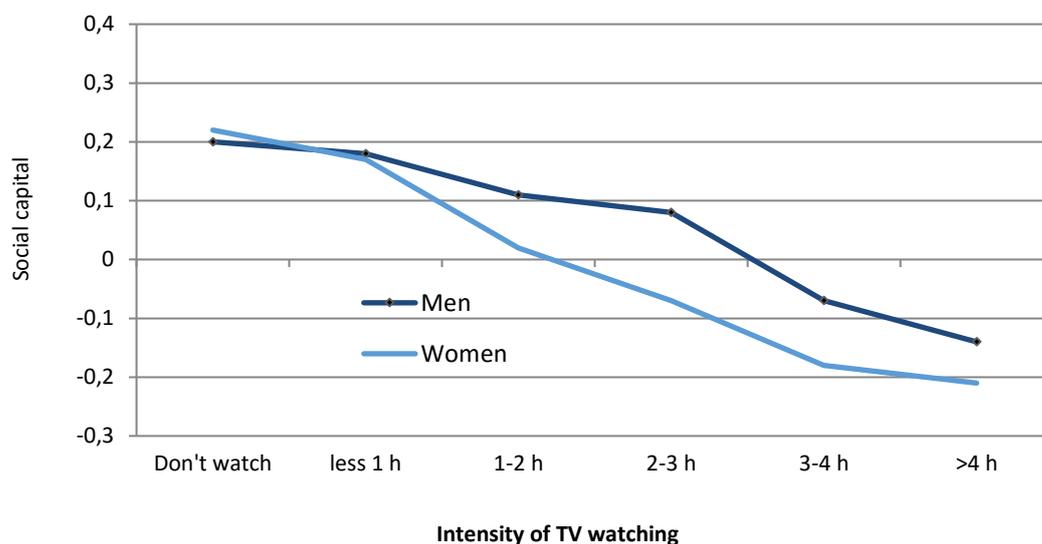
Table 6.3.1. Results of regression analysis for social capital due to engagement in watching TV and using the Internet

Model	Predictors	Non-standardised factors		Standardised factors		Significance
		B	Standard error	Beta	t	
1 $R^2=0.05$	(Constant)	0.165	0.023		7.293	0.000
	Internet	0.092	0.004	0.157	22.779	0.000
	TV	-0.086	0.005	-0.119	-17.322	0.000
2 $R^2=0.13$	(Constant)	-1.271	0.045		-28.366	0.000
	Internet	0.088	0.005	0.149	17.590	0.000
	TV	-0.082	0.005	-0.114	-16.864	0.000
	Gender	-0.076	0.013	-0.038	-5.861	0.000
	Age in 2015	0.012	0.000	0.211	26.414	0.000
	Number of years of education in 2015	0.081	0.002	0.270	36.615	0.000



NOTES: effect of Internet use  $F(5, 20669)=82.756$ ,  $p < 0.000$ ,  $\eta^2 = 0.020$ ; effect of interaction between Internet use and gender  $F(5, 20669)=3.296$ ,  $p < 0.01$ ,  $\eta^2 = 0.001$ ; controlled variables were education and age

Figure 6.3.10. Intensity of internet use and the level of social capital among women and men



NOTES: effect of Internet use  $F(5, 20956)=59.756$ ,  $p < 0.000$ ,  $\eta^2 = 0.014$ ; effect of interaction between Internet use and gender  $F(5, 20956)=2.496$ ,  $p < 0.05$ ,  $\eta^2 = 0.001$ ; controlled variables were education and age

Figure 6.3.11. Intensity of watching TV and the level of social capital among women and men

The majority of researchers in the field of social capital emphasize its positive impact on the economic development. Social capital is supposed to result in wealth, both of particular individuals and of communities. In the report of the previous Diagnosis edition (Czapiński, Panek, 2013), we have discussed in detail the economic importance of social capital in the international perspective. We came to a conclusion that it fosters the increase of economy, measured in per capita GDP, but only in the developed countries (Figure 6.3.12.)<sup>79</sup>. In developing countries, the crucial role is played by human capital measured in educational level of citizens. Human capital also seems a significant predictor in the developed countries, but in fact this is a result of a strong positive relation between educational attainment with general trust and other indicators of social capital. When we included at once educational attainment and trust in the multiple regression equation, it turns out that in developing countries human capital remains a significant predictor of GDP, while in developed countries social capital has the predictive power (Table 6.3.2.).

<sup>79</sup> The measuring tool for social capital in this analysis is a complex indicator of general trust for people and organizational activity from the *World Value Survey* between 1994/1999.

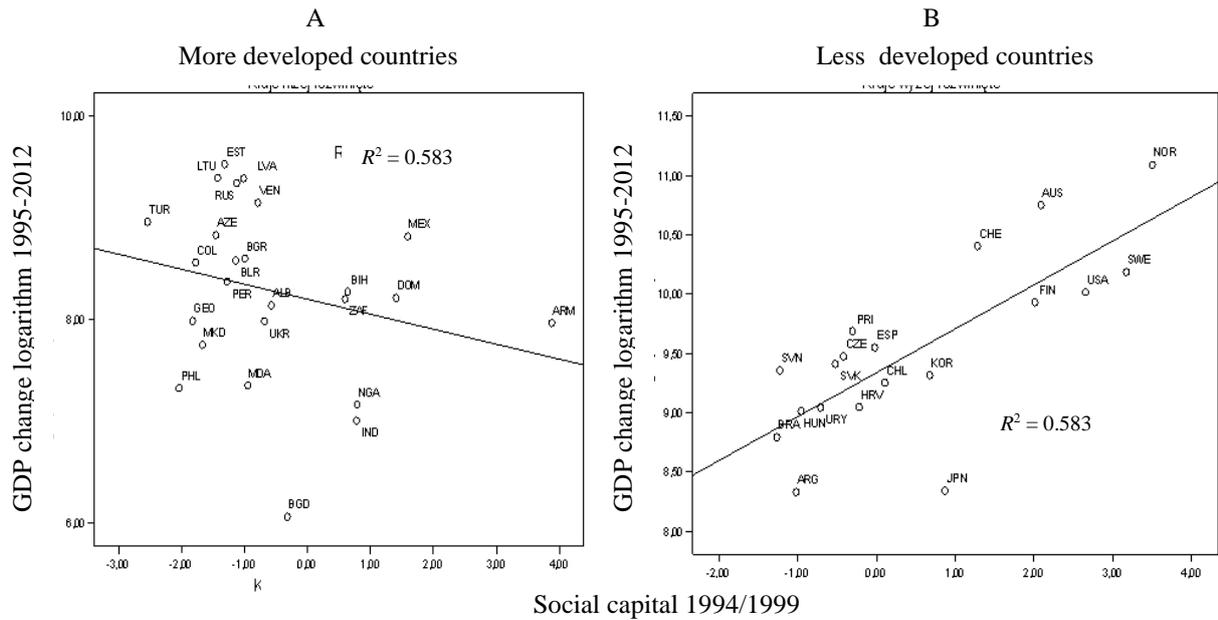


Figure 6.3.12. Regression of the logarithm of GDP increase's influence<sup>80</sup> between 1995–2012 on the level of the social capital from the 90-ties in 1996 in the group of the countries at a lower (N=24, panel A) and higher (N=18, panel B) development level<sup>81</sup>

Table 6.3.2. Results for multiple regression analysis of GDP for the level of trust and number of years in education in developed and developing countries

Group of countries		Non-standardised factors		Standardised factors	t	Significance
		B	Standard error	Beta		
Developing N=30	(Constant)	349.706	991.628		0.353	0.727
	Trust	605.472	453.382	0.202	1.335	0.192
	Years of education	782.809	185.757	0.636	4.214	0.000
Developed N=37	(Constant)	15042.529	13104.660		1.148	0.259
	Trust	13410.124	3019.511	0.650	4.441	0.000
	Years of education	1845.313	1598.209	0.169	1.155	0.256

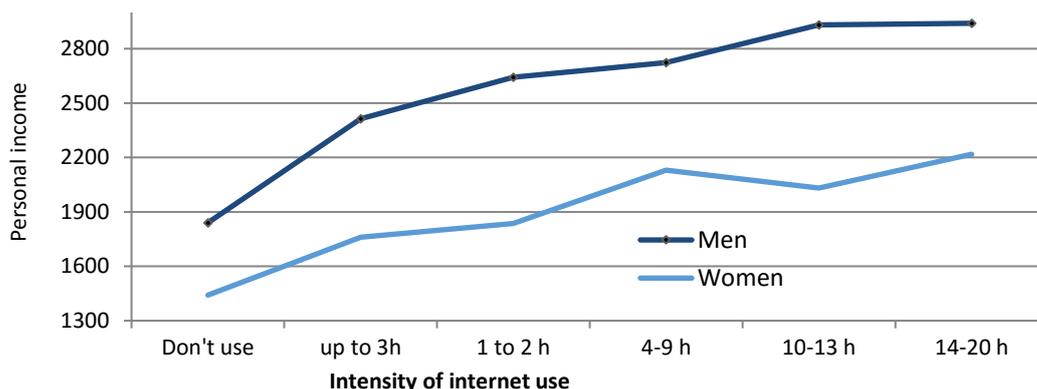
Table 6.3.3. Results of regression analysis for personal income

Model	Predictors	Non-standardised factors		Standardised factors		Significance
		B	Standard error	Beta	t	
1 R <sup>2</sup> =0.17	(Constant)	420.655	74.923		5.615	0.000
	Gender	-627.460	22.996	-0.200	-27.286	0.000
	Age in 2015	6.410	0.722	0.072	8.876	0.000
	Number of years of education in 2015	179.742	3.636	0.397	49.429	0.000
2 R <sup>2</sup> =0.18	(Constant)	626.848	76.718		8.171	0.000
	Gender	-613.351	22.932	-0.195	-26.746	0.000
	Age in 2015	5.463	0.724	0.061	7.548	0.000
	Number of years of education in 2015	164.901	3.843	0.364	42.913	0.000
	Social capital	135.929	11.778	0.089	11.541	0.000
3 R <sup>2</sup> =0.20	(Constant)	534.153	83.132		6.425	0.000
	Gender	-593.218	22.645	-0.189	-26.196	0.000
	Age in 2015	13.169	0.805	0.147	16.359	0.000
	Number of years of education in 2015	131.939	4.104	0.291	32.149	0.000
	Social capital	103.091	11.757	0.067	8.769	0.000
	TV	-50.800	8.683	-0.045	-5.851	0.000
	Internet	179.606	8.985	0.190	19.989	0.000

<sup>80</sup> The logarithm takes into account the right of decreasing end benefit. It is obvious that the increase of GDP by 100 USD from a country with a GDP of 700 USD is of greater significance than an increase of 1000 USD for residence of a country with output income of 70 000 USD.

<sup>81</sup> The criterion of the division for less and more developed countries was the level of GDP in 1995 (4 thousand USD)

Social capital and cultural factors related to it, such as the media, may have an influence on the economic dimension of an individual's life. It was proven by the results of an analysis of multiple regression of data of this year's Diagnosis (Table 6.3.3.). In the first step, apart from age and gender, the measurement of human capital was a predictor (the number of years of education). In total, the three predictors allowed for explaining 17% of variation of the net personal income and the most important of them was the education level (see 5.5.3 concerning the return of investment in education). In the second step of the analysis, the social capital index was added and it increased the percentage of the variation explained by one point at the expense of education. In the third step, all the factors related to social capital (intensity of watching TV and using the Internet) added additional 3 pp to the variation explained. Using the Internet proved to be second, after education, predictor of wealth. Figure 6.3.13 illustrates the relation between intensity of Internet use and gender and income. Even though both in case of men and women the time spent on the Internet is accompanied by higher income, the significant interaction between gender and internet use shows that income discrimination of women in comparison to men increases with the intensity of Internet use. Internet increases more the quality of life of men than women.



NOTES: effect of Internet use  $F(5.15706)=99.256$ ,  $p < 0.000$ ,  $\eta^2 = 0.031$ ; effect of interaction between Internet use and gender  $F(5.15706)=13.066$ ,  $p < 0.000$ ,  $\eta^2 = 0.004$ ; controlled variables were gender and education

Figure 6.3.13. Intensity of Internet use and net personal income among men and women

The data from Diagnosis also confirms the dependency between social capital, defined in accordance with the assumed indices (see above), and other dimensions of the quality of life, including the general index of the quality of life (see chapter 9.2.) (Table 6.3. 4). All those relations, with the exception of correlation with pathology indicator, are statistically significant. The correlation coefficient with the general index of the quality of life is the highest, which is not surprising since the index of social capital is one of the eight components of the general index of the quality of life. Two correlation coefficients with the indices of the standard of living come second: civilisation level and material well-being.

Table 6.3.4. Correlation between social capital and other indicators of quality of life \*

	Psychical well-being	Physical well-being	Social well-being	Civilisation level	Material well-being	Life stress	Pathologies	General quality of life
<i>Pearson's r</i>	0.178	0.046	0.153	0.269	0.258	0.116	-0.004	0.438
<i>p</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
N	20012	20939	21017	20959	19767	21085	21554	16501

\* Measures of quality of life - see chapter 9.2.

Similarly, as in the analysis broken down by country, we find here a significant connection between social capital and the affluence of Polish subregions and larger cities. In the case of subregions we have the data on per capita GDP in 2014 (GUS, 2014). The average level of social capital of the inhabitants of 66 subregions is explained by 37% of the GDP diversification (Figure 6.3.14.). In the subregion with the highest level of social capital (in Poznań) we observe also decisively the highest, after Warsaw, GDP per capita.

Social capital also explains to a similar degree (38%) the regional differences in average household per capita income (Figure 6.3.15.). Once again, Poznań is, with the exception of Warsaw, the most prosperous city.

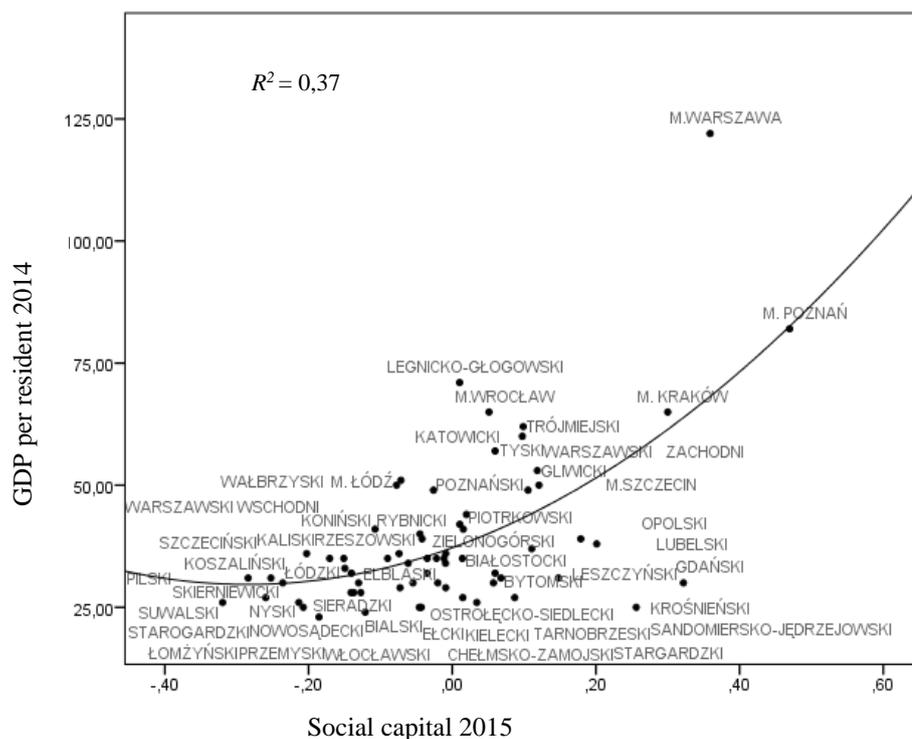


Figure 6.3.14. Social capital in 2015 and GDP per capita in 66 subregions in 2014

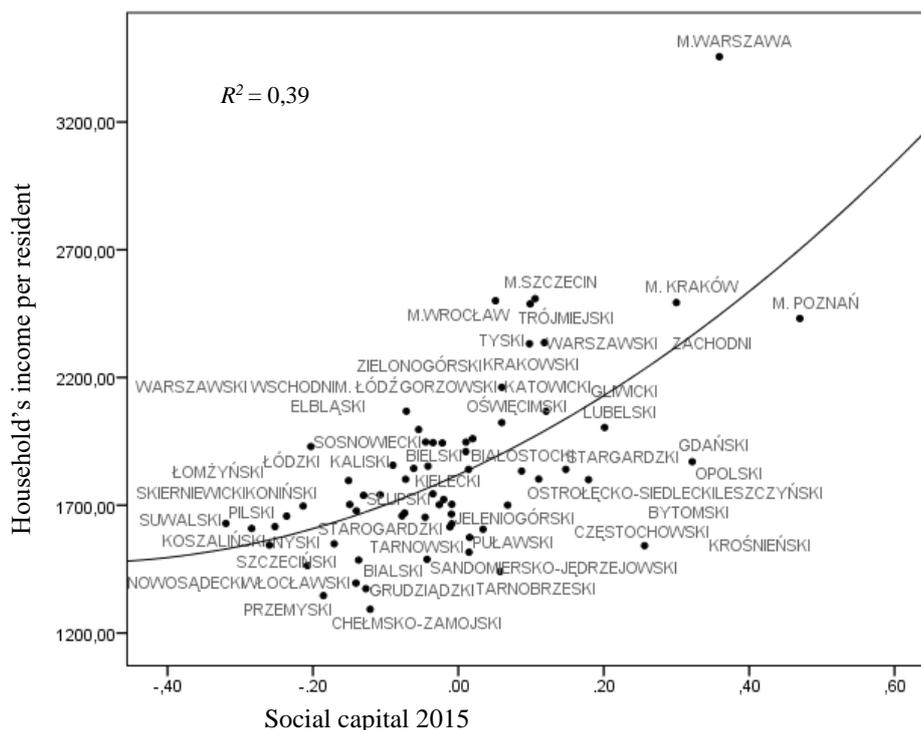
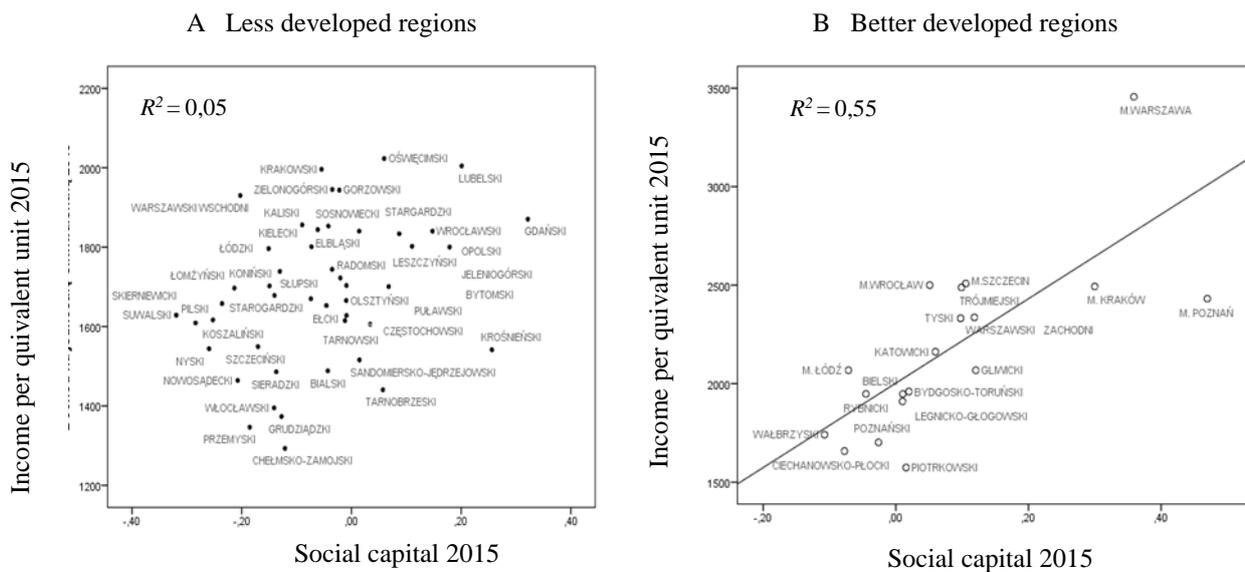


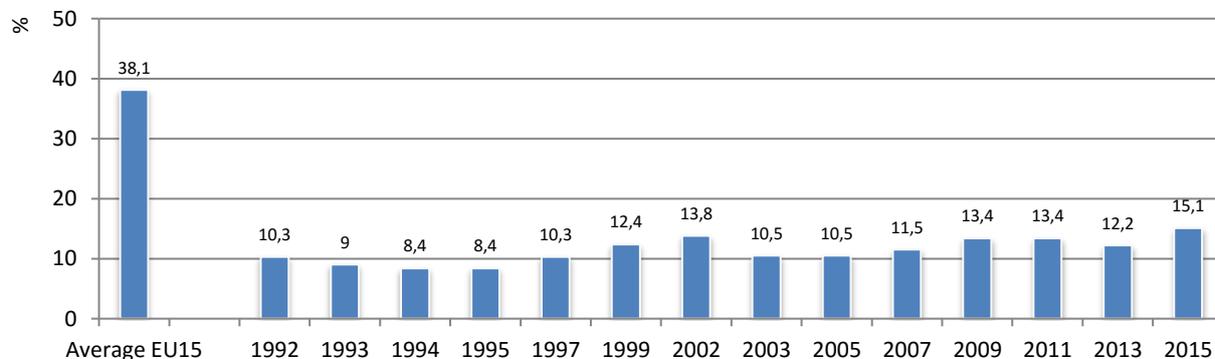
Figure 6.3.15. Social capital and income of households per capita in 66 subregions

Like for international comparisons, social capital better explains differences in the prosperity of the more developed regions than of the less developed. If we take per capita GDP at PLN 30,000 as the criteria level, we can say that social capital in regions above that criteria explains 55% of differences in GDP, and in those below that level it becomes statistically insignificant as a predictor (Figure 6.3.16.).



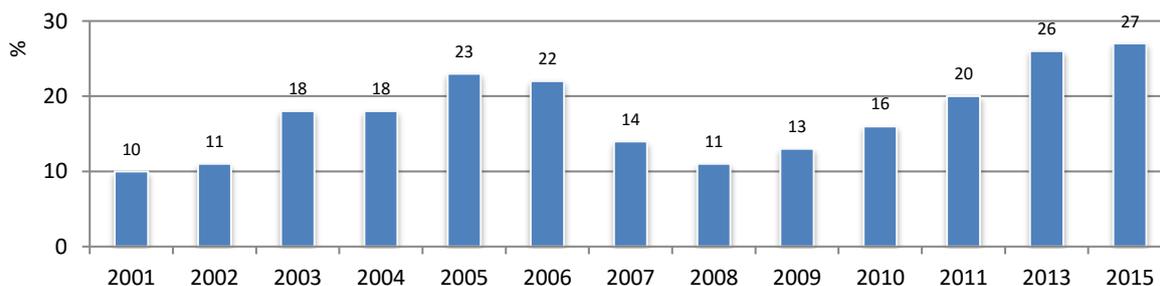
3.16. Social capital in 2015 and equivalent income of a household in 66 subregions in 2015 with the distinction of regions of a lower (panel A) and higher (panel B) level of development

Let us now take a look at how two selected indices of social capital changed in the past years in Poland. The index of social trust changed slightly, but in the entire period from 1992 to 2015, it remained 2-3 times lower than the average in the European Union (Figure 6.3.17.). The percentage of volunteers among Polish adults grew until 2005 and then started to decrease to the level from before 2003, only to increase again to the level from the mid-90s (Figure 6.3.18.). It should however be added that the scale of answers in 2013 was not dichotomous (either yes or no), but three-fold (yes, often; yes, rarely; and no), which could have influenced a rise in the share of volunteers).



Source: average for 15 European countries — ESS - European Social Survey 2014; Poland - 1992-2002 — PGSS, 2003-2015 — Social Diagnosis, own study.

Figure 6.3.17. Percentage of persons trusting other persons in Poland between 1992 and 2015 and the average trust level in 15 European countries in 2014



Source: 2001-2010 „Wolontariat, filantropia i 1 proc” (Voluntary work, philanthropy, and 1%). Klon/Jawor; 2011-2015 Social Diagnosis.

Figure 6.3.18. Percentage of volunteers among adults in Poland between 2001-2015

According to the data of the Polish General Social Survey (PGSS, 1999), after a temporary growth in 1997 the number of persons satisfied with democracy in Poland started to decrease. In our research, in which we used a different scale for the assessment of democracy than the Polish General Social Survey, the percentage of those supporting the opinion that democracy is better than any other form of government is at a very low, and recently still falling level. In 2003 it was 17%, in 2005 21%, in 2007 24%, in 2009 also 24% and in 2011 26.8%, in 2013 - 25.5% and in 2015 - 20.8%.

In this year's edition of Social Diagnosis we applied a simple measurement of social capital understood as social network resource, and to be more precise, as heterogeneity of the social network of particular persons. The network understanding of social capital has a shorter tradition, at least in case of economy, as in Social sciences the interest in social networks could be noticed in works of the creator of sociometry -- Jacob Moreno from the 30iers of the 20<sup>th</sup> century (1934, 1951). Right now, the leading researchers studying social capital in the network approach are, among others, Nan Lin (2001, 2008) and Ronald Burt (1992, 2005). The individual study on the network social capital the so-called generators are used (names of profession or resources). Each person studied has to tell the names of persons with whom she/he is at constant contact and then characterise each of the persons according to different criteria -- age, education, hobbies, etc. The more diversified in terms of these criteria the social network is, the more potential resources it contains. Let us illustrate it with a simple example. If I organised and moderated a discussion about movies with persons interested in different genres, and who have seen various movies, I would definitely increase my knowledge on cinematography and maybe I would like to extend my repertoire more than if I discussed the movies with persons with similar taste and who have seen the same movies as me. Burt would call the first network a one with *structural holes* and would see me as a broker connecting various environments and getting ideas from many sources. In the individual questionnaire (Annex 1, question 69), we asked respondents if among friends with whom they maintain social relationships, there are persons of other age, political views, material status and taste in music, literature, entertainment and cuisine. It seems that the scale is characterised by high split-half reliability (Cronbach's alpha = 0.84). The sum of positive answers would be adopted as an indicator of heterogeneity of the social network of the individual; that is, its social capital.

The relation of the network social capital of an individual with the measurement based on Putnam's concept (see chapter 9.2.) is statistically significant, but not strong ( $r=0.134$ ). It is more weakly correlated than the Putnam's measure with the indicator of material life success, that is personal income ( $r$ -respectively, 0.104 and 0.206) and in case of subregions it explains lower variations in GDP (20 and 37% respectively). The analysis of variances shows that the network generator of resources is greater in case of men than women, it increases together with the education level and the size of the place of residence, and it is the highest in the case of persons aged 35-44, and the lowest among the oldest.

From Poland's perspective, the general question is: what is the source of economic development in the Third Republic of Poland, given the continuously low level of social capital? The development of Warsaw, Poznań or Gdynia may be connected with social capital which is higher there than in other agglomerations, however the material level of life has improved rather steadily in the entire population (see chapter 9.3.) and also in the regions with the lowest levels of social capital. The hypothetical answer is that we are at the stage of molecular development characteristic of less developed countries, as opposed to the community development that characterises highly developed countries (Czapiński, 2008, 2011b). A symbol of this opposition is the gap between the improved living conditions in households, furnished with various types of consumer durables (cf. chapter 4.3.), and the pace of the infrastructure development, for instance in the case of roads, and all difficulties connected with implementation of public investments. The economic advancement of specific persons and families is dependent on human capital that is developing fast in Poland, and on educational attainment in particular. Collective projects, which require effective cooperation between the central and local government authorities as well as the local community and particular citizens, need social capital to be successful. Mere knowledge and health are no longer enough.

We live in a country of increasingly effective individuals and a continuously ineffective community. The common good, measured for instance as the size of the state budget, is only growing because those who are obliged to pay part of their income to this common coin bank are becoming richer. However, this brings little benefit to public investment. The fact that currently the considerable financial resources from the EU to a certain extent level this asymmetry should not put politicians at ease because soon, when the external supply has dwindled and social capital has not grown, we may face the risk of impeded development.

International studies demonstrate that human capital is more important than social capital in terms of the conditions for development in the poorer countries, to which Poland still belongs. However, after exceeding a certain threshold of affluence<sup>82</sup> it is social capital which becomes more important for development. This explains why so far we have developed economically at a fairly good pace, despite a very low level of social capital. Probably in about 8 years, Poland will reach the threshold of affluence above which further investment in human capital will cease to suffice to maintain development. This is approximately the time left to build social capital necessary for further development (Czapiński, 2011b).

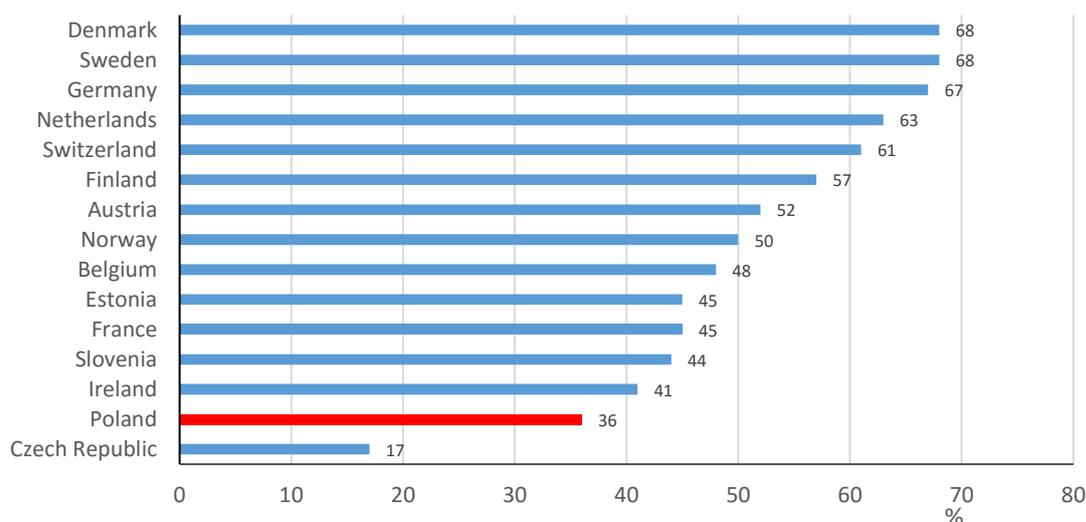
<sup>82</sup> Level of affluence measured by e.g. GDP per capita, is for the most countries the only accessible index of the degree of complexity of economic relations, technical advance, economy competitiveness, and other indicators of social development

The problem here is that an investment in human capital can be made individually, and this is what P done and still do (at present as many as 2/3 of students pay for their education from own pocket). It is impossible, however, to build social capital in this manner. First of all, as Putnam states, social capital is dependent on the historical, long term process of the formation of a civil community, and secondly, under this historical process it is highly important what occurs in the public sphere: in politics, at schools, in local government and on the streets. This in turn to a great extent depends on the elite and on politicians in particular. At present, when looking at the educational system or parliament, it is difficult to indicate examples of a political or, more generally, institutional incentive that would encourage Polish people to trust each other more and feel a greater willingness to cooperate. The passage of time alone will not change this.

To sum up, today the growing human capital, which attracts foreign investors and the financial support from the European Union, is a sufficient source of the individual development of Polish people and thus also of Poland as a whole. However, in some short time we will painfully experience the lack of social capital responsible for the development of a community without a considerable external supply.

## 6.4. Political activity and identification

In the European Social Survey 2014, the Poles ranked below the European average in terms Political interest and involvement (Figure 6.4.1.). Our results concerning electoral participation, be it parliamentary, local government or presidential, were even worse. Even in the case of the turnout for the European Parliament elections in 2014, we ranked fourth to last position despite being among the greatest EU enthusiasts and trusting the European Parliament as the institution much more than the Polish national parliament, as results from this year's edition of Social Diagnosis (see chapter 9.1.) indicate. Even if we leave out the countries where participation in elections is a statutory obligatory (such as Belgium and Luxembourg), the political activity of Polish people and - in general - their civil activity (as shown by the indices of social capital) is still very low. In this respect, we are much more similar to the countries that also experienced real socialism than those from the north-west Europe, and Scandinavian countries in particular.

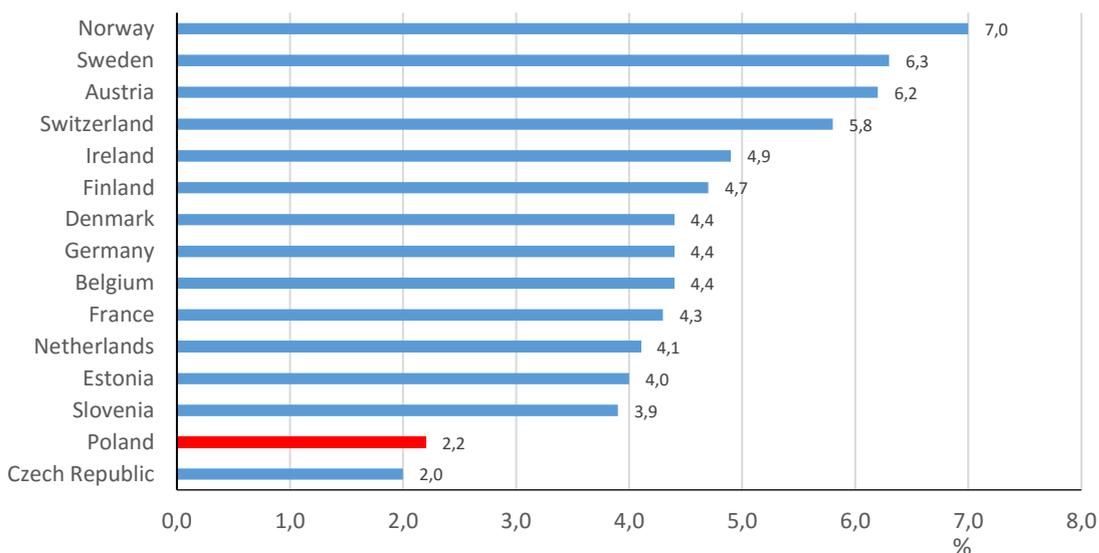


Source: *European Social Survey 2014*; average: 51%.

Figure 6.4.1. Percentage of persons aged 16+ which said that they were interested in politics in 15 European countries in 2014

Declared involvement in elections is of course considerably higher. In the European Social Survey, like in the subsequent editions of Social Diagnosis, the difference between the declared and the actual participation in elections (this most important expression of civil existence) amounts to 20p.p. In the 2011 edition of Social Diagnosis, more than 66% of respondents declared that they had taken part in the 2010 local government elections, while the data from the National Electoral Commission indicate the turnout at 47.3%. In this year's edition, 66.5% claimed they voted in the parliamentary elections of 2014, while the real voting frequency was 47.4% of those entitled to vote.

Only 0.3% of persons aged 16 and more admits that they work for the benefit a political party in an active way. In the European Social Survey 2014, more Poles stated that they work for the benefit of a political party or a social movement - 2.2%, but it is still the lowest percentage, just like in case of the Czech Republic, in the group of 15 European Countries (Figure 6.4.2.). It is worth noticing, though, that only 10% of Poles admit to work for the benefit of any organisation.



Source: *European Social Survey* 2014; Average: 4.5%.

Figure 6.4.2. Percentage of persons aged 16+ and working for the benefit of a political party or a social movement in 2014, for 15 countries.

Just like two years and four years ago, in this year's edition of *Social Diagnosis* we asked respondents to indicate the political party with which they identify the most (Annex 1, individual questionnaire, Question 101). The distribution of answers is shown in Figure 6.4.3 and may be treated as an indicator of political identification. They show that more than half of Poles aged 16+ cannot find (42.5%), or have trouble finding (15.6%), a political representative for their beliefs or interest. This means that more than a half have no determined political identity. Among these who in March and April indicated their representatives, 36.0% identified with the Civic Platform (PO), 40.2% with the Law and Justice (PiS), 6.1% with the Democratic Left Alliance (SLD), 6.1% with the Polish Peasant's Party (PSL), 2.7% with *Twój Ruch*, and 8.9% with other parties (Table 6.4.3.). Compared to 2011 and 2013, a lot has happened to the structure of support, as the Civic Platform and SLD have shown marked losses, PiS has gained, and PSL has remained at the same level.

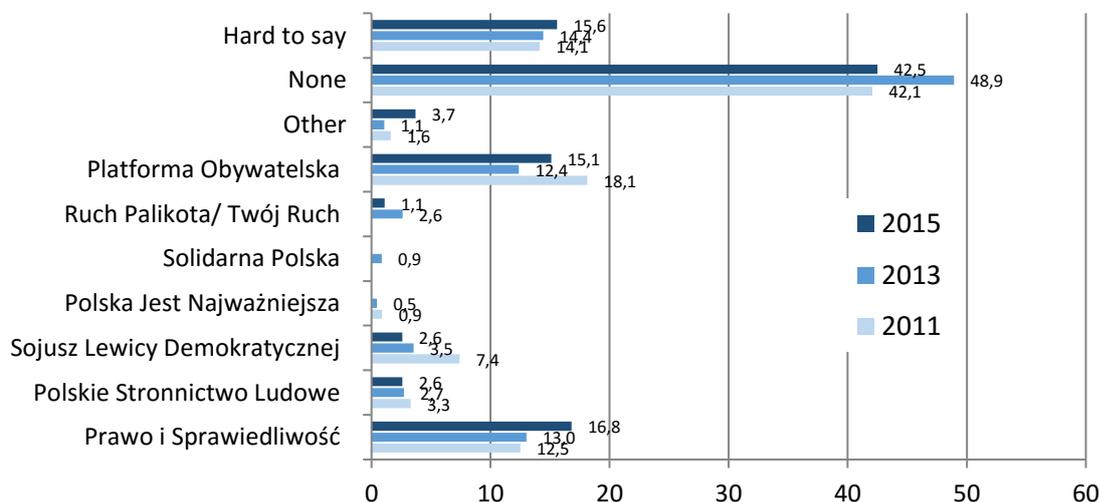


Figure 6.4.3. Percentage distribution of answers to the question „Which party do you support the most?” in 2011, 2013 and 2015 (in 2011 there were no SP, PJN and RP answers, in 2015 there were no SP and PJN answers)

The characteristics of supporters of the four major political parties in terms of basic socio-demographic variables (age, educational level, size of place of residence, personal income), selected indices of value systems (religiosity, respect for common good, acceptance of democracy), and social attitudes (level of prejudice against homosexuals and persons of foreign origin), entrepreneurship, place of control over one's own life (autodeterminism vs fatalism), shows two two significantly different main groups and two smaller subgroups of the main groups (Figure 6.4.4.).

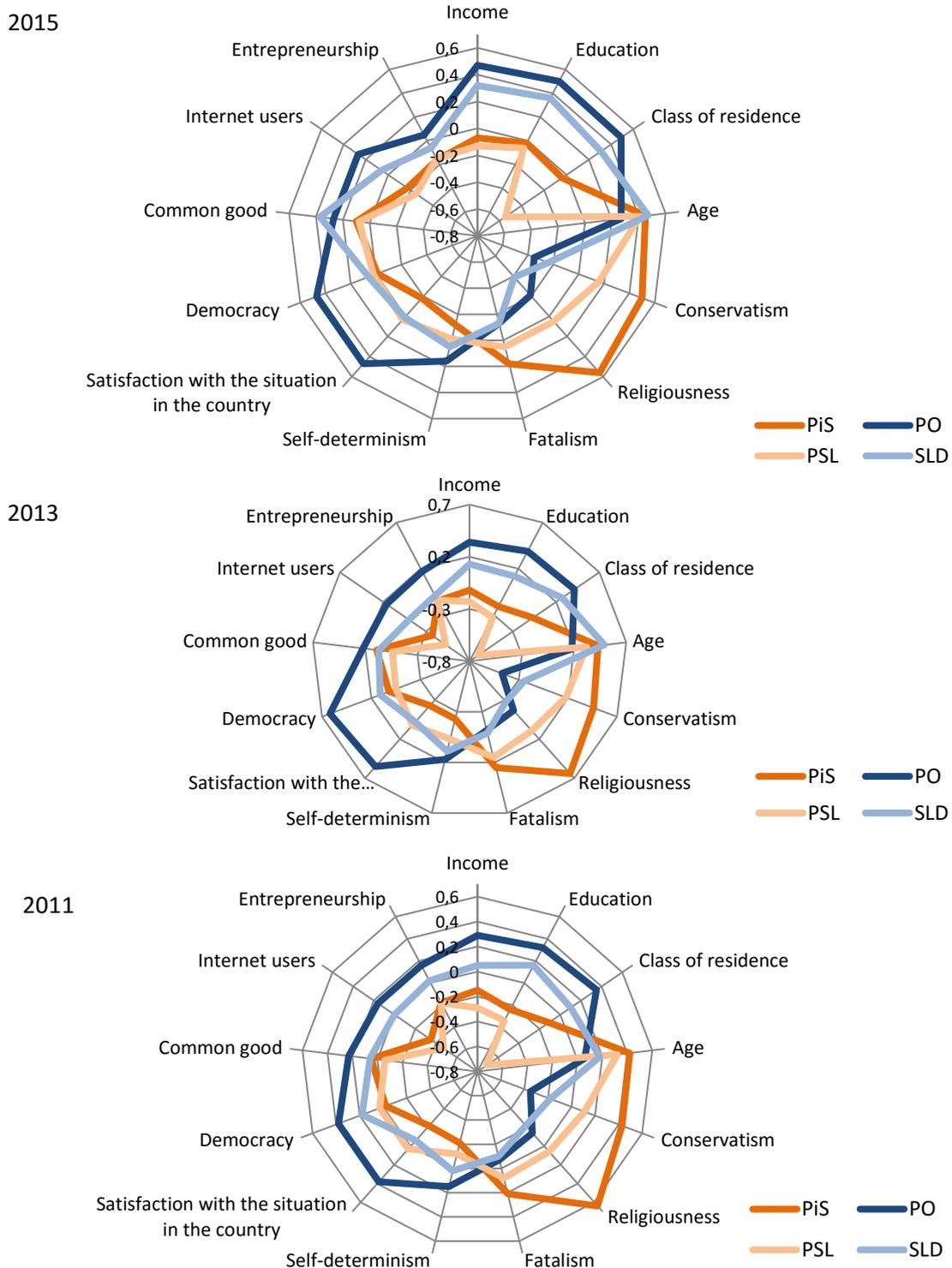


Figure 6.4.4. Age, level of education, personal income, class of place of residence, entrepreneurship, percent of internet users, positive attitude to democracy, sensitivity to the common good, self-determinism and fatalism<sup>83</sup>, religiousness (frequency of religious practice and indication of God as a condition of a successful), satisfaction with general situation in the country, level of prejudice (against homosexuals and foreigners) or conservatism (in 2015 – prejudice against homosexuals and opposition against legalisation of partner relationships) among supporters of four parties (standardized values) in 2011, 2013 and 2015.

<sup>83</sup> Self-determinism is the ascribing of last year's course of events to one's own agency, and fatalism is the belief that the course of matters depended on fate (providence).

The two big groups are PO and PiS supporters. SLD supporters are in many terms similar to PO supporters and PSL supporters are similar to PiS supporters. That was the case in 2011, 2013 and now.

A specific test of the correspondence between a party's message and its supporters' beliefs is the distribution of the opinions on the causes of the Smoleńsk catastrophe among the groups of different political identification. The belief that the catastrophe was a conspiracy to assassinate the President of the Republic of Poland can be treated as the most conclusive. The PiS leaders have more or less openly propagated this theory, while those of other political parties supported less "conspiracy-like" causes. The distribution of the respondents' answers on the most probable cause of the Smoleńsk catastrophe broken down by political identifications is presented in Table 6.5.1. Indeed, the highest support for the conspiracy theory is shown by the PiS supporter group. However, what may be a surprise, is that even in this group, only less than a half accept the conspiracy theory (in 2013 there were 10p.p. more of its supporters, but in 2011 it was the same number as in the present moment; that is 39%) despite the fact that two different causes could be indicated.

Table 6.4.1. Percentage of respondents accepting various explanations for the Smoleńsk disaster by political identification in 2013 and 2015.

Political identification	Most likely cause of the Smoleńsk disaster											
	Pilot/air traffic control error		Assassination /plot against the president		Pressure on the pilots		General chaos		Other reason		Hard to say	
	2013	2015	2013	2015	2013	2015	2013	2015	2013	2015	2013	2015
PiS	12.0	11.4	48.9	38.9	10.7	11.6	29.5	27.4	4.1	3.6	18.8	24.0
PSL	21.1	23.7	17.1	12.3	27.8	27.8	30.9	30.3	4.4	4.2	21.6	21.1
SLD	37.5	26.4	7.3	6.3	41.1	44.3	27.9	23.8	4.0	5.4	17.4	18.9
Twój Ruch	27.2	26.6	17.8	13.3	34.1	38.7	23.1	29.4	5.6	4.0	18.8	15.6
PO	45.0	41.9	4.5	3.6	43.1	41.1	24.7	25.6	4.7	3.5	16.4	16.9
Other party	22.3	24.6	18.3	19.2	23.3	29.3	36.6	28.5	14.0	5.1	22.9	25.5
No party	17.7	16.3	13.1	12.0	23.1	21.3	26.1	22.4	5.3	4.0	35.1	40.7
Hard to say	15.5	15.0	11.5	10.7	20.8	18.4	22.5	17.2	4.1	3.1	45.6	51.1
Total	21.1	20.0	16.7	15.3	24.6	23.4	26.2	23.5	5.0	3.8	30.5	34.0

The belief in the conspiracy theory of the Smoleńsk air disaster is currently slightly more widespread than two years ago, though the disorientated that could not indicate any cause also increased in number (Table 6.5.2.).

Table 6.4.2. Percentage of respondents accepting various explanations for the Smoleńsk disaster in 2011, 2013 and 2015 in panel samples

Cause of the accident	Year of study		
	2015	2013	2011
Pilot/air traffic control error	19.3	20.3	21.3
Assassination/plot against the Polish President	15.6	16.1	12.4
Pressure on pilots to land regardless of the conditions	24.4	26.3	36.7
General poor organisation in institutions responsible for the flight	24.3	27.0	32.8
Other reasons	3.9	4.9	6.2
Hard to say	33.0	29.3	24.6

After this year's parliamentary elections, discussions and debates started in various milieus, also among scholars, aimed at explaining the decisive success of Prawo i Sprawiedliwość. Data from the Diagnosis suggests that results of the election were certain a long time ago – at least when it comes to the places taken by the two biggest groups, even before campaigns, and maybe even earlier, two years ago in the spring when PiS had greater social support than Platforma Obywatelska and never again, until the elections in October 2015, was it beaten. Of course, the data did not make it obvious that PiS would get the absolute majority in the parliament but suggested that it may be the case. If we compare the results of elections with support for a given party in March/May of the same year in the Diagnosis, it turns out that correlation for those two data in the given voivodship distribution is 0.91 for PiS (Figure 6.4.5.) and 0.95 for PO (Figure 6.4.6.).

Of course, the fact that Diagnosis was able to foresee what will happen half a year later may decrease the meaning of everything that happened during the campaign, but does not explain why PiS started to distance PO in 2013, but won parliamentary elections after more than two years. There are many concepts concerning this matter. One of the them assumes natural „wearing off” of the authorities, especially those with power for two cadencies. We can also refer to „social ingratitude” (Czapiński, 2002), which assumes that all reforms have an indirect negative impact on their creators, as all reforms are connected, at least at the beginning, with costs, and costs, in the social opinion, are more important than postponed benefits (Peeters, Czapiński, 1990). *Platforma Obywatelska* announced some of such changes in the second term of office and implemented them (e.g. increased retirement age, OFE). However, those changes were implemented when PO lost its leadership in the surveys.

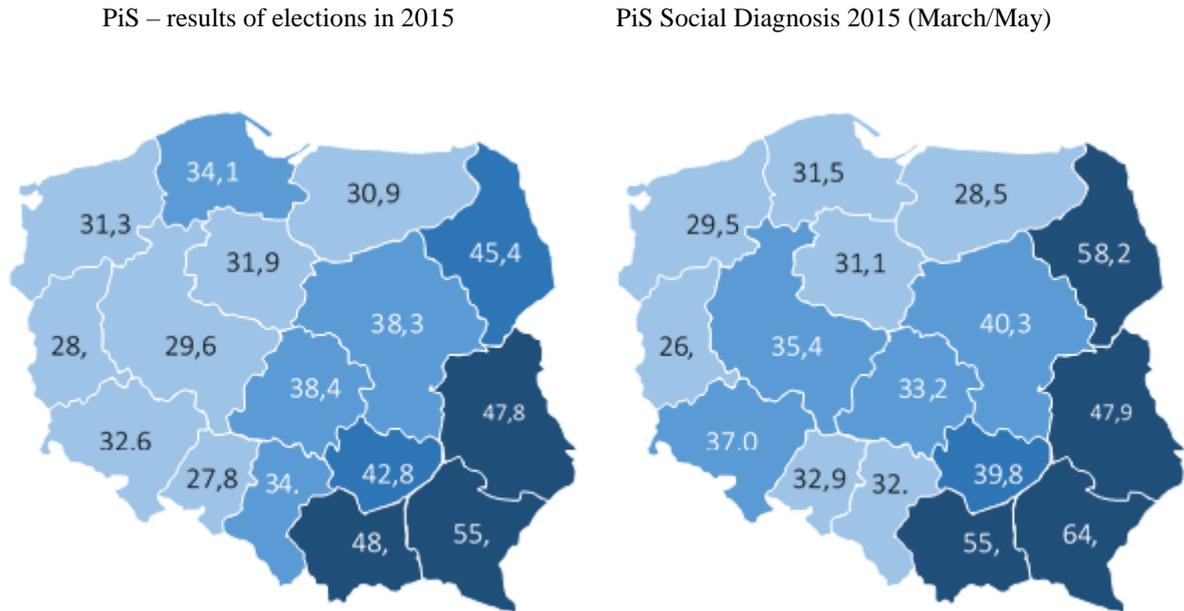


Figure 6.4.5. Percentage of votes for PiS in parliamentary elections on the 25th of October 2015 and percentage of indicating PiS as the party supported the most by respondents in March/May 2015 in Social Diagnosis

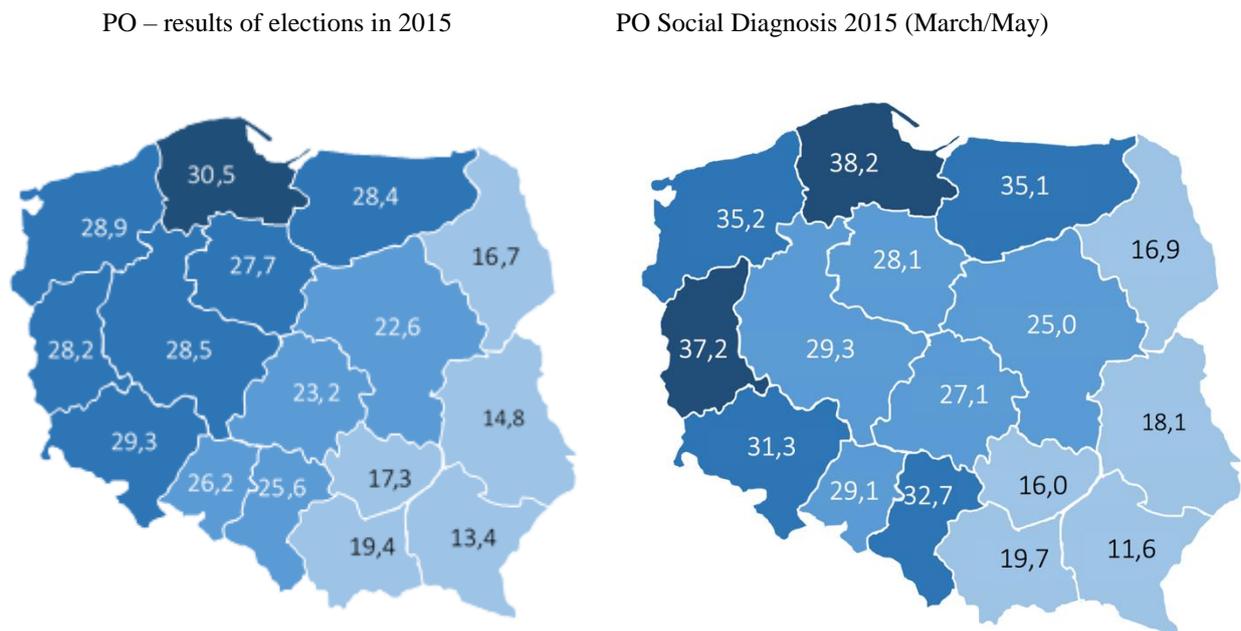


Figure 6.4.6. Percentage of votes for PO in parliamentary elections on the 25th of October 2015 and percentage of indicating PO as the party supported the most by respondents in March/May 2015 in Social Diagnosis

What is a more important reason for changes of political preferences of Poles was what happened in the minds of Poles (which was, increase of right-wing views, conservative attitudes, xenophobia, and traditional values, especially in the case of the young generation), than were the effects of the reforms and the natural wearing off of authorities.

Was there really such an increase? The Diagnosis leaves no doubts. Xenophobic attitudes<sup>84</sup> started to increase after 2011 and increased during four years by ¼. That was the same tempo when the support for the party was increasing who was addressing its programme towards such persons; that is, Prawo i Sprawiedliwość (Figure 6.4.7.). However, in 2013, the support for PO decreased below the level of support for PiS. And even though it increased slightly later on,

<sup>84</sup> The operation definition of xenophobic attitude was disagreement with the statement that homosexual may live in accordance to their own belief and acceptance of the statement that foreign persons have too much to say in our country (Annex 1, individual questionnaire, question 57.9 and 57.10, in the previous editions of the Diagnosis they had different numbers)

the distance between PiS and PO also increased. The religious engagement of Poles increased as well; or at least, the decreasing trend observable from the 90s of the past century for institutionalized religious practices, was stopped (see chapter.5.10.3.).

Figure 6.4.8 shows the strength of the relations between choosing PIS and PO and xenophobia. In the case of PiS the intensity of xenophobia explains almost 70% of distribution of the percentage of votes of the part by voivodship. The relation between xenophobia and votes for PO is even stronger, but negative, as xenophobia explains over 80% of variations for this party.

What is even more important than xenophobia, especially when it comes to support for PiS, is the range of conservative attitudes<sup>85</sup> in a voivodship (Figure 6.4.9.). The percentage of conservative persons allows to foresee in over 80% the political result of Prawo i Sprawiedliwość and in almost 90% (!) the result of Platforma Obywatelska.

The same percentage of residents practicing religion (taking part in masses and religious events at least once a month) allows us to explain a significant part of the diversification, in terms of voivodship, of support for PiS and PO during the last elections (Figure 6.4.10.).

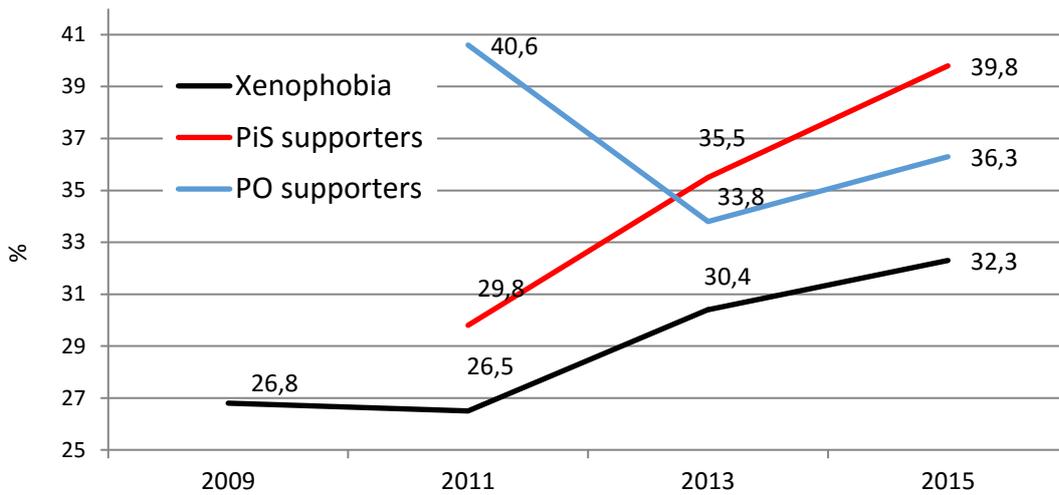


Figure 6.4.7. Percentage of persons of xenophobic attitude between 2009 and 2015 as well as PiS and PO supporters between 2011-2015 in a panel sample

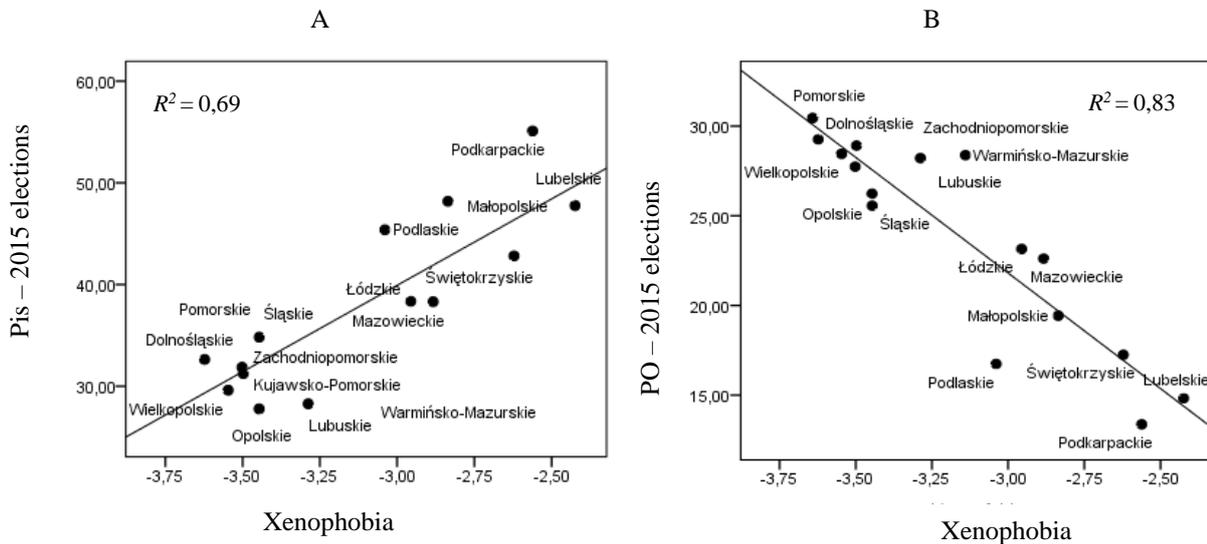


Figure 6.4.8. Percentage of votes for PiS (panel A) and PO (panel B in parliamentary elections in 2015) in terms of xenophobia level, by voivodship.

<sup>85</sup> The operational definition of conservatism was rejection of the statement that homosexuals may live in accordance with their own beliefs and negative attitude towards legalization of registered partnerships (Annex 1, individual questionnaire, questions. 57.20).

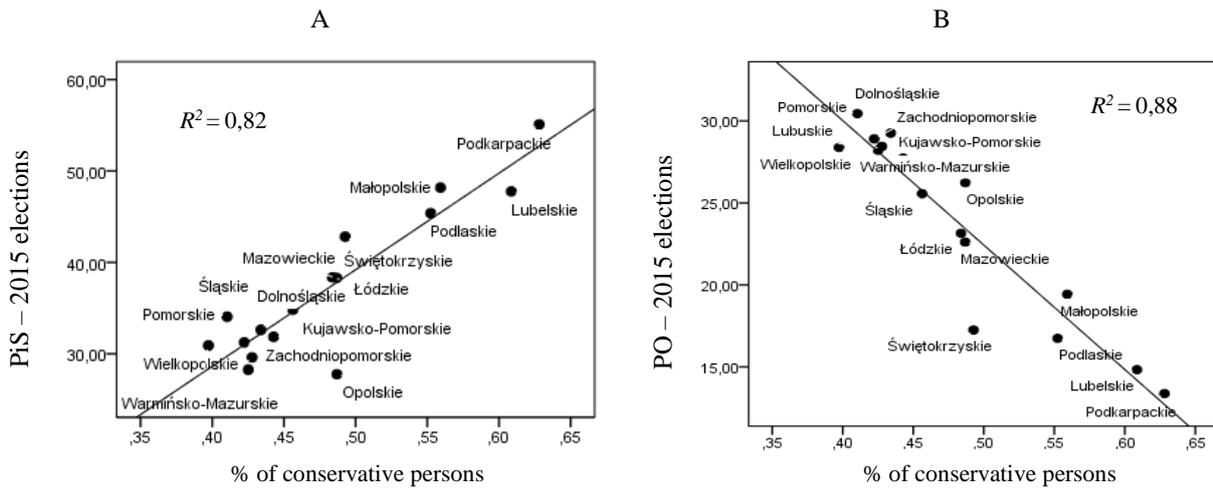


Figure 6.4.9. Percentage of votes for PiS (panel A) and PO (panel B) in parliamentary elections in 2015 according to the percentage of conservative persons by voivodship

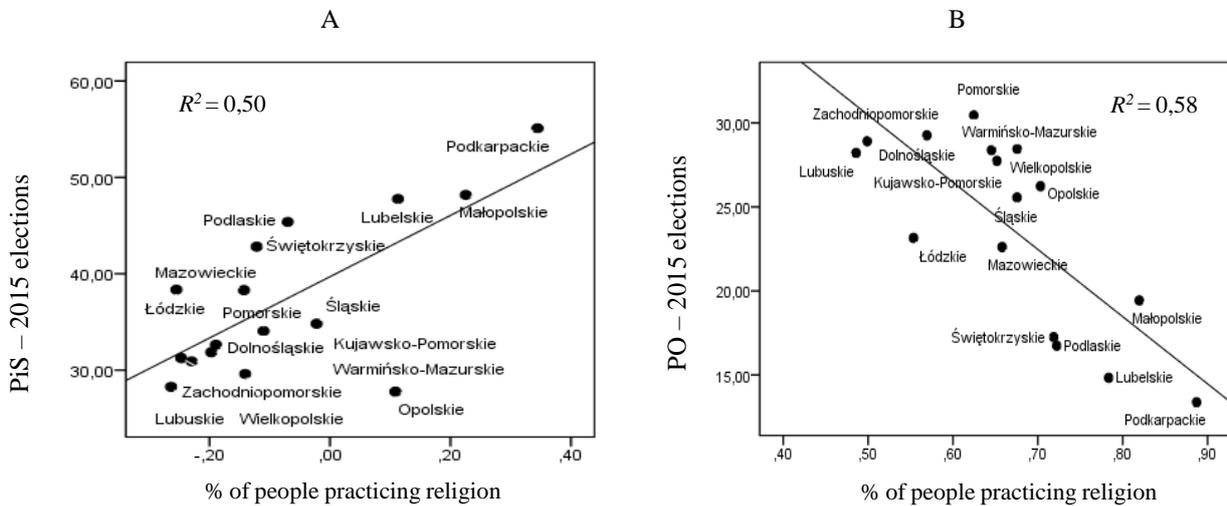


Figure 6.4.10. Percentage of votes for PiS (panel A) and PO (panel B) in parliamentary elections in 2015 according to the percentage of people practising religion by voivodship

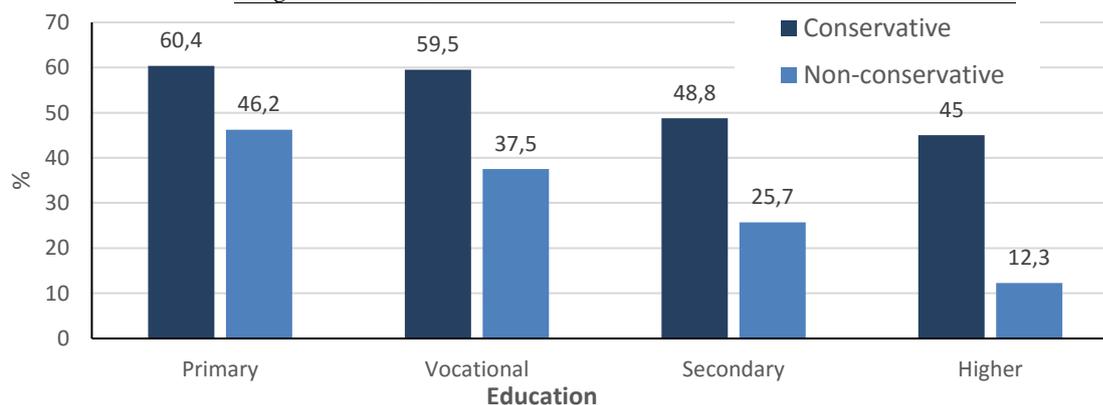
It seems, therefore, that the result of parliamentary elections (and probably of presidential elections) in 2015 were a result of changes in the perception of Poles, and not the campaign or other events preceding the elections, such as the crisis connected to immigrants wave from the Near East. Nevertheless, the campaign itself and the issue of immigrants could have increased the differences in the election results.

The correlation between conservative and xenophobic attitudes and religious practises with the results of elections among only 16 units (voivodships) may be considered a proof too weak, although statistically significant, for the relation between right-wing orientation and support for the two main parties. This proof can be further increased by using the individual analysis. To tell the truth, there is no strong behavioural indicator (for who the individual voted during elections), as we can only use the indication of the party the person supports the most, but we can minimize the allegation of illusionary relations by the verification of many other variables which could be related with religiousness, conservatism and xenophobia, such as: gender, age, class of place of residence, education and socio-professional status. The logistic regression indicates that all variables explain jointly in 26% the identification with PiS (Table 6.4.2.) and in 19% the identification with PO (Table 6.4.3.). The net effect of religiousness and conservatism remains significant.

The probability of identification with PiS by conservative people is two and a half time higher than in case of non-conservative persons. In addition, participation in religious events is related to the support for PiS, with control of all other variables. Persons who go to church more than 4 times a month identify with PiS six times more frequently in comparison with those who do not go to church at all. The interaction between conservatism and level of education is important, when it comes to identification with PiS (Figure 6.4.11.). The difference between conservatives and non-conservatives increases with the level of education in a way that in the group of persons with higher education, it is two times higher than in the group with primary education.

Table 6.4.2 .Results of logistic regression for identification with Prawo and Sprawiedliwość

Predictor	p	Exp(B)
Men	Ref.	
Women	0.000	1.256
Age: 16-24 y.o.	Ref.	
Age: 25-34 y.o.	0.078	1.272
Age: 35-44 y.o.	0.996	0.999
Age: 45-59 y.o.	0.027	1.337
Age: 60-64 y.o.	0.000	1.736
Age: 65+ y.o.	0.001	1.699
Towns of over 500k	Ref.	
Towns of 200-500k	0.406	0.917
Towns of 100-200k	0.025	0.774
Towns of 20-100k	0.014	1.247
Towns < 20k	0.339	0.906
Rural areas	0.006	1.268
Primary and lower education	Ref.	
Vocational education	0.005	0.799
Secondary education	0.000	0.517
Higher and post-secondary education	0.000	0.325
Public sector employees	Ref.	
Private sector employees	0.003	0.774
Private entrepreneurs	0.307	0.874
Farmers	0.086	0.812
Pensioners	0.019	0.750
Retirees	0.000	0.653
Students	0.003	0.594
Unemployed	0.037	1.325
Other occupationally inactive	0.514	0.926
Non-conservative attitude	Ref.	
Conservative attitude	0.000	2.462
Don't go to church	Ref.	
1-3 times a month in a church	0.000	1.892
4 times a month in a church	0.000	3.272
Over 4 times in a month in a church	0.000	5.891
Constant	0.000	0.229
Percentage of explained variable		
Cox & Snell $R^2 \times 100$	19.5	
Percentage of explained variables		
Nagelkerke $R^2 \times 100$	26.4	



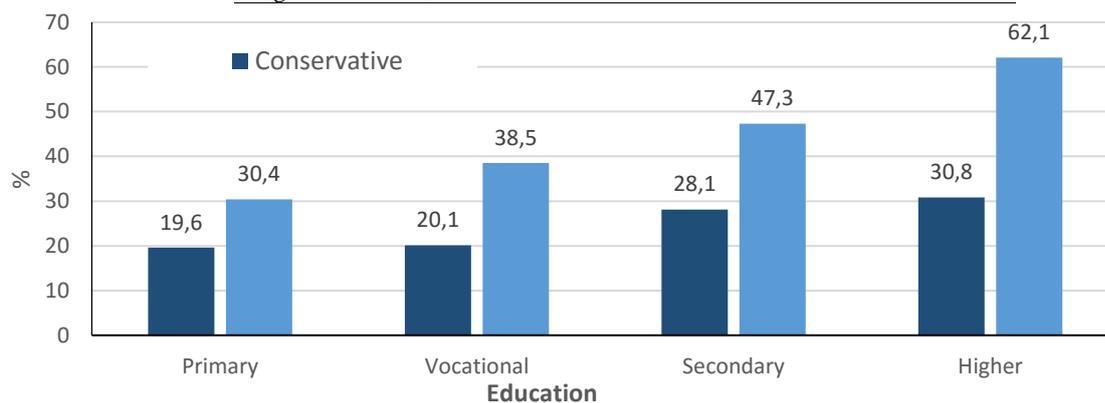
NOTES: effect of conservatism  $F(1, 8978)=481.156$ ,  $p < 0.000$ ,  $\eta^2 = 0.051$ ; effect of education  $F(3, 8978)=104.951$ ,  $p < 0.000$ ,  $\eta^2 = 0.043$ ; effect of interaction between conservatism and education  $F(3, 8978)=12.151$ ,  $p < 0.000$ ,  $\eta^2 = 0.004$ ; co-variables were gender and age

Figure 6.4.11. Percentage of conservatives and non-conservatives with various educational levels, who identify with Prawo i Sprawiedliwość

As for PO, non-conservative people are two times more likely than the conservatives to support it. The more frequent participation in religious acts decreases the willingness to choose PO. Just like in case with identification with PIS, the interaction between education and conservatism is important: the difference between conservative and non-conservative persons increases with the level of education (Figure 6.4.12.).

Table 6.4.3. Results for logistic regression for identification with Platforma Obywatelska

Predictor	p	Exp(B)
Men	Ref.	
Women	0.000	1.303
Age: 16-24 y.o.	Ref.	
Age: 25-34 y.o.	0.161	1.197
Age: 35-44 y.o.	0.000	1.927
Age: 45-59 y.o.	0.001	1.538
Age: 60-64 y.o.	0.092	1.279
Age: 65+ y.o.	0.010	1.494
Towns of over 500k	Ref.	
Towns of 200-500k	0.726	0.969
Towns of 100-200k	0.184	1.141
Towns of 20-100k	0.063	0.860
Towns < 20k	0.314	0.911
Rural areas	0.000	0.603
Primary and lower education	Ref.	
Vocational education	0.001	1.330
Secondary education	0.000	1.607
Higher and post-secondary education	0.000	2.006
Public sector employees	Ref.	
Private sector employees	0.161	1.118
Private entrepreneurs	0.001	1.487
Farmers	0.000	0.343
Pensioners	0.785	1.033
Retirees	0.231	1.146
Students	0.109	0.768
Unemployed	0.017	0.719
Other occupationally inactive	0.519	1.075
Non-conservative attitude	Ref.	
Conservative attitude	0.000	0.457
Don't go to church	Ref.	
1-3 times a month in a church	0.136	0.908
4 times a month in a church	0.000	0.563
Over 4 times in a month in a church	0.000	0.365
Constant	0.000	0.328
Percentage of explained variable		
Cox & Snell $R^2 \times 100$	13.6	
Percentage of explained variables		
Nagelkerke $R^2 \times 100$	18.6	



NOTES: effect of conservatism  $F(1, 8987)=360.128$ ,  $p < 0.000$ ,  $\eta^2 = 0.039$ ; effect of education  $F(3, 8987)=81.369$ ,  $p < 0.000$ ,  $\eta^2 = 0.026$ ; effect of interaction between conservatism and education  $F(3, 8987)=16.051$ ,  $p < 0.000$ ,  $\eta^2 = 0.005$ ; co-variables were age and gender

Figure 6.4.11. Percentage of conservative and non-conservative persons with various educational levels, who identify with Platforma Obywatelska

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## 7. TECHNOLOGIES AND MEDIA IN HOUSEHOLDS AND LIVES OF POLES

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### Abstract

The following article is devoted to Internet access as well as the ways of using the Internet in comparison to other media in Poland. On the basis of Social Diagnosis from 2003-2015, trends related to using IT usage will be shown. As many as 2/3 of adults in Poland use the Internet, the time spent online is increasing, the bandwidth is growing and together with smartphones, the mobile Internet access is becoming more popular. However, the increase of new users is getting slower, and almost half of them does not use the web, even though they have a computer with Internet access in their homes. Analyses of conditions of using the Internet and reasons for no access to it show that the key barrier is the lack of motivation. Using the Internet was analysed in comparison to other media. The widespread of the Internet does not result in lower popularity of TV, which is still the key media for the majority of Poles. The article presents diversification of time spent on TV, the Internet and press in various socio-demographic groups. Methods of using the Internet by Poles were analysed in detail. Many users use the Internet to a very limited extent. Those with lower education, living in smaller cities and in households with lower income, the Internet is mainly a source of entertainment, while the better educated users from bigger and richer cities use it mainly in an instrumental way. This diversification of methods of the Internet use increases the phenomenon of digital exclusion.

### 7.1. Technologies in households

#### 7.1.1. Computers and access to the Internet

In the recent years, the increase of the number of households equipped with computers and Internet access has been slower than in the years before (Figure 7.1.1.). In the first half of 2015, there were computers in 72% of households and Internet access in 71%. The market becomes gradually saturated – in certain types of families, e.g. married couples with children, almost 95% have a computer and access to the Internet.

Now, merely 5% of all households state they cannot afford access to the Internet. This group is shrinking, with financial aspects becoming ever less important for the possession of computer or Internet access. Households which do not use these technologies, explain it usually with other reasons.

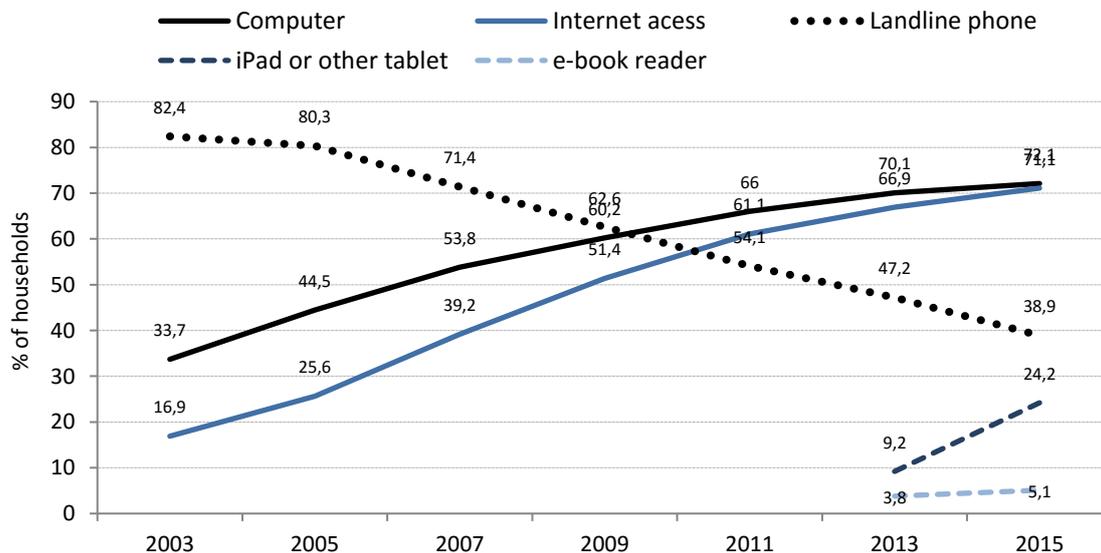


Figure 7.1.1. Households with a computer, Internet access and landline phone in 2003-2015

Very rarely a household which possesses a computer, does not have an Internet access. However, opposite situations do occur, i.e. access to the Internet in households which do not possess any computers (but possess Tablets and smartphones instead). Tablets are present in one in every four households, and 3% of these households do not own a computer. It is worth noticing that the increase of number of Tablets in the past two years was a considerable one – by 15 p.p.. E-book readers become popular much slower: in 2015, only 5% of households used them.

A slower increase of computers number is visible also in households which already own a computer. Presently, two or more computers are owned by one in three households, while two years before, it was 31% of households. Three or more computers are owned by 8% of households. An important factor influencing the slowdown of computers' presence is the high increase of Tablets' popularity. In 18% of households, there is at least as many computers as people (two years ago, it was 15%). However, if Tablets are also taken into account, the households with less people than devices connected to the Internet constitute 25%.

Popularity of laptops over desk computers becomes still more visible. In 2013, the difference was slight – 49.3% of households owned a laptop, and 46.9% a desktop computer. The increase of number of laptops is, however, much faster. In 2015, laptops were present in 59% of households, while desktop computers in 40%.

Similarly, as in 2013, 54% of households connect to the Internet via fixed broadband. This percentage has remained virtually unchanged in the past two years. An increase was observed, however, in the percentage of households using broadband offered by mobile phone operators – presently, it is 14%, 2 p.p. more than two years before. Popularity of the mobile access is growing, whereas the proportion of access delivered by phone operators decreases (Figure 7.1.2). For 4% of households, the sole access to the network is via smartphones or SIM card in Tablets.

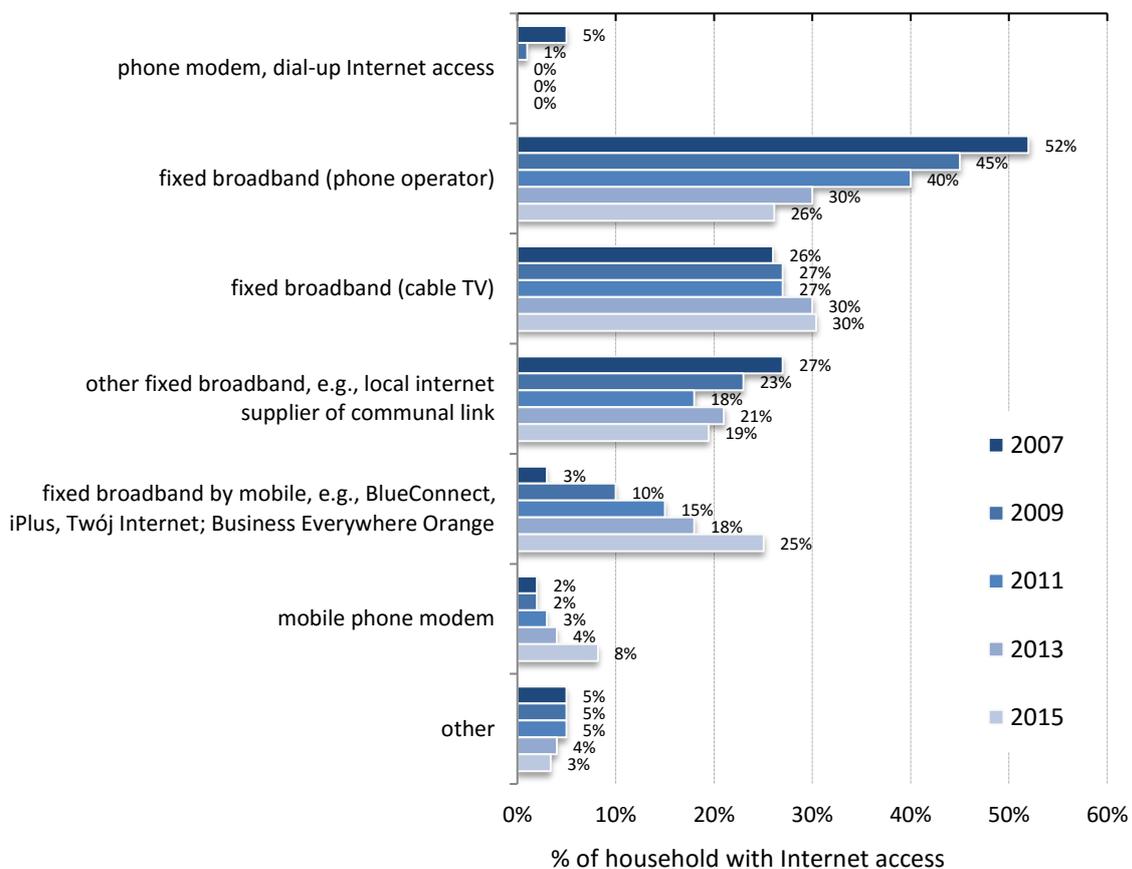


Figure 7.1.2. Forms of household Internet connection between 2007-2015.

### 7.1.2. Internet bandwidth in households and forecast of its development until 2020

The main change in terms of Internet access in households is an increase of bandwidth. The dynamics of its changes in 2007-2015 is shown in Figure 7.1.3.. The most widespread now are connections with a bandwidth from 7 to 10Mb/s, but connections with a much higher bandwidth are rapidly becoming more popular. The European Digital Agenda has established goals to be achieved until 2020 – access of 30Mb/s for all households, and at least 100Mb/s for a half. The quality of network access is relevant mostly for its importance regarding possibilities of using various services available on the Internet.

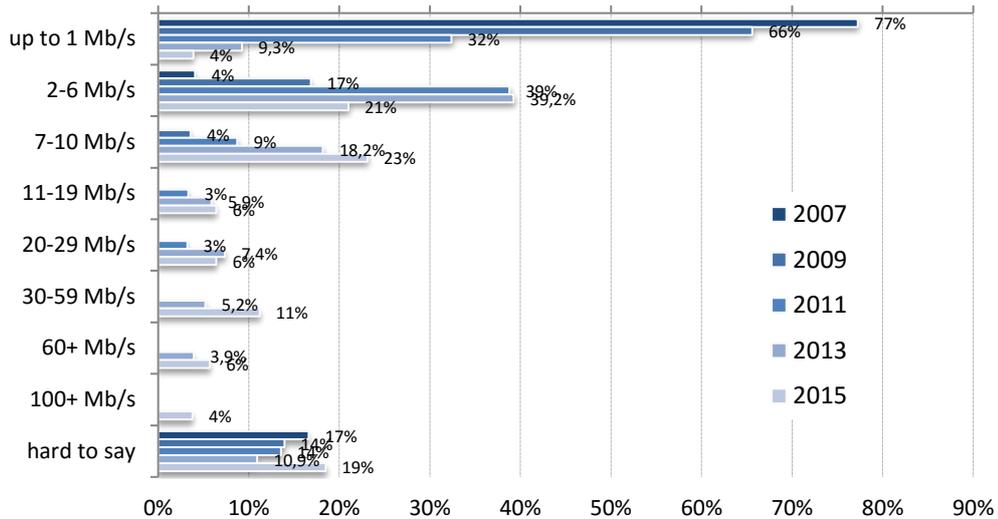


Figure 7.1.3. Fixed broadband Internet connection bandwidth in households between 2007-2015.

The ambitious aims of the Digital Agenda may seem difficult to fulfil; that is why it is important to analyze the current tendencies and consider whether their completion is feasible. For this purpose, it is worth to analyze the observation demonstrated in Figure 7.1.4.: Internet bandwidth in households is growing in a consequent manner. Points in the diagram mark the values of average bandwidth in households in 2003-2015 (to be more exact, in spring of each year, when the Social Diagnosis study was conducted). Additionally, the vertical axis has been calculated with logarithm to base 2, and thus the units on the axis are doubled bandwidth. As can be observed, particular points are arranged more or less in a straight line, and  $R^2$  for this relation equals 0.99<sup>86</sup>. The pace at which bandwidth doubles, is rather steady; in the past several years, the Internet bandwidth in households doubled every 19.4 months.

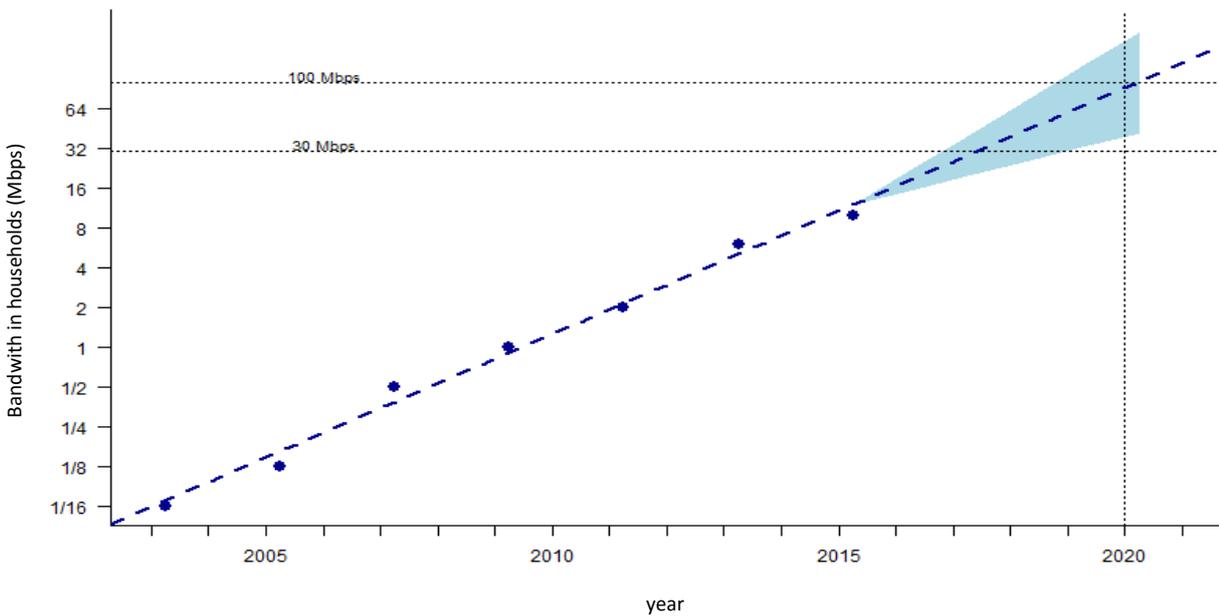


Figure 7.1.4. Fixed broadband Internet connection bandwidth in households between 2007-2015

Knowing the rate of doubling of an average bandwidth of Internet access in households, it is possible to create a prediction by the year 2020, which is also shown in the Figure 7.1.4.. The average bandwidth of Internet access shall exceed in 2020 the value of 100 Mb/s, and so with a very high probability, we can conclude that if the current rate of increase in the quality of the bandwidth continues, it will not be a problem to fulfil one of the goals of the European Digital Agenda.

Much more difficult seems to be the target for connections with a bandwidth of at least 30 Mb/s for all households. Its fulfilment seems virtually impossible to achieve. It is not just due to the fact that in 2020 there will still be households

<sup>86</sup> The measurement here presented bears a certain inaccuracy, as it involves pace declared by respondents (not all of them are able to answer this question). Additionally, they do not state a specified value of the bandwidth owned, but select one of available scopes. Nevertheless, the measure is accurate enough to calculate the presented forecast.

whose residents will not be interested in the use of the Internet. The problem is rather the diversity of bandwidth: even if more than a half of the households achieves more than 100Mb/s in 2020, and some of them considerably more than this value, the weaker connections will also be strongly diversified. Currently, although about half of the households have a connection of 8Mb/s or more, still 4% declares owning a connection with a bandwidth of 1Mb/s. It is hard to assume that this diversity of Internet access will suddenly begin to shrink considerably, and therefore we expect that even in an optimistic scenario, roughly a dozen percent of connected households will have in 2020 a connection slower than 30Mb/s.

### 7.1.3. The Internet becoming more mobile

In the recent years, a rapid growth of popularity of mobile Internet occurred, along with devices enabling mobile usage of the network. Almost 60% of households own laptops, while the popularity of desktop computers lowers. One in four households owns at least one Tablet. A growing percentage of households uses mobile phone network to connect to the Internet – presently, it is 25% of households with connection, although a part of them (24%) also uses a fixed broadband.

The increase of households with mobile Internet has been substantial in the recent years. It is worth noticing, however, that this type of access is not related with an increased mobility – generally, it substitutes a fixed access. For 76% of users of such access, it is the only manner of connecting to the network (lower in comparison with 2013 – 81%). A large number of users of such a connection proves indirectly that the Internet is not easily available in numerous regions. Still a different situation is observed with Internet connection via mobile phones. Such connection is a complementary one, and constitutes an additional option of using the Internet, not a substitute of fixed access.

Therefore, smartphones contribute the most to the spreading of mobile Internet access – in the first half of 2015, 45% of Poles aged 16 and more owned a smartphone, which is a half of owners of mobile phones (a total of 90.4% owns a mobile phone). Tablets are also of a significant importance. Popularity of these devices does not, however, mean that their users use the Internet regardless of place where they currently are. Although more than a half (57%) of Internet users declare that they use the Internet via mobile phones or Tablets, the majority of these persons use only wi-fi networks to connect to the Internet. Almost 27% of Internet users (i.e., 17.5% of Poles) declare an actual mobile use of the network via data transfer in mobile networks. This number may seem low, especially when compared to the number of smartphones owners however, it needs to be taken into consideration that the change in terms of mobile access happens rather rapidly, and more than a quarter of adult Poles who always have access to the Internet is still a lot. Further rapid changes are to be expected. A vast majority of new phones are smartphones; their number is growing fast. In 2013, 25% of persons aged 16 or more declared owning a smartphone; after two years, this amount has increased by 20 p.p., although this value can be underestimated.

### 7.1.4. Television

As we observed in the previous edition of Social Diagnosis, the spread of computers and the Internet in no way meant a worse time for television (Batorski, 2013). TV viewing studies still demonstrate that the time spent in front of TV screens does not decrease. Data of the Social Diagnosis 2015 shows that not much has changed. We still observe a large increase in the number of households with LCD or plasma TV sets. The increase is significantly faster than the increase in the availability of computers and the access to the Internet, and that is why modern television sets are present in 77% of households (Figure 7.1.4.). Households with paid satellite or cable TV is rising (currently at 73%), though not so markedly. There are still more of such households than those with Internet access. Same as before, 18% declare owning a home cinema set.

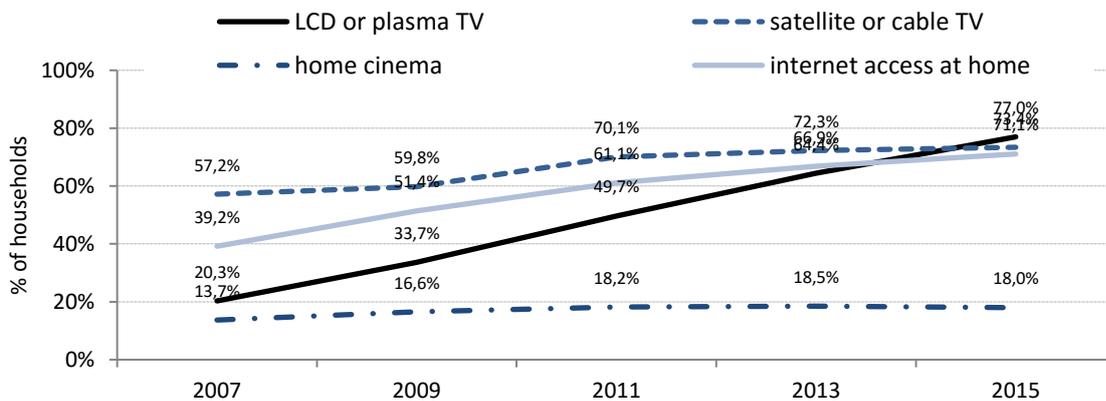


Figure 7.1.5. Television and other audio-visual equipment in households in 2007-2015

For many Poles, television is a much more significant medium than the Internet (WIP 2013). This is clearly apparent also in the time Poles spend on using various media, which shall be analyzed further in this chapter.

### 7.1.5. Conditions for presence of new technologies in households

The presence of computers and the Internet in households varies for various types of households. Table 7.1.1. presents data on their availability according to a number of main factors. Data on Internet access in households of different kinds in 2007-2015 allows to track changes in the importance of particular factors. Differences in availability of computers and the Internet are virtually nonexistent, as even in rural areas the difference does not exceed 1 p.p.. Changes of conditions for owning a computer were analysed in previous editions of *Social Diagnosis* (Batorski, 2013); now, more interesting seems their comparison with the availability of Tablets. The latter are present in a vast majority of cases (97%) in the households which own computers.

Table 7.1.1. Access to computers and Internet in various households' types between 2007-2015

Household group		Internet					computer	Tablet
		2007	2009	2011	2013	2015	2015	2015
Size of place of residence	Towns of more than 500k	57.6	65.4	73.3	78.3	82.3	81.7	32.0
	Towns of 200k-500k	50.2	63.0	68.7	72.7	76.1	75.9	29.7
	Towns of 100k-200k	44.3	55.8	64.6	72.8	76.3	76.6	25.8
	Towns of 20k-100k	44.2	52.9	62.0	65.5	69.2	69.0	22.6
	Towns of fewer than 20k	40.4	50.2	61.4	66.1	69.9	70.1	22.2
	Rural areas	22.4	39.4	51.7	61.1	67.5	68.3	20.2
Region	Eastern Voivodships	30.7	43.9	56.8	63.4	68.3	69.2	20.1
	Other Voivodships	41.5	53.3	62.1	68.4	72.9	72.9	25.2
Family type	Married couples with no children	22.4	35.9	47.8	57.1	63.6	63.9	17.2
	Married couples with 1 child	53.5	72.3	81.7	89.3	93.2	93.1	35.6
	Married couples with 2 children	61.5	78.2	87.4	93.5	95.8	96.7	43.3
	Married couples with 3 and more children	47.3	70.4	84.3	88.5	94.8	95.6	41.5
	Single-parent families	37.8	53.2	65.8	70.8	75.3	75.6	17.5
	Multi-family	38.3	63.3	78.5	86.3	93.9	93	34.3
	Non-family one-person	15.8	22.8	25.0	32.0	37.0	36.9	6.3
	Non-family multi-person	28.1	40.0	52.9	39.8	52.8	55.6	14.6
Per capita household income	First quartile	19.1	32.8	41.1	51.2	54.5	54.9	15.0
	First to the second quartile	30.7	40.2	54.1	55.7	61.3	61.4	17.2
	Second to the third quartile	41.7	53.4	62.3	71.7	77.5	77.4	25.7
	Above third quartile	60.1	75.8	83.3	87.3	90.5	90.8	36.0

The availability of computers and the Internet in households very much depends on the type of family. Almost 95% of married couples with children own a computer with Internet access. This result proves a high motivation of such families to own these technologies but also, not less importantly, proves that the number of regions with no technical possibility of establishing an Internet connection is very low (most of the 5% of non-owners are families who could have the technical possibility of establishing a connection, but cannot afford it). Noticeably less frequently Internet access is present in single-parent families. The difference, in comparison with married couples with children, has been constant for several years and equals approximately 20 p.p.. At the other end of the spectrum are the single-person households, where computers and Internet access are the least common – only 37% of persons living on their own have access to the Internet. ICT are less common among married couples with no children, as less than two-thirds of them have Internet access. The smaller presence of ICT in these households is an effect of lower motivation, which in turn is linked to the fact that these are primarily households of the elderly. Conditions for owning Tablets are highly similar.

Income per capita is still of a considerable importance for households' access to computers and Internet connection. Differences between households of upper quartile (25% of households, with the highest income) and the lowest quartile are significant. In the previous group, 90% of households have access to the Internet, while in the latter – less than 55%. Even though the difference amounts to 36 p.p., in practical terms the financial barrier is not as high, as only 5% of households claim not to have an Internet access because of expenses.

Geographical differences in Internet access are decreasing. Moreover, also differences between cities and rural areas become lower. The increase of households with access to the Internet is higher in rural areas than in cities. Presently, more than two-thirds of households in rural areas are connected. In cities of more than 100k residents, the percentage of persons with Internet access is only slightly higher. These results somehow blur the image of the well-

visible differentiation of rural areas. – in reality, differences between villages located close to cities and small towns located far from cities, are significant. This differences increasingly involve not only the fact of having the access, but also on the quality of access.

The difference between the East and West Poland is decreasing (Table 7.1.1.). Such differentiation in terms of Internet access between various voivodships is slightly lower than two years before (Figure 7.1.7.). Currently, the best situation is in the Pomorskie and Małopolskie Voivodships (77%). Access to the Internet is the least common in the Świętokrzyskie (65%), Łódzkie and Lubelskie (66%).

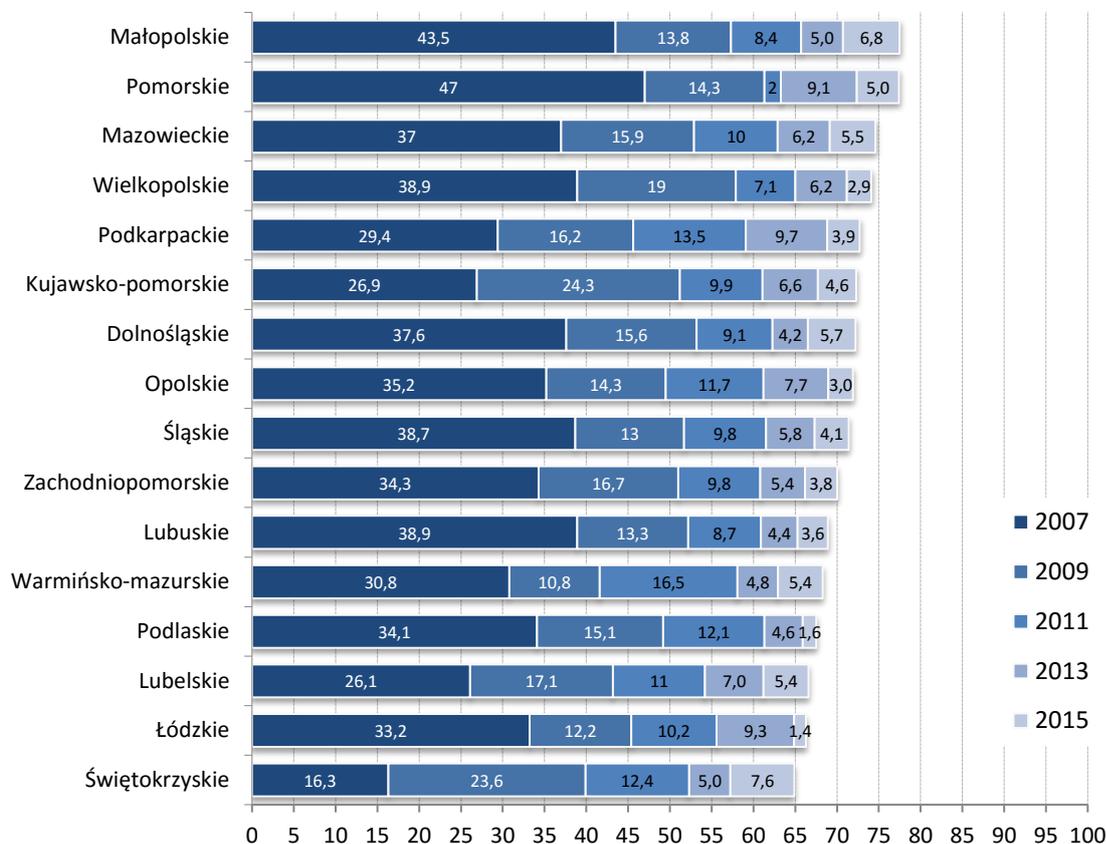


Figure 7.1.6. Percentage of households with Internet access by voivodship in 2007 and additional percentage of households with Internet access in 2009-2015

Computers and Internet access are significantly more often present in multi-person households, and the least often by persons living on their own. Only 36% of the latter group have access to the Internet, while for households of at least 3 persons – more than 90%. These differences result in the fact that more than 80% of Poles aged 16 and more have access to the Internet in their own house (Figure 7.2.1.). However, not all persons living in households equipped with ICT use them. For a large, and still growing, group, the reason for not using computers and the Internet is not the lack of access, but rather lack of motivation to use them by oneself (often, they can ask other persons from the household for help or to check something on the Internet). This is also a result of a lack of knowledge about the possible applications of the Internet, and a lack of skills to use it.

### 7.1.6. Reasons for lack of ICT in households

Even though 71% of households have access to the Internet, more frequently these are households with more than one person – therefore, more than 80% of persons aged 16 and more have access to the Internet at home. In this part, we present reasons explaining why the remaining almost 20% does not have access, and in the next part – why, although over 80% have the access at home, only two-thirds of Poles use the Internet.

In previous editions of the Social Diagnosis study, it was already demonstrated that the basic reasons for the lack of new technologies in households are mostly related with lack of motivation, whereas financial and technical factors, such as impossibility of establishing an Internet connection in a given building, are of small importance. Data from 2015 confirms that these observations are still valid. It is, however, worth to analyse in details how the explanations given by households for not having access changed over time. Answers from 2007 and 2015 are shown in Figure 7.1.8.. Although the question was answered only by households with no Internet access, the graph demonstrates percentage for the whole population. Thus, it is possible to track the character of changes more effectively.

More than a half of households with no Internet access give lack of need as the reason. For many years, this reason has been given with similar frequency, however, if we take into account the fact that the number of households without Internet access is becoming lower, it will appear that the percentage of persons giving this reason has decreased in the population almost twice. This proves that the approach to the Internet of persons who do not have the access, has considerably changed, and that at least a part of them has become encouraged to use it.

As a second reason, lack of the necessary skills is given. More than 8% of households indicate this reason, which is the only one being more frequent in the population since 2007. This increase, however, occurred already some years ago. In 2009, this reason was given by 14% of households, and in 2011 – 10%. It may be explained by the fact that, first, the group of persons who do not feel the need to use the Internet started to shrink; simultaneously, the group of persons who would like to use the network, but do not have the access due to the lack of competencies, expanded.

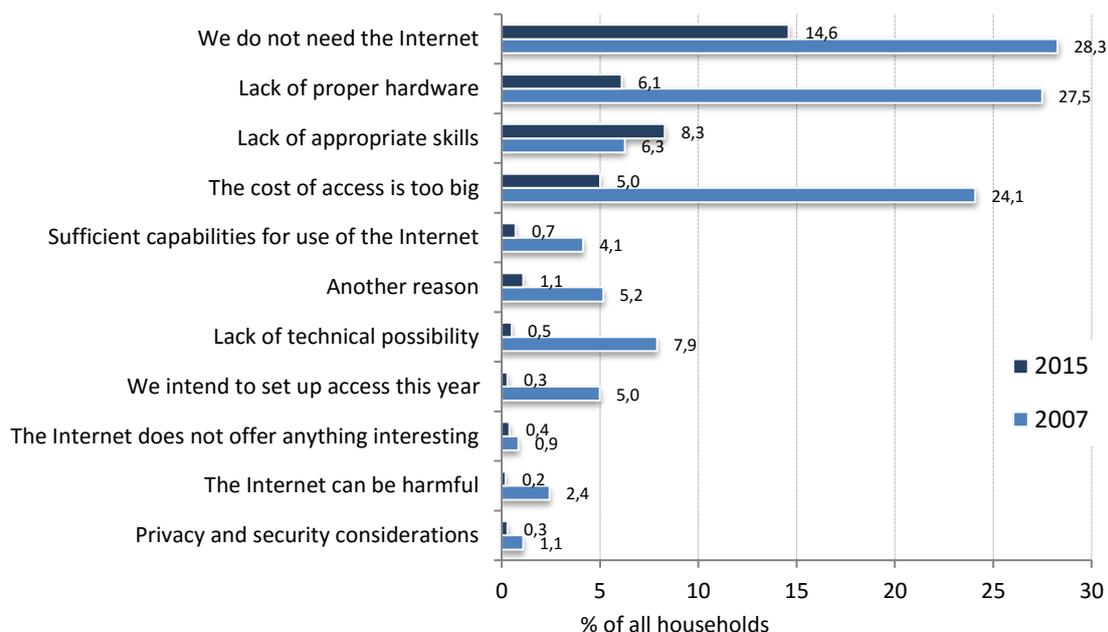


Figure 7.1.7. Reasons for lack of Internet access in households in 2007 and 2015

Another given reason is the lack of adequate equipment (6%), and the too high cost of access (5% of all households). A few years ago, these reasons were mentioned much more often. Despite a slight increase of the number of equipped households, these percentage values are still significantly lower than in previous years: in 2011, 12% of all households did not have access to the Internet due to financial reasons. Even in the group of households with no access, the frequency of giving these reasons dropped from 40-45% in 2007 to 17-21% in 2015. These changes are associated with a fall of prices of hardware and of Internet access. They also prove that among those without access, the households which wanted to have access to the Internet but could not afford it financially, changed their situation more often than those who declared no need to use the Internet.

The fact that the key barrier for spreading the Internet are motivational factors, and not financial capabilities, is confirmed also by other results. As can be observed in Table 7.1.1., in certain groups, e.g. married couples with children, almost all persons have access to the Internet. This demonstrates that in the group which is the most motivated to owning the technology, only less than 5% of households cannot afford it. On the other hand, among households of the lowest income, only 55% have access to the Internet, although it is frequently related with reasons other than financial.

Other reasons for the lack of Internet access are virtually never given. Only sporadically, some other reasons appear, usually complementing other reasons. It is particularly worth noticing that only 0.5% of households in Poland declared that they did not have a possibility of having access to the Internet because in their location there are no operators providing such service. This proves that Internet connection can be established almost everywhere, however the quality of access can constitute an important problem, as connection with high bandwidth is not very common (UKE 2015).

It is worth noticing that there are more households which would like to have an LCD or plasma TV but cannot afford it (13%) than those, who do not own a computer for the same reason (5%). Similarly, there are more of those who cannot afford cable or satellite television, than those who would like to have access to the Internet but cannot afford it. This also confirms that television is a more important media for a great portion of households in Poland. On the other hand, the data presented here shows that the main barriers for spreading the Internet in Poland are the lack of motivation, conscious needs, as well as lack of skills required for usage. Infrastructural factors are becoming ever less important - impossibility of establishing connection in a given location is an obstacle for 0.5% of households, financial barriers also constitute an obstacle for less than 0.5% of households.

As demonstrated by the comparison of reasons for not having access to the Internet in 2007 and in 2015, soft barriers are partly removable – the percentage of households which do not feel the need to have access to the Internet, decreased by half in this period. However, changes are becoming less rapid, which indicates a gradual saturation of the market, although on a level far from 100%.

### 7.1.7. Access to and use of the Internet

The majority of the Internet users have access to it at home (Figure 7.2.3.). In 2015, 98% of users had home access, 2 p.p. more than two years before. The 1% of adult Poles who use the Internet but do not have a home access, use for this purpose the computers at work, at school or at a university. The fact that access to the Internet is widespread, does not fully transfer to the increase of number of users. Definitely more than 80% of Poles have a home access, but only two-thirds use it. Therefore, one in five persons does not use Internet connection at home, despite having it.

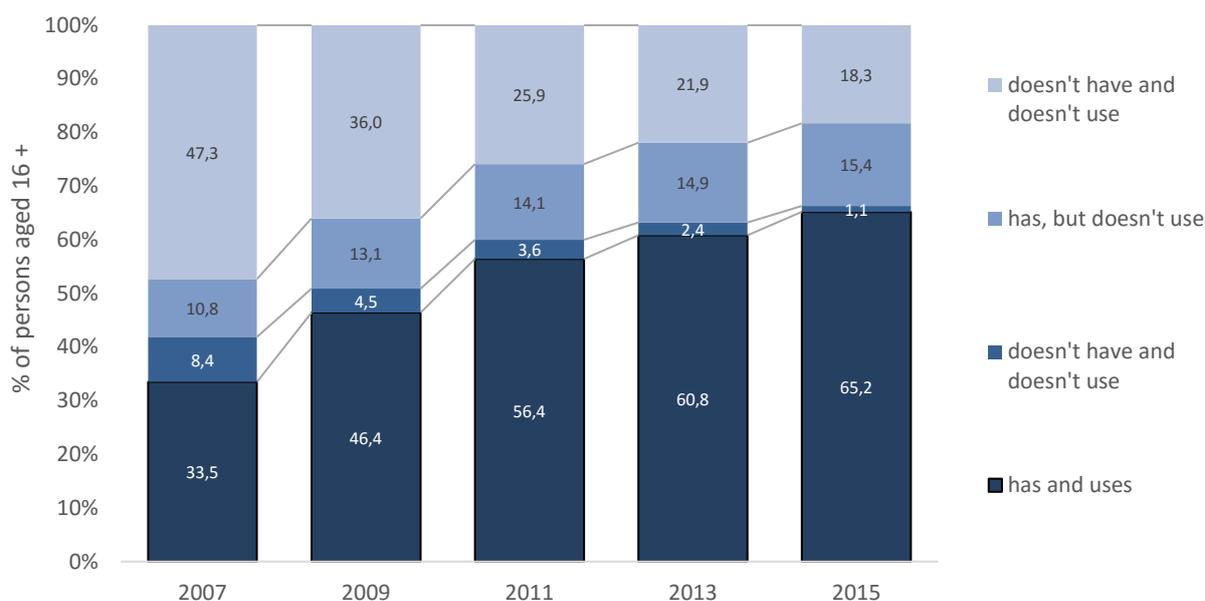


Figure 7.1.8. Use and ownership of computers and Internet in households between 2007-2015

Along with the increase of availability of the Internet, grows a number of non-users who own a computer and access to network at home, because other family members use it (Figure 7.2.3.). Presently, almost a half (46%) of persons who do not use the Internet, have such a possibility at home. It is mostly an effect of the growth of availability of the Internet, as, since 2009, the percentage of persons living in households connected to the Internet and who do not use the access, is constant (20%).

Reasons for that are different, but the majority is simply not interested in using the Internet. They lack motivation to use it by themselves – frequently, they prefer to ask another family member to check information, or to send a message. Such persons do not always know how they could use the Internet, and also lack skills required to use these technologies. The lack of competencies as one of the key barriers for persons who do not use the network is indicated by the fact that not using the Internet is much less frequent in those households with access which own Tablets. In the households with Tablets, 87% of family members aged 16 and more use the Internet, while in those where the only device enabling access is a computer – 78%. The difference is, therefore, significant, and may prove that Tablets are easier to use and thus can constitute a good access tool, especially to elderly people. On the other hand, another explanation is possible: that Tablets are more often present in households of younger persons who use the Internet much more frequently.

Persons who do not use the Internet despite having a connection, are mostly middle-aged. Even though among non-users, the majority is constituted by elderly people, they usually do not have access at home. The situation is different with persons aged 40-60, who more frequently live in a household with other persons using the network and having the access. The phenomenon of not using the Internet despite having the access is also more frequent among farmers and residents of rural areas, however these differences are not high. Other socio-demographic factors are virtually irrelevant.

The data presented here demonstrate that the mere equipment and broadband Internet of high bandwidth are not sufficient for a complete spread of network use in Poland. On the other hand, such persons are not completely deprived of access to the Internet, as they often use the possibility of using the Internet with the aid of other family members (WIP 2013).

## 7.2. Internet users and non-users

### 7.2.1. Poles and new technologies

The number of users of computers, the Internet, and mobile phones has clearly slowed down in comparison with the first decade of the 21<sup>st</sup> century. In the first half of 2015, 66.1% of Poles aged 16 and above used the Internet, which is 3 p.p. more than two years before. A similar percentage of respondents is constituted by persons aged 16-18 who participated in this year's study for the first time, and a vast majority of whom uses the network. This means that the increase of new users is related mostly with demographic processes and substituting of generations. A similar observation is applied to using computers and mobile phones. The latter are owned by more than 90% of Poles, so the lower increase results, inter alia, from the market saturation. A rapid increase is observed with the group of smartphone users. These devices are owned by 45% of persons aged 16 and more.

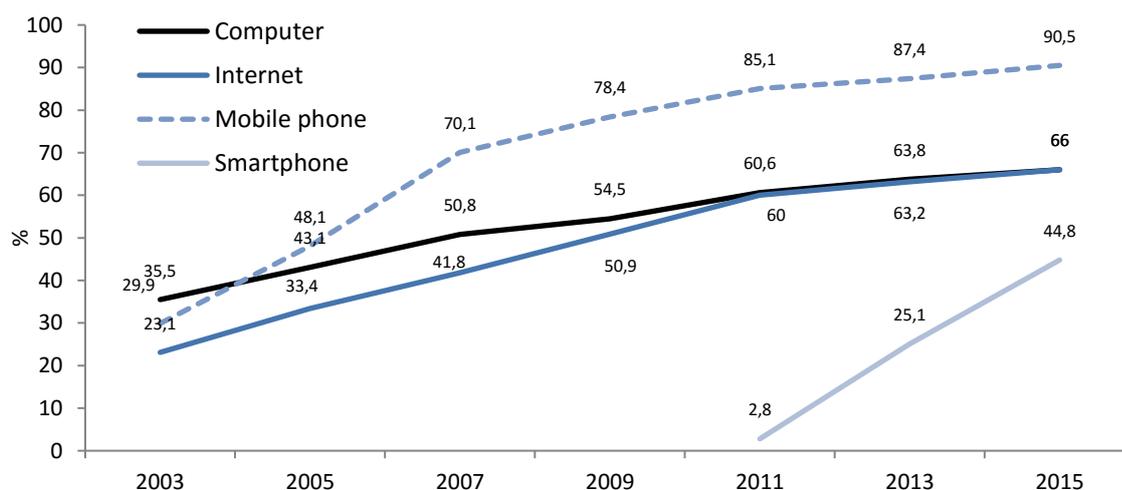


Figure 7.2.1. Use of communication and information technologies in 2003-2015

Using the Internet is strongly related with owning a mobile phone. Among smartphone owners, 93% claim to be using the network (not necessarily via the phone); among those with regular mobile phones – only 52%, while among persons not owning a mobile phone – only 8%.

### 7.2.2. Retreat from the Internet use

The actual increase in new users of the Internet is in fact greater than the changes presented in Figure 7.2.1., which do not involve the phenomenon of cessation. It still happens that a part of persons who had used the Internet in the past, no longer does. In reality, between 2013 and 2015, 5.3% of Poles aged 18 and more started to use the Internet, but simultaneously 3.8% stopped using it. In other words, until 2015, 6% of those who declared they used the Internet two years before, now claim they no longer do so. A similar level of cessation has remained since 2007, before however, the number of cessations had been greater (Batorski 2013).

Above all, the elderly (especially aged 60 and more) and the less well educated (primary and vocational education) stop using the Internet. Men stop using the Internet more frequently than women. In the period between 2013 and 2015, 16% of users over 65 ceased to use the Internet, as well as 13% of 60-64 year olds. This relation between cessation and commencement of using the Internet by age is demonstrated in Figure 7.2.2.. The scale of cessation may seem high, but it still significantly lowers than before. Let us compare it with the period between 2011 and 2013, when as much as 26% of persons aged 65 and more, who had used the Internet in 2011, stopped doing it. 22% of users with primary education of 2013, and 11% with vocational education no longer use the network. The scale of cessation is also higher with farmers, retirees and pensioners (14% each). The least frequent is cessation in groups where the Internet use is anyway the most frequent.

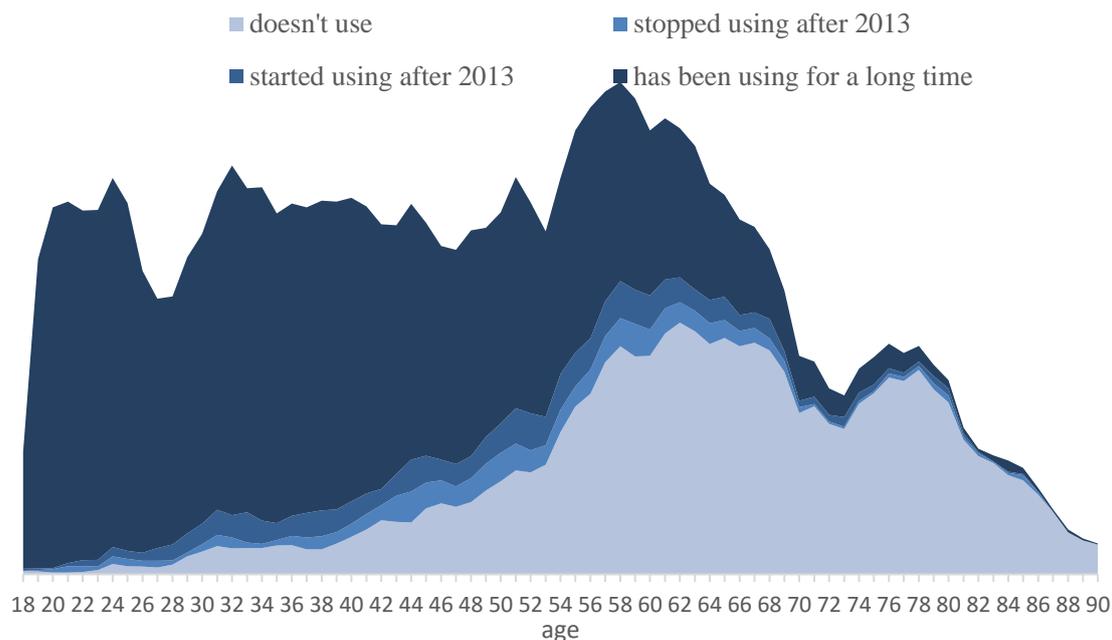


Figure 7.2.2. ICT use for different ages between 2013-2015 – number of persons

The reasons for giving up the Internet use are very different, but the vast majority (77%) of persons who stop using it, still has an access at home. Sometimes a cessation happens due to changes in life situation, for example change or loss of job, or retiring. Representatives of the latter groups are by far more numerous than among those who stopped using the network. Cessation is also frequently related with a low motivation, and the fact that such persons used to use the Internet to a rather limited extent.

### 7.2.3. Conditions for using the Internet and other media

The relatively slight increase of the number of Internet users depends on a range of socio-demographic factors, in a manner similar to the relation from two years before. This part is intended to demonstrate the differentiation, since it is significant for actions undertaken for the benefit of e-integration and prevention of digital exclusion, but also for companies and institutions operating on the Internet. In the further part, a structure of users and non-users will be presented, involving the most significant socio-demographic variables.

When analysing the use of the Internet in various socio-demographic groups, it is worth to assemble them with the use of other media: watching TV or reading newspapers. Since people who do not watch television constitute barely a few percent, in this comparison we chose people who watch a lot of television, which is more than 2 hours a day (currently, 56%). As readers of the press, we qualified persons who dedicate at least one hour a week for reading press. The answer to the question of what are the relations between the uses of these different media is not at all obvious. Later in this chapter, also the time that Poles spend on the use of various media shall be analysed. Table 7.2.1., in addition to data on the use of the media also includes data relating to the possession of a mobile phone, including smartphones and using the Internet via smartphones or Tablets using the data transfer by mobile networks.

Definitely the most active users of new technologies are young persons, especially the ones who are still studying. Almost all of them use computers and the Internet, and own mobile phones. Moreover, 80% of them own a smartphone. Also in these groups, the number of mobile Internet users is the highest – 36% of students and other persons aged less than 24 use it. On the other hand, the youth reads traditional press the least frequently, and is the least inclined to watch television for more than 2 hours a day. On the opposite side of the scale are elderly persons, especially retirees and pensioners. Only one in four pensioners and approximately one in three retirees use the Internet although, approximately three quarters of them own a mobile phone, it is very rarely a phone with touch screen and Internet access. Among pensioners, as much as three quarters spends at least 2 hours watching television, but this group includes also a higher number of press readers.

Education plays a significant role in terms of use of media - better educated persons use the Internet much more frequently and more often read press, but also spend much less time in front of the TV. An opposite situation is observed with persons with primary education. Owning a smartphone and using mobile Internet is, similarly to use of other technologies, more widespread among better educated people.

Significant differences are related to the size of the place of residence - differences in the use of the Internet between residents of the largest cities and residents of rural areas amount to 25 p.p.. Far smaller differences are related with the use of mobile phones, although the difference between owning a smartphone and using mobile Internet are equally high.

Residents of big cities read press more often, while residents of rural areas read press less frequently. Watching television takes yet another shape. The majority of persons watching TV for more than 2 hours a day, live in smaller cities, whereas this number is lower in cities of more than 500k residents and in rural areas.

The income differentiates the use of media, but is less significant than age and education. The internet is used most often by persons of households with high income. Representatives of low-income households are, nevertheless, also relatively active users of ICT. More than a half of them use the Internet, 84% own a mobile phone, including 32% of smartphone owners. Almost one in ten uses mobile Internet.

Men use technologies more often than women. Women, on the other hand, read traditional press more frequently than men.

Table 7.2.1. Use of technology and media in different groups in 2015

Group		Computer	Internet	Mobile phone	Smartphone	Mobile Internet	Press min. 1h/week	TV over 2h/day
Total		66.00	66.0	90.4	44.7	17.5	54.8	56.5
Gender	Men	67.8	67.9	91.6	45.6	19.7	49.7	55.3
	Women	64.3	64.2	89.4	43.9	15.5	59.4	57.5
Age	16-24	97.2	97.5	99.1	79.4	35.9	41.2	46.1
	25-34	92.5	92.9	98.5	73.9	32.6	50.2	46.2
	35-44	85.2	85.6	98.2	60.2	23.5	55.4	48.3
	45-59	60.3	60	93.9	30.6	8.7	56.4	56.6
	60-64	41.3	40.8	88.0	19.4	5.0	63.6	68.5
	65+	18.6	17.9	65.8	6.9	1.2	62.2	75.8
Social and professional status	Public sector employees	89.4	89.4	99.2	59.9	23.3	64.9	43.2
	Private sector employees	82.4	83.1	98.8	61.3	25.6	51.0	48.5
	Private entrepreneurs	90.2	89.6	99.3	63.3	32.4	58.2	37.9
	Farmers	51.0	50.5	87.5	21.4	4.0	45.5	49.0
	Retirees	32.9	32.6	78.0	18.7	5.4	56.7	73.3
	Pensioners	25.9	25.2	72.6	10.3	2.1	63.1	74.6
	Students	98.8	98.8	99.1	79.8	36.2	42.8	43.4
	The unemployed	68.4	68.9	93.9	45.1	14.7	46.9	64.5
	Other occupationally inactive	63.2	63.2	89.0	41.8	12.9	50.5	68.1
	Level of education and current students	Primary and lower	15.1	14.7	61.1	9.3	1.7	43.2
Basic/lower secondary		49.0	49.4	90.4	29.2	8.2	48.7	61.3
Secondary		74.1	73.8	95.4	46.9	15.8	58.6	58.5
Higher and post-secondary		92.3	92.3	98.1	67.0	32.0	67.2	44.5
Students		98.8	98.8	99.1	79.8	36.2	42.8	43.4
Size of place of residence	Towns of over 500k residents	82.1	82.4	96.2	61.9	33.7	66.7	53.1
	200-500k	76.0	75.9	93.6	56.5	24.0	61.0	56.8
	100-200k	72.6	73	94.4	52.7	23.3	57.5	58.9
	20-100k	66.8	66.6	93.1	43.7	15.7	57.9	58.9
	Fewer than 20k	66.3	65.9	91.5	44.3	15.9	56.0	60.7
Rural areas	57.3	57.3	85.7	36.1	11.6	47.8	54.5	
Per capita household income	First quartile	50.9	51.2	83.8	32.0	9.2	43.8	60.7
	Second quartile	56.4	56.8	87.2	35.1	12.2	53.1	59.9
	Third quartile	70.3	70.5	93.3	48.3	18.4	57.8	55.5
	Fourth quartile	84	84.2	96.6	60.2	28.9	66.3	51.3

### 7.2.4. Changes in using the Internet in sociodemographic groups in 2003-2015

The number of people using the Internet has doubled in the past 10 years. The process, however, has not been evenly distributed in the various socio-demographic groups. Diffusion of innovation is a gradual process and occurs at different pace in different groups (Rogers, 2003). Clearly visible is the large diversification of present possession of smartphones and mobile Internet use (Table 7.2.1.). In this section it is analysed how the use of networks evolved in various socio-demographic groups in the 2003-2015. This may be an approximation of how it can be followed by dissemination of other technologies, though in the case of smartphones, this process occurs much faster.

Men reach for new technologies slightly more than women - a difference of a few p.p. in the use of the Internet has persisted for many years. In 2015, among persons aged 16 years or more, 68% of men and 64% of women use the Internet. However, due to differences in life expectancy, the population consists of more women than men, and therefore also among Internet users there are more women. Women constitute 52% of users in Poland.

Factors that are the most associated with the use of the Internet are, again, age and education. The network is used by almost all young people - in the age group of 16-24, only one in 40 persons does not use the Internet. There were slightly less users two years before. On the other hand, among the elderly, only 18% use the Internet, which is, however, almost 4 p.p. more than two years before (Figure 7.2.5.). The situation improves as well in the group aged 60-64, of which already more than 40% are Internet users. Differences in the use of the Internet in terms of users' age are still high, and it seems that they will decrease very slowly, first and foremost as a result of the transition of consecutive generations, with a greater number of users, to the older groups. The growth increment is now similar in different age groups, all of which are far from a widespread use.

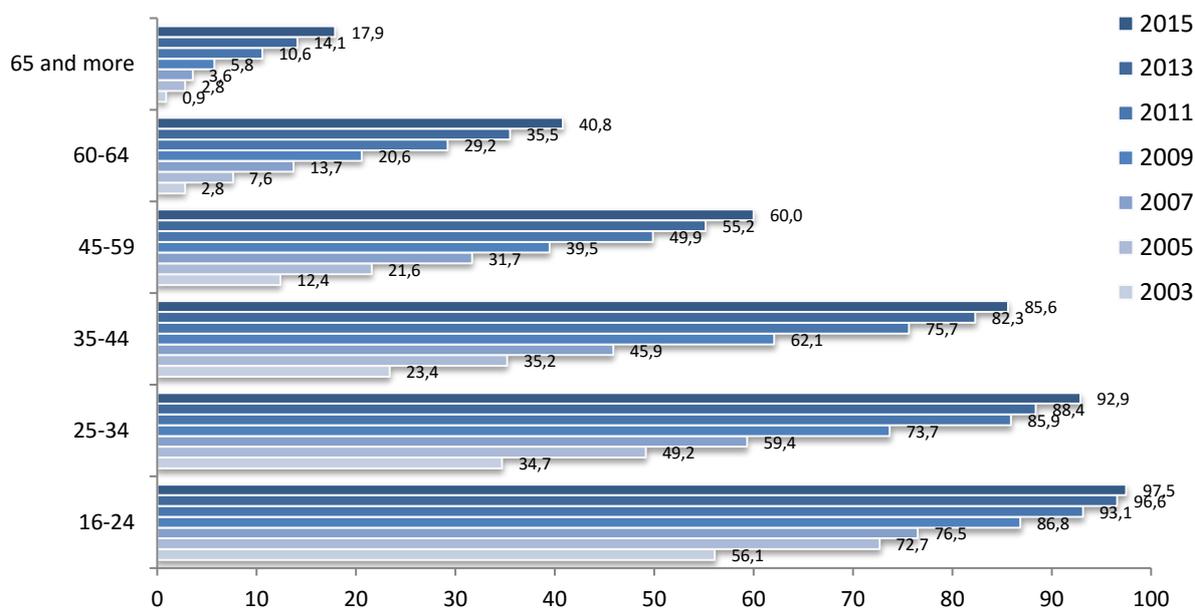


Figure 7.2.3. Percentage of the Internet use for different ages 2003-2015

Considerable differences in the Internet use are also related with education. In 2015, almost all students (99%) used the Internet, as well as university graduates (92%). These groups have been characterized with changes of the greatest dynamics in the beginnings of the Internet diffusion in Poland, presently, the changes are no longer significant. Meanwhile, less than 15% of persons with primary education use the Internet, with a very slow increase. The differences in terms of education have decreased slightly in the recent years, but changes are extremely slow and it is to be expected that a considerably higher proportion of the Internet use by elderly persons and poorly educated persons is virtually impossible to achieve. Therefore, it is worth considering whether public actions undertaken for the benefit of popularizing the Internet are in fact useful. The dynamics of users increase in the recent years does not inspire such actions, despite numerous programs which were supposed to encourage the Internet use.

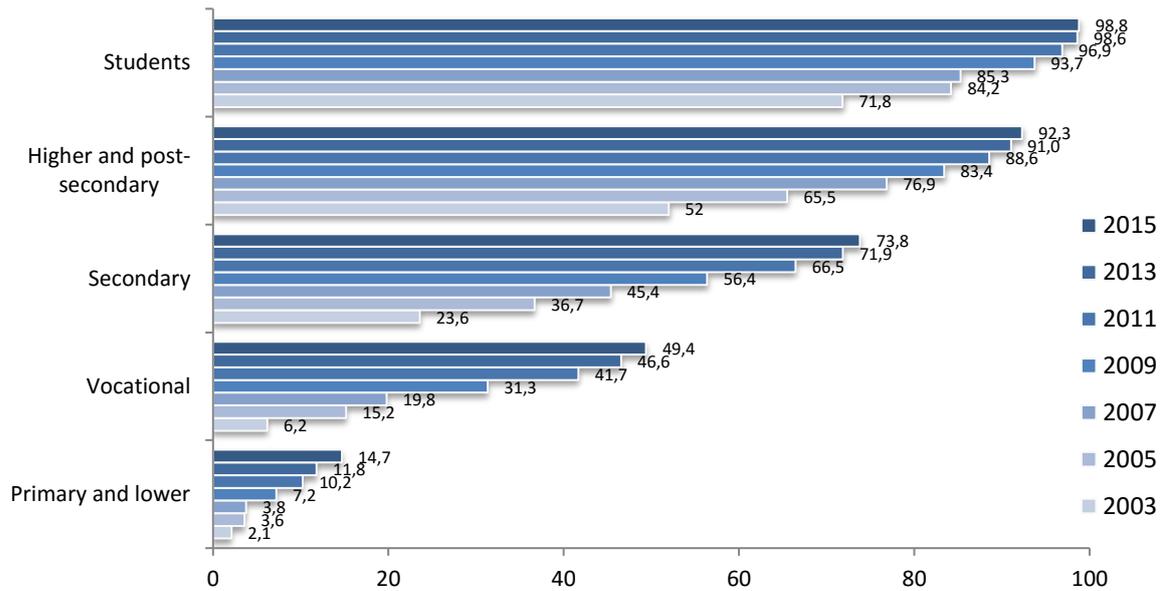


Figure 7.2.4. Percentage of Internet users' groups of various level of education between 2003-2015

Use of ICT is also significantly linked to prosperity – persons from households of high income start to use the Internet earlier. However, the relation is less significant than in the case of age or education. Among the quarter of Poles with the highest income, 84% use the Internet, which is only 3 p.p. more than four years before. Thus, the differences related with income begin to decrease.

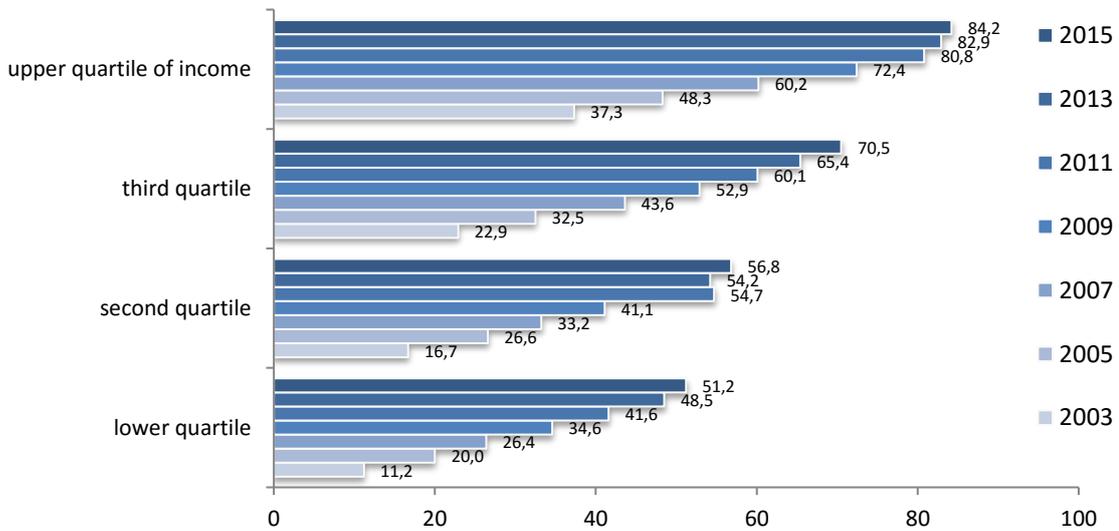


Figure 7.2.5. Income and percentage of Internet users between 2003-2015

Professional status as well has a significant influence on use of ICT. As we mentioned earlier, almost all school and university students use the Internet (99%), as do most of employed persons. In the latter category, employees of the private sector are users slightly less often (82%) this difference has prevailed for a considerable period of time. These groups were distinguished by the highest dynamics of increase of new users; presently however, the changes are relatively slight. On the other hand, the share of users among farmers has risen to a marked extent – what might be interesting, in 2003, less than 2% of farmers used the Internet (similarly as in the group of pensioners), while presently one in two farmers and only one in four pensioners use the network. The dynamics of increase is completely different for these two groups (Figure 7.2.6.). Use of the Internet becomes ever more widespread among the occupationally inactive and the unemployed, although these groups use the Internet by far less frequently than employed persons.

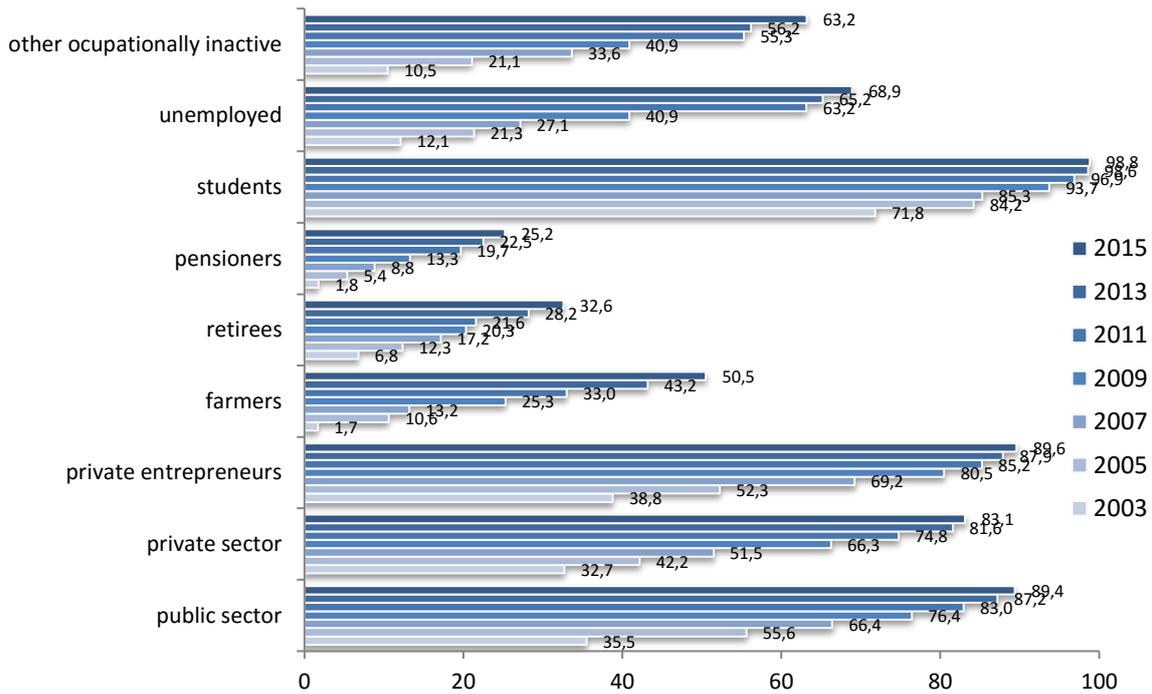
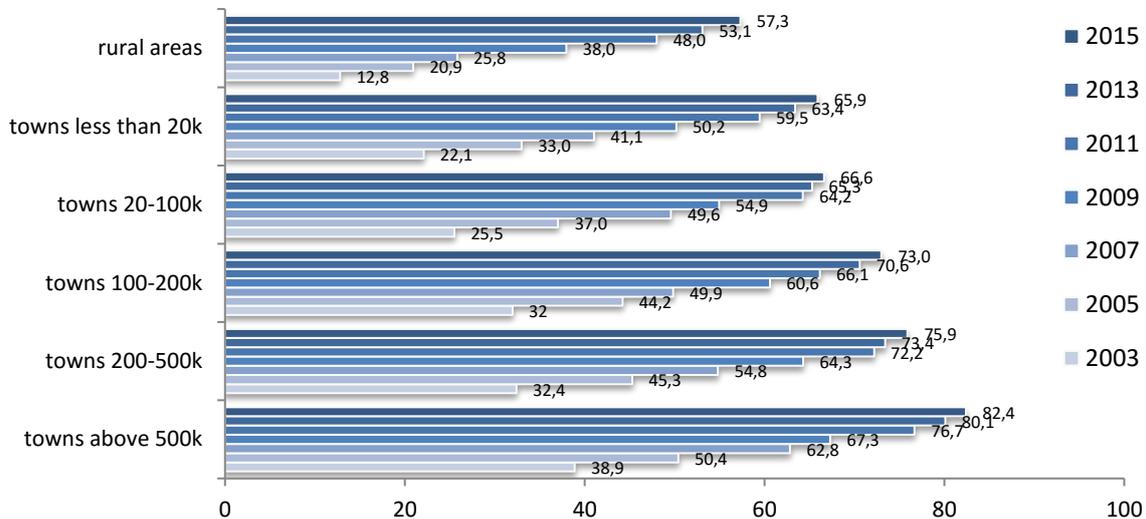


Figure 7.2.6. Percentage of Internet users by socio-professional status in 2003-2015

Internet use is also differentiated by size of place of residence. Clearly more people are users in the larger towns than in rural areas and the smaller towns. However, it is the latter group which gains new users the most rapidly. 82% of the residents of the largest cities use the Internet, while in rural areas – 25 p.p. less. The differences related to the size of place of residence slowly begin to decrease.



Figures 7.2.7. Internet use by size of place of residence between 2003-2015

Internet use is differentiated not only by place of residence but also by region. The voivodships in the East of the country use the Internet more rarely. Figure 7.2.8. presents Internet use by voivodships in detail, as well as the changes that took place in 2007-2015. Most users are presently in the Pomorskie, and then Dolnośląskie. By far the least Internet users live in the Świętokrzyskie and Warmińsko-Mazurskie.

The differentiation of mobile Internet use, presented in Table 7.2.1., is strikingly similar to the pattern of fixed broadband diffusion in the first years of the 21<sup>st</sup> century. The process of diffusion of new ICTs happens in an alike manner. The diffusion begins among young persons living in the largest cities, who are still students or graduated recently. Only later are the technological innovations absorbed by representatives of other groups.

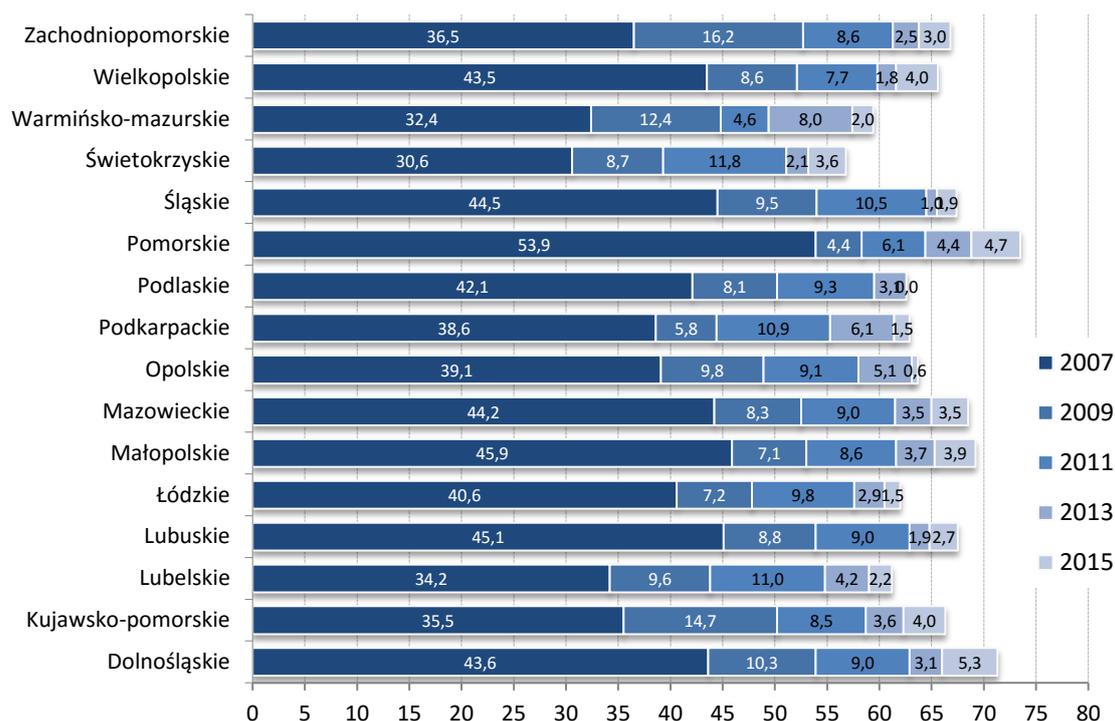


Figure 7.2.8. Percentage of Internet users over 16 years of age in 2007 and the percentage of new users in 2009 and 2015 by voivodship

### 7.2.5. Changes in the structure of Internet user and non-user populations

In the previous sections, we have shown the use of the Internet and other ICT in various socio-demographic groups, and also how the use of ICT is becoming more common. These changes influence the structure of the population of Internet users and non-users. The structure of users group is of high significance for companies and institutions offering products and services online. The structure of the group of non-users, on the other hand, is relevant in terms of actions aimed at encouraging the use of the Internet. The change in the structure of Internet users between 2003 and 2015 is presented in Table 7.2.2..

As a result of high differences in the use of the Internet in various socio-demographic groups, the groups of users and non-users are extremely disparate. If the age structure is analysed, it appears that among users there is definitely the most of young people, whereas among non-users – senior persons (Figure 7.2.6. and Table 7.2.2.). Currently 45% of the Internet users are persons aged 16-34. Persons in this age are encountered more than ten times less frequently in the group of non-users. A situation almost opposite is observable with persons aged 45 and more, who constitute 10% of users and 60% of non-users. To an ever larger degree, elderly people constitute the majority of non-users – over a half of the group are aged 60 or more.

When observing changes over time, it is especially worth to notice the fact how different is the present group of the Internet users from the one from 12 years before. In 2003, more than 40% of users were aged 16-24 (Figure 7.2.4.). Currently, persons of this age constitute only 18% of the Internet users. The group of the highest observed increase have been persons aged 39-59. The decrease of the number of young persons is also related with a decrease of percentage of students, which since 2003, has declined from 30 % to 11.6%. This change is primarily due to the increasing share of retirees and farmers, as well as to the demographic decline in the group of school and university students. The percentage of Internet users with higher education has changed little in the last decade and is stable at around 34% of users. The share of people with secondary education is almost constant, and the fastest growth can be seen in the group of people with vocational education.

The population of Internet users is also changing in terms of the size of the place of residence. People living in major cities make up a diminishing proportion of Internet users - the percentage of residents of cities larger than 200k has decreased from 34% in 2003 to 25% in 2015. The share of rural population, on the other hand, is increasing, from 21 to 35%. It is worth noting that a half of the non-user group are residents of rural areas, while 31% - residents of towns up to 100k residents.

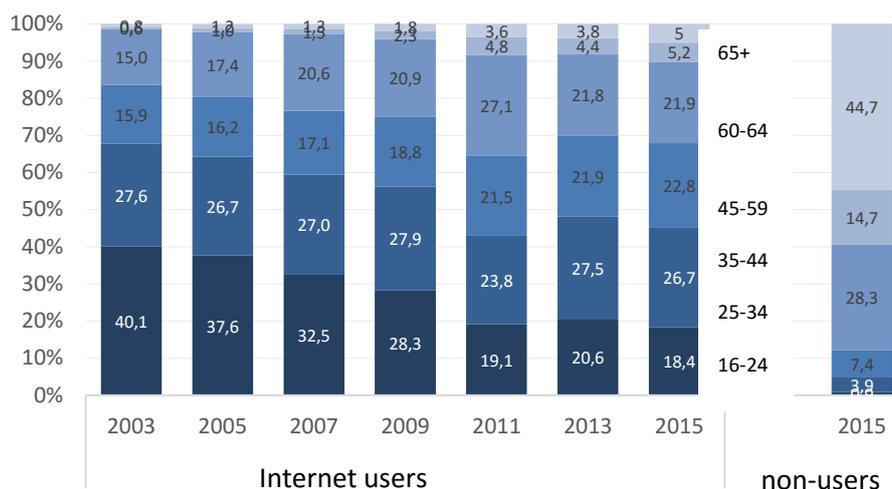


Figure 7.2.4. Changes in the structure of age of Internet users between 2003-2015 and percentage of non-users in 2015

The last column of Table 7.2.2. contains other data on the current structure of non-users. Elderly people dominate the non-users group, almost 60% of which are aged 60 or more and the proportion of this group is growing (in 2013, it constituted approximately a half of non-users group). One third of non-users has only primary education, and an even bigger group of non-users is made up of those with a vocational education (40%).

Table 7.2.2. Changes in the structure of Internet user population between 2003-2013

	Composition of Internet users population in a given year							Non-users in 2013
	2003	2005	2007	2009	2011	2013	2015	
Men	49.9	50.4	46.3	49.4	46.8	49.1	48.2	44.1
Women	50.1	49.6	53.7	50.6	53.2	50.9	51.8	55.9
	2003	2005	2007	2009	2011	2013	2015	Non-users
16-24 y.o.	40.1	37.6	32.5	28.3	19.1	20.6	18.4	0.9
25-34 y.o.	27.6	26.7	27.0	27.9	23.8	27.5	26.7	3.9
35-44 y.o.	15.9	16.2	17.1	18.8	21.5	21.9	22.8	7.4
45-59 y.o.	15.0	17.4	20.6	20.9	27.1	21.8	21.9	28.3
60-64 y.o.	0.6	1.0	1.5	2.3	4.8	4.4	5.2	14.7
65+ y.o.	0.8	1.2	1.3	1.8	3.6	3.8	5	44.7
	2003	2005	2007	2009	2011	2013	2015	Non-users
Public sector employees	24.2	24.0	23.2	20.2	19.4	18.0	17.5	4
Private sector employees	24.3	23.6	28.5	30.2	29.7	34.0	36.2	14.3
Private entrepreneurs	7.2	6.6	7.2	6.6	6.0	6.3	6.5	1.4
Farmers	0.4	1.7	1.6	2.1	2.8	3.5	4	7.6
Retirees	3.2	3.3	3.2	3.1	3.0	3.0	3.2	13
Pensioners	1.5	2.9	4.3	5.4	9.1	7.3	8	46.2
School and university students	30.0	26.0	21.9	19.7	14.7	13.1	11.6	0.3
The unemployed	6.2	6.2	4.5	4.8	6.8	8.1	5.7	5
Other occupationally inactive	2.9	5.8	5.5	7.9	8.4	6.7	7.3	8.2
	2003	2005	2007	2009	2011	2013	2015	Non-users
Primary and lower	2.0	2.0	1.5	2.3	2.9	2.6	3	33.4
Basic/lower secondary	7.5	12.0	12.1	16.4	19.2	19.8	19.9	39.4
Secondary	27.7	29.1	30.0	30.1	31.8	32.4	30.9	21.3
Higher and post-secondary	32.9	31.7	34.4	31.4	31.5	32.1	34.6	5.6
Students	29.9	25.3	21.9	19.7	14.5	13.1	11.6	0.3
	2003	2005	2007	2009	2011	2013	2015	Non-users
Towns of over 500k residents	19.6	15.3	16.1	16.2	15.6	15.4	14.2	5.9
200-500k	14.3	13.6	14.5	14.1	11.6	11.0	10.9	6.7
100-200k	10.9	11.1	10.5	8.4	8.5	8.6	8.6	6.2
20-100k	21.3	22.4	23.5	20.7	21.1	20.1	19.6	19.1
Fewer than 20k	12.8	14.4	12.6	12.8	11.9	11.9	11.8	11.8
Rural areas	21.1	23.3	22.8	27.9	31.4	33.1	34.9	50.3

## 7.3. Media consumption and time devoted to use of them

### 7.3.1. Media consumption and time devoted to use of them

The average Pole spends more than four hours a day on the use of the media. This time spreads out between different media - the Internet, TV, radio and press. It is true that the telemetry studies show that just in front of the TV, Poles spend an average of more than 4 hours a day. However, television has become in recent years an accompanying media and is often turned on when family members perform other activities (Dziomdziora 2015). Therefore, the statements analysed in social Diagnosis may be a better approximation of how much times viewers spend in front of television sets. In this part, declarations will be compared regarding the time spent on the use of various media, and next, the impact of the Internet diffusion on time spent watching television will be examined, as well as the relationship between the Internet use and reading traditional press.

Internet users spend online an average of 12 hours and 15 minutes a week, but most of them use it in a limited way, and only slightly more than a half of users use it for more than one hour a day. The exact distribution of the declared time devoted to the use of the Internet is presented in Figure 7.3.1..

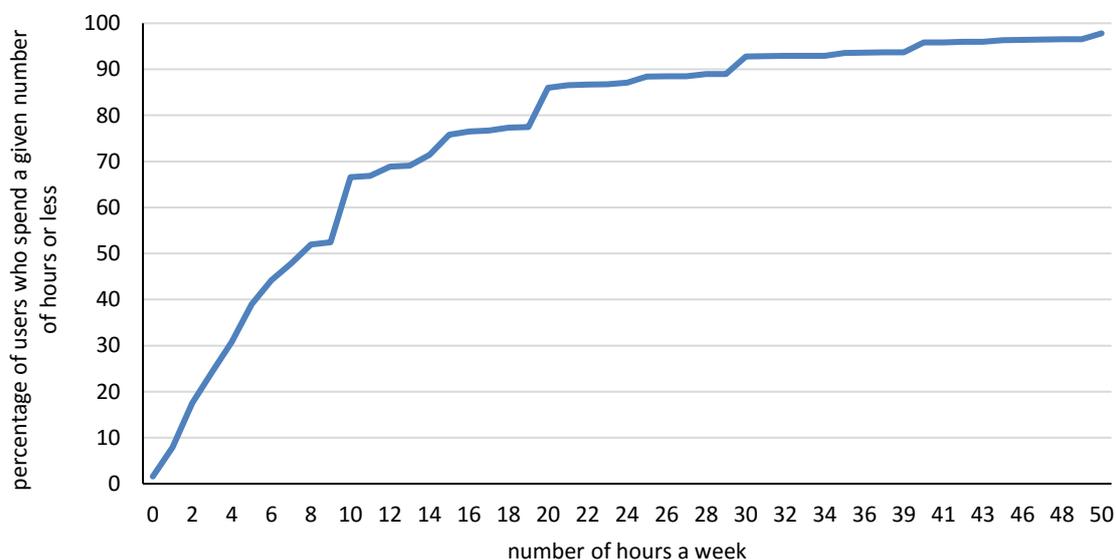


Figure 7.3.1. Cumulated distribution of time spent on using the Internet in 2015

Large differences in the time spent on the use of the Internet are related to the use of mobile devices. Internet users who use the network via smartphones and Tablets are a much more committed group, using the network more intensively. It is not surprising, therefore, that an average mobile Internet user spends more than 17 hours a week online and those who use mobile devices, but only with wi-fi networks, spends online 14 hours a week. Other users are less active and use the Internet for an average of 8 hours a week. Persons who have used the Internet for a relatively short period of time, devote much less time for this activity. Those who began to use the Internet after 2013, spend online an average of less than 5 hours a week. More time is spent on the Internet by male users (13 hours and 20 minutes per week) than female users (about two hours less). Young persons use the Internet the most intensively, whereas the least - elderly people, especially pensioners (an average of slightly more than one hour a day), as well as those less educated. More intensive use is observed with people with higher education and occupationally active. Large variations are also related with the place of residence.

Almost 95% of Poles watch TV, devoting rather significant amounts of time for this activity. Only 11% declare to be watching less than one hour a day. One in three Poles spends more than three hours a day watching television. More than a half devote 1-3 hours for watching.

Even though 79% of Poles declare to be reading traditional press, a large proportion of this group does it sporadically. One in four adults spends no more than an hour a day on reading newspapers and magazines, and 29% - from two to three hours. 8% read press for an average of more than an hour a day.

Figure 7.3.2. presents the differentiation of time devoted to the use of the Internet, watching television and reading traditional press in various socio-demographic groups. It should be noted that the value of the time spent on the Internet are calculated for all Poles, and thus include also the non-users. The same is true with the average for the rest of the media. Thus, if we only compared solely the users of these three media, results would be different.

The time spent on the use of the media is strongly related with age, however, among the young, who use the Internet the most frequently and the most intensively, any definite resignation from television cannot be observed. What is more, only in one group, namely among people up to 24 years of age, especially those who are studying, the use of the Internet is an activity more absorbing than watching television. Persons of all other groups spend, on average, more time in front of the TV than on the Internet. This also applies to groups in which Internet users constitute a rather high proportion. Interestingly, more time is devoted to the media by younger, better educated persons living in larger towns. This is partly an effect of the fact that we are not analysing the radio listenership, which is popular rather in the older age groups (Dziomdziora, 2015).

Reading press is not so much differentiated - the least time on newspapers and magazines is devoted by the young, the unemployed and the residents of rural areas, whereas the most by the older, better educated persons and the residents of larger towns.

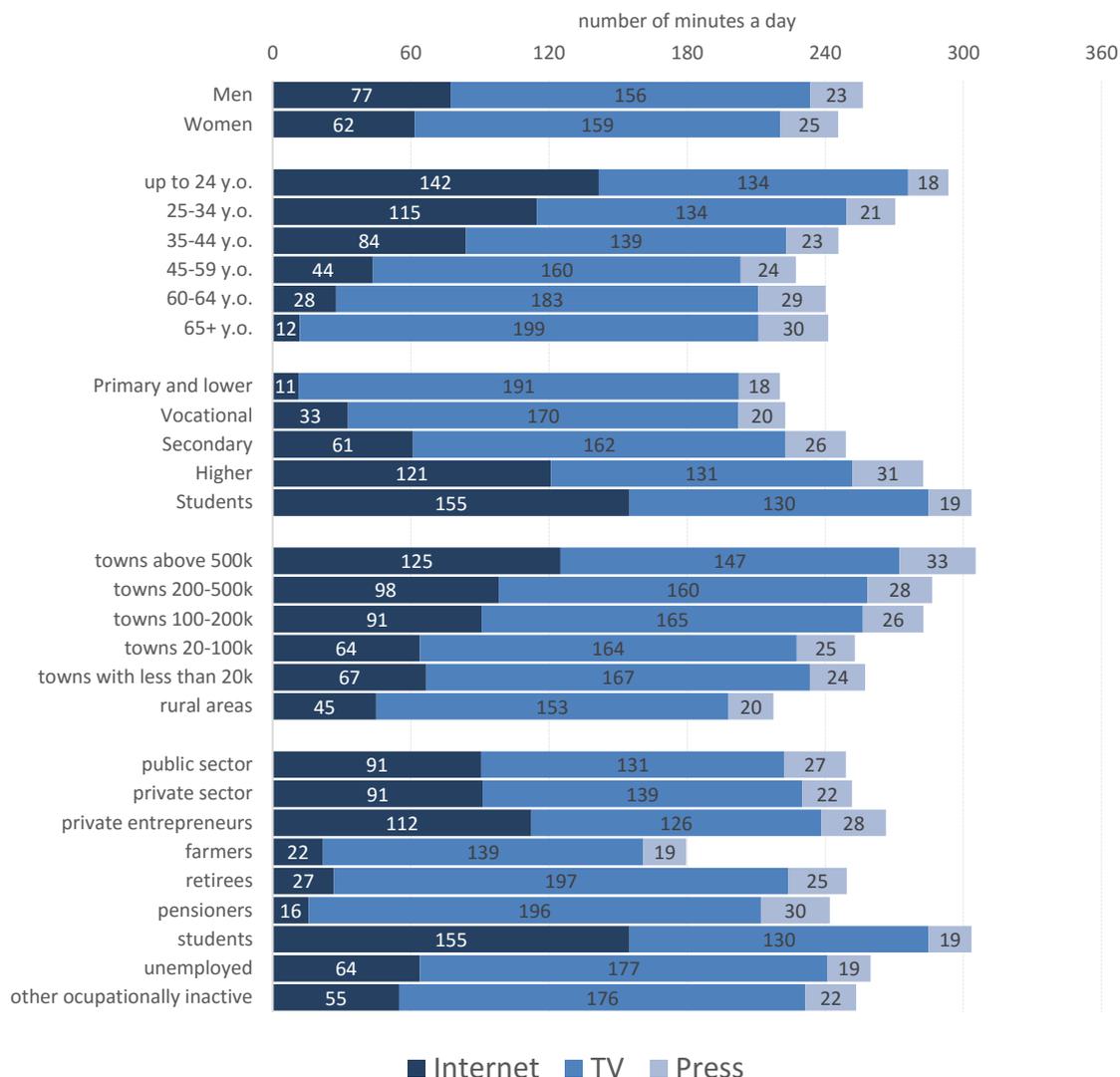


Figure 7.3.2. Time spent on using various media per day in 2015

### 7.3.2. The use of the Internet and the changes in the time spent on watching TV

Over the years, the time spent on watching television has virtually not decreased. It is, therefore, worth to examine how this is happening despite the spreading of the Internet. Although ever more people do not watch TV at all, it is still a very small group. Since 2007, it has doubled, from 2.6% to 5.3% in 2015. Among the users of the Internet, 6.8% do not watch television. Definitely, persons who spend the most time on the Internet, the least frequently watch television.

As shown in Figure 7.3.3., the time spent watching television by the Internet users and non-users varies significantly. The previous spend ever less time watching television, while for the latter, this time tends to increase. Changes which can be observed in Figure 7.3.3., arise also from flows between the two groups. Persons who spend less time watching TV, more frequently begin to use the Internet. It needs to be emphasized that although the Internet users

spend clearly less time watching television, the majority of them considers it to bear significant medium, and only a small group of them does not watch it at all or watches it in small amounts.

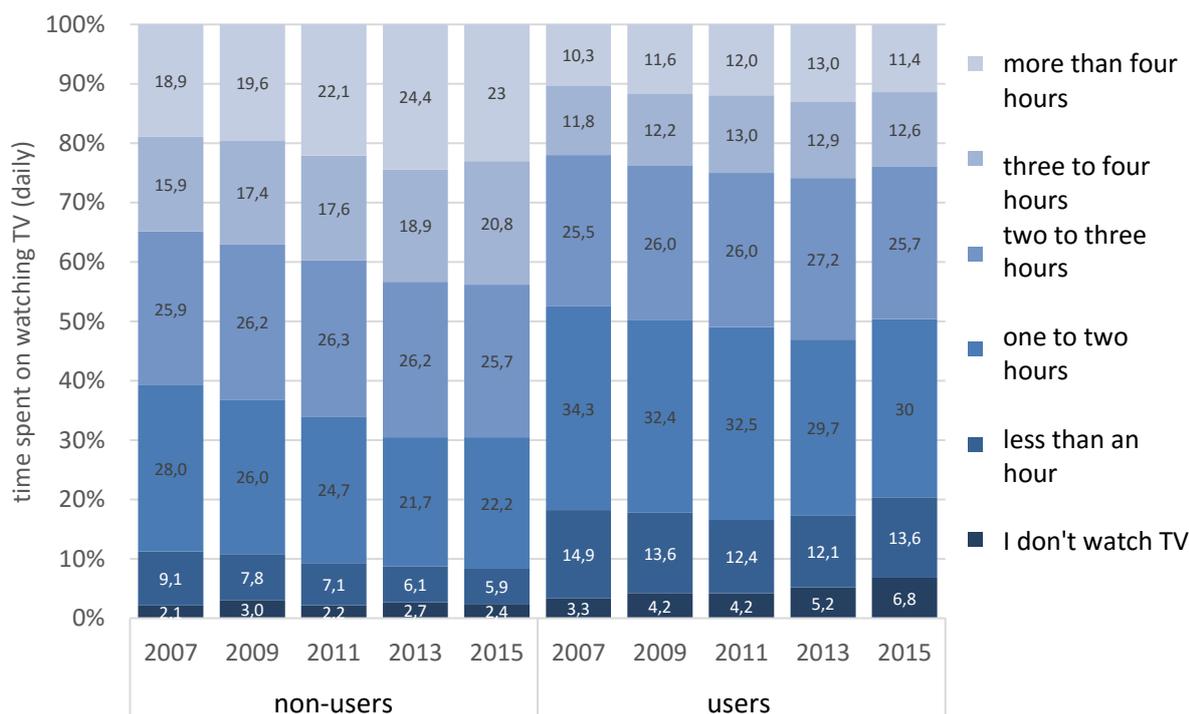


Figure 7.3.3. Time spent daily on watching TV among Internet users and non-users between 2007-2015

Specific changes can be observed only by analyzing how the behaviours of individuals have changed, which is possible thanks to the panel nature of the Social Diagnosis. Importantly, we do not ask respondents about how their behaviours changed between the successive editions of the study, but rather compare their present answers with the answers to the same question given two or four years before

Between 2011 and 2013, the time spent on watching television has increased among persons who did not use the Internet, and those who ceased using the Internet after 2011. On the other hand, among persons who started using the Internet after 2011, the time spent in front of the TV has remained virtually constant. The time devoted for watching television by persons who have been using the Internet for more than two years, decreased slightly. Thus, the time spent on watching TV by those who do not use the Internet has increased, and among the users of the network a slight decrease was observed. Changes in 2013-2015 took yet another shape, as during this period the average time spent on watching TV has decreased<sup>87</sup>. The greatest changes have occurred in groups of people using the Internet, and among those who do not use and did not use the Internet in 2013, virtually no change was observed. In the group of persons who started to use the Internet after 2013, one in three persons declare to be presently spending less time in front of the TV than it was declared two years earlier. At the same time, however, 26% declare to be devoting more time than in 2013. Among those who have been using the Internet for a long period of time, 34% watch less TV, while 28% watch more. These changes are not very large, although significantly higher than among non-users, where there is 1 p.p. more of people who currently watch less television than those whose time in front of the TV has extended.

In 2015 in Poland, there were only 17% of persons who spent more time using the Internet than watching TV, 2p.p. more than in 2013. Similarly, as two years earlier, 70% of persons aged 16 and more spend more time in front of the TV than using the network, others use both media with similar intensity. Only among students there are more persons who spend more time on the Internet than on television - 44% compared to 34% of those who watch more television. If we consider all persons aged 16-24, 40% watch clearly more television and 40% spend more time on the Internet.

The results presented so far show that the Internet does not contribute to a substantial reduction of the television audience, which remains on a high level. It is true that users devote clearly less time for television; in general, however, it is still more time than they spend using the Internet. Changes occur very slowly and only a small group (17%) spends more time using the Internet than in front of the TV. Even among users who watch video and TV materials in the network, a viewing audience of traditional TV is significant, though slightly smaller than among other groups. It is, however, to be expected that the boundaries between television and the Internet will increasingly blur. More and more video content and television materials will be available via the Internet and the TV will also become a device for using the Internet. Then, the content coming from the Internet will start to compete for the presence on the big screen. For

<sup>87</sup> This change, however, may result from the fact that the study was conducted later in 2015, and the amount of time spent on watching television in winter and early spring is higher than when weather improves.

now, hardly anyone uses TV to watch movies and other content from the Internet, much more frequent is the use of a computer at the same time when the TV is switched on (WIP 2013).

### 7.3.3. The use of the Internet and changes in the time spent on watching TV

The Internet is seen as one of the main threats to the press. Undoubtedly, daily newspapers are losing readers and with a high probability it can be said that this is a consequence of the spread of the Internet. However, the number of issued press titles grows, and competition from the Web seems to touch the weeklies and other periodicals to a much lesser extent. In this section, the relations of the use of the Internet and the time devoted to reading printed press will be demonstrated.

Internet users a bit more often read newspapers and devote slightly more time to it, than people who do not use the network (Figure 7.3.4.). While taking into account differences related to education or place of residence, these differences may seem insignificant. Interestingly, the differences between users and non-users relate only to those users who declare to be also regularly reading the online news sites. The conclusion can therefore be drawn, that the people who are the most interested in the press, are also those who use such content on the Internet the most intensively. This may have important implications for readership. However, because the question about the press was asked in the Social Diagnosis for the first time, it is only in the next edition when it will be possible to analyze the changes and mechanisms behind them.

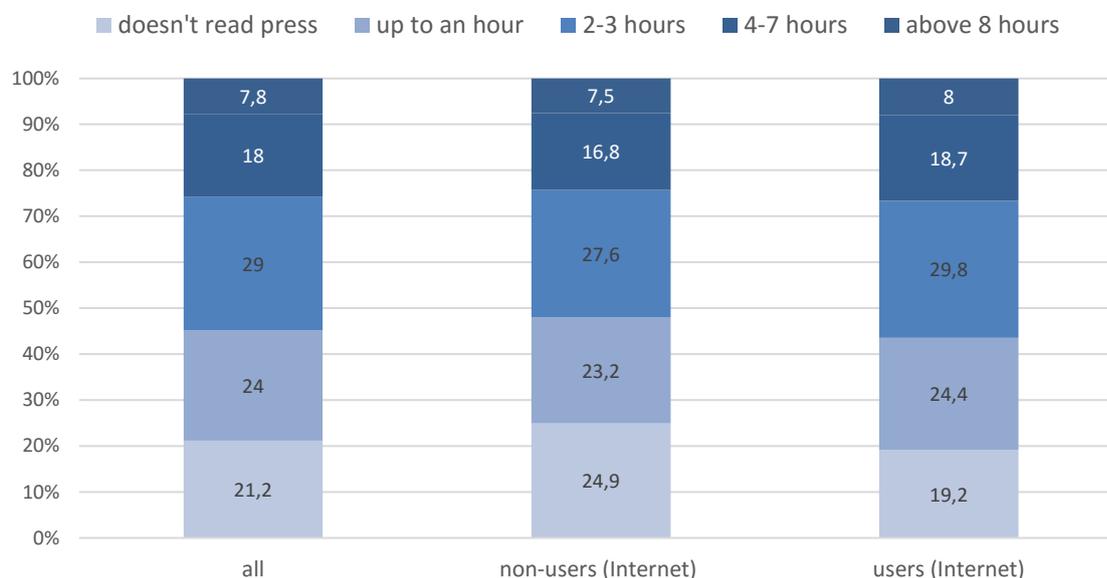


Figure 7.3.4. Time spent weekly on reading traditional press among persons aged 16+, with distinction of the Internet users and non-users

At the end of this section, it is worth noting that, at present, one third of Internet users declare to have paid for content available on the Web. Approximately one in ten users does it on a regular basis. The vast majority (over 94%) of persons who pay for the content, at the same time declares to be reading newspapers or books via the Internet. Therefore, if more than a half of persons who reach for newspapers and books on the Internet, sometimes pays for the content, it is conceivable that there is a potential to change the business model in which the most of publishers of Internet content operate, so that instead of advertising and the use of user data, income from fees would be encouraged.

## 7.4. Forms of using the Internet

### 7.4.1. Popularity of chosen Internet usage forms

The intensity of using the Internet varies, as the users use it in various ways. That is why, apart from the above presented analyses of time spent online, it is worth to analyse the forms of the Internet use. Social Diagnosis includes, inter alia, a detailed study of methods of using the Internet. In the 2015 edition, the questions were asked about 26 various ways of using the Internet, and also which ones had been performed during the week before the study which constitutes a good indicator of a regular use of the Internet in the particular manner.

Table 7.4.1. Ways of using the Internet – regular users among Poles aged 16+, between 2005-2015 (%)

	2005	2007	2009	2011	2013	2015
E-mail	17	28	34	37	40	42
Messengers	12	21	25	24	24	24
Discussion groups and forums	3	6	8	11	11	14
Calling (VoIP, Skype)	3	10	12	14	17	18
Collecting materials for studies/work	15	23	25	23	23	23
Obtaining data and information from public institutions	6	10	13	15	15	15
Downloading and filling-in official forms	3	6	8	10	11	10
Playing online games	4	8	10	12	14	12
Downloading free music and movies	6	9	11	12	14	14
Listening to music or radio via Internet	7	13	17	20	21	21
Watching TV via Internet	2	5	7	18	14	14
Creation and modification of own website or blog	2	3	4	8	8	7
Courses and e-learning	1	3	4	7	7	7
Looking for work, sending employment proposals	3	6	7	10	11	9
Buying products on the Internet (excluding auctions)	3	7	9	12	16	19
Using bank via Internet	4	13	17	22	26	29
Internet auctions	2	7	9	11	11	8

The greatest changes in the manners of the Internet use are, obviously, related with the increase of new users. However, not all Internet services are gaining popularity. Table 7.4.1. demonstrates how the popularity of various manners of using the Internet among Poles has changed. Some services, such as electronic mail or online banking, have become significantly more popular: e-mail from 17% to 42% of Poles uses it on regular basis, and internet banking from 4% to 29% in the period of 10 years. Online shopping also experiences a regular growth.

Many other applications do not spread this rapidly, and some have even remained on a constant popularity level. A good example might be e-administration solutions - percentage of persons regularly using these tools has remained virtually unchanged in the past few years. Entertainment applications and online messengers are similar in this regard. Neither has changed the percentage of creators and owners of blogs and websites.

The size of the group of persons using the Internet for searching educational and job-related materials hardly ever alters. However, this might be an effect of the significant decrease of students' share in the group of Internet users, as a result, the increase of Internet use for professional purposes is not visible in the data. Some services increased in popularity in a single period of time and, since then, have witnessed no considerable change. It is so with, e.g. participation in online courses and job search via Internet. Also social media which had gained an extreme popularity some years ago, presently remain almost constant in terms of percentage of persons using it – currently, one in three Poles aged 16 and more uses Facebook or similar portals at least once a week.

The results demonstrated here prove that a large proportion of users use the Internet in a rather shallow manner. Numerous persons use the Internet to a limited extent, focusing on basic applications related with communication and access to information. Only a half of users declared to be using the Internet for at least five of 26 various purposes for which we asked. This explains the low amount of time devoted to the Internet.

#### 7.4.2. Forms and conditions of the Internet use

We somewhat reduced the number of dimensions because analysis of each variable separately is too detailed, and because some of the studied ways of using the Internet are very closely linked to each other. In order to do so, we conducted a principle component factor analysis with quartimax rotation and isolated three main dimensions allowing the description of the Internet use in Poland. The combination of these three factors explains 55% of variation.

The first parameter is connected to **versatility and advanced use** - the more different online uses a given user applies, the higher the result gained. Especially strongly (with greater co-efficients) considered are uses demanding higher competences and creative approaches to the web, such as creation of own websites or maintaining a blog. A higher versatility is also related with online shopping in foreign stores and paying for online content. This dimension explains 43% of component variables variation.

The second parameter is connected to **communication and basic applications of the Internet**. High values on this scale are obtained by users of e-mail, messengers, communicators, and persons who browse the Internet in search for useful information, and also sometimes shop online, but only in Polish stores. This dimension is related with a highly less frequent creation of online content and playing online games. This dimension explains almost 7% of variance.

The third dimension concerns **entertainment** – most of all, playing online games and using social media, but also downloading music and films, watching via Internet and listening to the radio. This dimension explains 6% of variance.

Because for different users the Internet use may mean something completely different, it is worth looking at how different groups use the Internet. In order to do so, we analysed the average values of the three abovementioned aspects

of use of the network for groups of the Internet users selected according to the most important socio-demographic variables (Figure 7.4.1.).

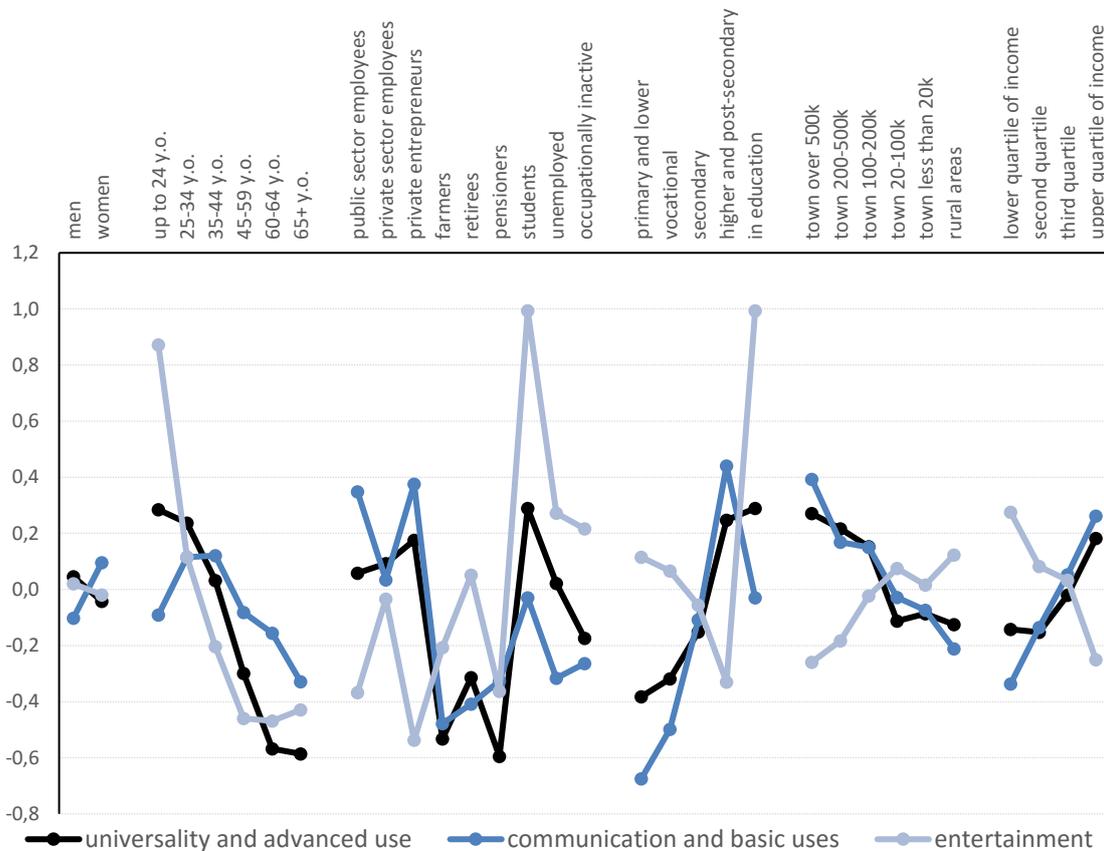


Figure 7.4.1. Methods of Internet use in 2015 and their diversification among users from various socio-demographic groups. Positive values mean users from a given group use the Internet more frequently in the particular way, while negative values—less frequently

Differences in the ways of using the Internet in terms of gender are slight and statistically insignificant. Clearly higher differences are related with age. Briefly, young persons use the Internet in a more versatile manner, and more frequently use the more advanced tools offered by the Web. Also, the Internet is more often a source of entertainment for them. Despite what might seem true, the older Internet users communicate via Internet relatively infrequently. Basic applications involve access to information (Batorski, Zajac, 2010).

Distinct and interesting differences are observable for education, size of place of residence, and income. In all these aspects, the relation of increase of versatility and frequency of the advanced Internet use are equal; additionally, the frequencies of basic and communicational applications are parallel to a lower frequency of entertainment-related applications. In other words, we are observing two main types of the Internet use. For certain persons, it is an instrumental tool, useful when working, studying, shopping, for creative uses, etc.. For others, it is mainly an entertainment device. More instrumental applications are definitely more popular among better educated persons, living in the largest cities, and of rather higher income. Simultaneously, these persons use the Internet for entertainment less often. The latter use is, however, popular among less educated users, living in smaller towns and households, and of lower income.

Differences related to socio-professional status are significant as well. Students constitute a special group, using the Internet mostly for entertainment-related purposes, but also applying a variety of other uses. Employees, especially in the public sector, as well as entrepreneurs and the self-employed, use the Internet in a more instrumental manner, using entertainment applications (such as games and social media) less often.

The results presented here indicate that, apart from considerable differences in the use of the Internet in various socio-demographic groups, high differences appear also in terms of the manner of using the Internet.

Large differences in the manners of using the Internet are also related with the fact of using mobile Internet via smartphone and Tablets. As can be expected, the most intensive usage in virtually every aspect is observed among persons connecting to the Internet via mobile phones. The Internet users, who do not use the Internet via mobile devices, generally use it less intensively.

Bandwidth of Internet access is also of importance, as is demonstrated in Figure 7.4.2.. Owners of connections of higher bandwidth use the Internet more intensively, in a more versatile and instrumental manner, than those with slower connections. The latter, however, use the Internet more frequently for entertainment-related purposes.

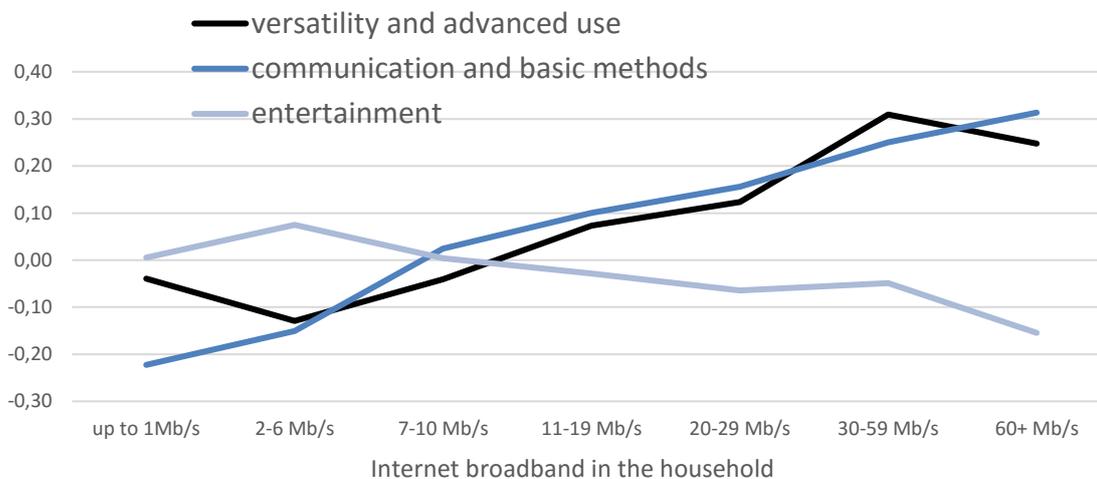


Figure 7.4.2. Methods of the Internet use in 2015 and their diversification depending on bandwidth in the user's household

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## 8. SOCIAL EXCLUSION

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### Abstract

*Social exclusion is analysed in this article in terms of poverty, unemployment and social discrimination. It has been shown that there are four possible reasons for exclusion: physical (related to health), structural (low cultural capital), moral (overuse of alcohol and drugs, criminal activities) and material (poverty and unemployment).*

### 8.1. Definition of social exclusion

According to the most general and the most popular definition adopted by researchers and politicians, social exclusion means that a given entity or a social group being a part of a community (it is usually the community of residents of a country) cannot fully take part in important areas of life of the given community. It is usually added that the limitation does not come from assumptions of the excluded ones, but from shortages which are completely or in a large part independent from the excluded group. Exclusion may concern works, consumption, participation in the culture of life of a local society and politics.

The home of the modern notion of social exclusion is France (Helene Riffault and Jacques-Rene Rabier – the first research project - *The perception of poverty in Europe* in 1976; Riffault, Rabier, 1977), but it was the most successful in Great Britain (CASE — Centre for Analysis of Social Exclusion w London School of Economics, established in 1997); some indicate to its similarity to the Marxist's notion of alienation. Also underclass (USA) and marginalisation (South America) are deemed to be the counterparts of the „European” social exclusion.

Sometimes social exclusion is viewed as equal to poverty or poverty is treated as the main reason of exclusion. However, nowadays a more multidimensional approach is adopted. Poverty itself may be not a reason, but a result of exclusion due to discrimination on the labour market, disability, education level or place of residence (cf. Muras, Ivanow, 2006; Szarfenberg, Żołądowski, Theiss, 2010).

In the last twenty years in the EU, the intellectual and political focus moved from poverty to the more general phenomenon of social exclusion. It can be proven by research programmes (i.e. Gallie and Paugam, 2002; Hills, Le Grand, Piachaud, 2002; Matheu, 1999), conferences (e.g. *Annual Convention of the European Platform against Poverty and Social Exclusion*) or official documentation of the European Commission and European summits in Lisboa and Nice. The summit in Lisbon in March 2000 recognised, in compliance with Art. 136 and 137 of the Amsterdam treaty, the fight against poverty and social exclusion as a strategic aim of the European Council policy. The so-called *Open Method of Coordination* was passed at that time at the Summit in Nice, which accepted the mutual plan regarding poverty and exclusion and starting of a project of regular monitoring of the exclusion phenomenon on the basis of indicators agreed on mutually by all member states.

However, when it comes to the sources and specific indicators of exclusion there is no mutual agreement. Some say that it concerns all cases of non-participation in all important aspects of the social life, others limit it only to involuntary forms of non-participation. Some refer it to structural and institutional barriers violating the rules of social justice and limiting social rights of individuals and minorities, others speak more about isolation or auto isolation of some social groups (e.g. subcultures, immigrants, religious minorities, sexual minorities, former prisoners, mentally ill and the disabled in general). Some search for reasons in stable and universal factors, such as material deprivation (low income), lack of education and disabilities, others focus on cultural and civilizational factors, such as erosion of family and neighbour bonds, a sudden development of technologies, which is responsible for higher unemployment rates, decrease of the social capital (mutual trust and cooperation), bad social politics and state economy. Some treat it as a macrosocial phenomenon (the exclusion is defined by criteria of social categorisation – disability, incarceration, unemployment, place of residence, age, belonging to a minority, income), others – as an individual phenomenon (it is a consequence of some individual weaknesses, motivation, intellectual and personal traits). However, it is hard to agree that almost all criterion of social categorisation can be a reason for exclusion. Hilary Silver (1994) indicated as many as 23 social groups as excluded (including women, immigrants, unskilled workers, residents of destroyed houses or of districts with bad reputation, pensioners), which was commented on by another researcher - David Gordon (2002) of the University of Bristol “if all groups indicated by Silver (...) were socially excluded, the only person in Great Britain which would not be excluded would be Prince Phillip, while Queen Elisabeth would not, as she is a woman and a pensioner” (p.12).

According to the leading researchers studying social exclusion (e.g. Chiara Saraceno of the University in Turin, 2001; L. Mejer of Eurostat, 2000; Kitty Stewart of CASE, 2002) the phenomenon is multi-dimensional (poverty or unemployment are only possibilities, but they are not necessary or enough to talk about exclusion), dynamic, not static (perspectives of finding a job are more important than the current state of unemployment) and relative, not structural (participation, motivation, engagement, social relations, and not the statistical amount of the income or “low usage basket”).

The aim of all European programmes of fighting social exclusion is „social integration” at a regional, national and European level.

The majority of studies on social exclusion and detailed programmes concerning it focus on:

- Analysing and preventing unemployment,

- Analysis of poverty and income diversity and social care programmes (indicators of subjective and objective poverty, the objective indicator of poverty risk in the EU since 2001: below 60% of median in the distribution of weighted income of households— first adult=1, member aged over 14+=0.5 and children younger than 14 y.o.= 0.3),
- problems of disabled people,
- sources and prevention of homelessness,
- situation of children (exclusion inheritance),
- social rights, especially those of minorities (especially migrating ones),
- regional politics,
- post-penitentiary care,
- criminal groups of youth and subcultures.

In the majority of papers, the most important factor of preventing exclusion at both individual and social level is education, including permanent improvement of qualifications (lifelong learning). In Poland, the highest risk of exclusion concerns residents of rural areas, children of large families, unemployed (a high rate of constant unemployment), elderly people, poorly educated and who do not have access to modern media (Internet, digital TV).

## 8.2. Poverty

### 8.2.1. Definition and methods of measuring poverty

#### 8.2.1.1. Poverty – dilemma of defining poverty

The first and at the same time the crucial step to measure poverty is to define this category. Selection of a particular poverty definition is vital for the results of such a measurement (Hagenaars, 1986). Depending on the definition, various groups in the society may be considered as being at risk of poverty. At the same time the manner of defining poverty and the methods of measuring it affect the social policy programmes aimed at reducing poverty.

Actual differences in poverty assessment and thus divergences in the concept of combating poverty result from the lack of precise and generally accepted definition of poverty. Moreover, this category is variable over time and regionally diversified (Sen, 1983).

All definitions used in the literature of the subject associate poverty with the failure to satisfy certain basic needs at the minimal acceptable level (Drewnowski, 1977, Panek 2013). Such definitions are general enough not to be disputable and they are indeed commonly accepted. Such acceptance results from the fact that the main controversial issues, such as which needs are to be considered basic and what degree of their satisfaction should be considered sufficient remain open.

In the present analysis we have adopted the so-called economic definition of poverty (Panek, 2011). Poverty would imply a situation where a household does not have sufficient financial resources (both cash in the form of current income and income from previous periods and accumulated non-cash assets) to satisfy its basic needs. In this case poverty is analysed as one of the dimensions of social exclusion; i.e. its financial aspect. However, poverty is not a situation where basic needs cannot be satisfied by a household for reasons other than financial, such as due to disability of household members or low level of their education.

#### 8.2.1.2. Ways of understanding and measuring poverty

The greatest controversy in the measuring of poverty concerns the way of defining the minimal acceptable level of need fulfilment, or the way of how we understand poverty. Poverty may be understood in absolute or relative terms<sup>88</sup>. Poverty in absolute terms as a category is based on consideration of the level of needs fulfilment defined in concrete quantitative and value categories. Individuals (persons, families and households) are defined as poor when their needs are not sufficiently fulfilled (Drewnowski, 1997). Therefore, the level of needs fulfilment is not compared to the level of other members of society's needs fulfilment. The problem of poverty, according to advocates of the absolute approach, is solved when all members of society's basic needs are fulfilled. Poverty in the absolute sense may therefore be completely eliminated by economic growth. However, it is worth noting that the absolute approach always carries with it a certain dose of relativism, as establishing the set of basic needs and the minimal acceptable level of their satisfaction always depends on the level of the analysed country's socio-economic development.

The category of poverty in the relative perspective is based on a consideration of individual needs fulfilment level (person, family or household) compared to the level of fulfilment of the same needs of other members of society. Poverty

<sup>88</sup> A comprehensive review of the absolute and relative concept of the approach to poverty may be read in, for example, C. Seidel (1988).

is identified here with excessive needs fulfilment level inequality in society, and, in this sense, may not be practically completely eliminated, only reduced through reduction of inequalities in the level of needs fulfilment.

The basic fault of the relative approach is a lack of a fixed point of reference to comparisons of change in poverty in time and space, which, as a result, hampers assessment of the effectiveness of policy directed to combat poverty. Apart from that, assessments gained from the relative perspective indicating that there has been a rise in the level of needs fulfilment may be a result not so much of a factual rise in fulfilment as a fall in the inequality in needs fulfilment level in a given population. Given the above, the poverty in the present study is understood in absolute terms.

The choice of way of understanding poverty makes up the initial stage in taking the decision as to the method of its measurement and choice of identification criteria. Taking the decision regarding the to method of poverty measurement entails choosing between considering poverty from an objective or subjective perspective (Hagenaars, 1986, Panek, 2011). Each of these methods of measurement may be applied both in the absolute or relative approach. The terms "objective" or "subjective" should therefore not be linked to the level of arbitrariness used in the assessment of poverty, as in each of these considerations there are certain assumptions of an arbitrary nature.

In the case of the objective approach, the assessment of needs fulfilment of studied individuals (persons, families and households) is conducted independently of their personal value judgements in this respect, and, most often, experts conduct this kind of assessment. In the subjective approach, the assessment of needs fulfilment level is provided by the actual studied individuals (persons, families and households). In this discussion, both methods of poverty assessment were applied as they were considered to be complementary.

Another decision that ought to be taken before assessing poverty is to define the criteria of poverty. In studies of poverty up to the 1970s, the conventional approach, based exclusively on monetary indicators, was dominant. In this approach, the assessment of needs fulfilment level occurs exclusively through the current income expressed in money terms. However, gradually the view gained ground that identifying the poor only in monetary terms (level of income or expenditure) was far from satisfactory. This was not about the fact of the underestimation of income declared by persons and households taking part in empirical study. Much more significant was the belief that poverty is a multi-dimensional phenomenon and that non-monetary factors should be also considered in its identification. Apart from that, what is unusually important in studies of poverty is that monetary approaches, in their consideration of financial means the individual disposes of consider only current income (flows), and miss income and assets accumulated in the past. In this study we applied a one-dimensional approach, above all due to the necessity to maintain the means to analysing changes on the sphere of poverty. Apart from that, for this round of study the analysis of poverty was broadened by including non-monetary factors.

### 8.2.1.3. *Methods for identifying the poor*

Different ways of understanding poverty and including of various criteria of poverty, and also different approaches to the measurement of poverty (subjective and objective approaches) lead to various methods of identifying poverty in households. In the case of the conventional approach, in order to define the subpopulation in poverty, there is a certain critical level of income or expenditure known as the poverty line below which the fulfilment of basic needs at the minimal acceptable level is not possible. In the case of the multidimensional approach, different solutions are possible in the identification of the subpopulation in poverty.

Apart from the assessment of households' current incomes (monetary poverty), non-monetary poverty assessments were included (material deprivation). An entry point to the measurement of non-monetary poverty was defining its non-monetary dimensions, strictly linked to groups of household needs and next the choice of variables, being the symptoms of non-monetary poverty in each of its dimensions. Inclusion of a given household to the subpopulation of materially deprived in a given dimension was decided by the number of symptoms of poverty occurring in that household in that dimension. The number of dimensions, where the household is materially deprived, defines whether this household is subject to the non-monetary poverty (material deprivation). Eventually, the household is poor when it is subject to the monetary and non-monetary poverty at the same time.

Aggregate poverty indices were used to assess poverty. They are statistical formulae that aggregate individual poverty measures (relating to individual households) enabling to assess poverty at the national level, across regions or typological groups of households. Due to the fact that there is no single universal formula in this respect, various aggregate index formulae were applied, providing information about various aspects of poverty. Poverty indices focus on four main aspects of poverty; i.e. its incidence, depth, intensity and severity.

In the case of poverty assessments, it is vital to analyse changes in poverty over time. In the present study we analysed the mobility of households due to membership of poverty sphere, with mobility assessed on the basis of Tables of flows. Moreover, Tables of flows were also used to estimate mobility indices<sup>89</sup>. In the last stage the household features that determine poverty were identified.

Detailed information about the methodology of measuring poverty adopted in this study is presented in Annex 4.

<sup>89</sup> The analysis of changes in time in the area of poverty was conducted for monetary poverty.

## 8.2.2. Results of unidimensional approach poverty analysis

### 8.2.2.1. The incidence, depth, intensity and severity of poverty – one-dimension approach

The poverty indices used in the analyses contain basic information that is the objective of every research on poverty. However, due to the abstract nature of the term ‘poverty line’, the significance of the information provided by these indices should not be overestimated. Much more significant for the objectives of this study are changes in their values over time and distributions according to selected typological groups of households.

The value of minimum of existence estimated by the Institute of Labour and Social Studies, which serves as the extreme poverty line for one-person households of employees in May 2015 was PLN 541. Due to the method of defining the minimum of existence category (cf. Annex 4), it should be considered as the extreme poverty line. In case of the subjective approach, we shall use the term ‘deficiency line’ since when households consider the lowest level of income necessary to make ends meet, which is one of the parameters that are decisive for specifying the value of that threshold (cf. Annex 4), they take into account the level of income higher than the one that secures only the minimum of existence. The subjective deficiency line for one-person households was estimated to be PLN 1606. This is more than 3 times higher than the objective poverty line. This means that the aspirations of households with regard to their income situation allowing for satisfaction of their needs at an acceptable minimum level are much higher than the minimum standards established by experts in this regard. Households simply compare their economic situation with that of other households in a better financial condition.

In May/June 2015, 3.3% of households in Poland (in objective terms) lived below the poverty line and 28.15% below the subjective deficiency line (Tables 8.2.1. and 8.2.2.). However, these values should be considered overestimated as households tend to underestimate their income in the statements they make. On the other hand, poverty depth indices reached 22.8% with the objective approach and 27.52% with the subjective approach (Tables 8.2.1. and 8.2.2.). This means that the average equivalent income of extremely poor Polish households in May/June 2015 was lower by 22.8% than the minimum of existence, while the average equivalent income of Polish households living below the deficiency line was lower by 27.52% than subjective deficiency line (the subjective poverty line).

The extreme poverty intensity index, derived from the combined incidence and depth of poverty, was 0.8% in March/June 2015, while the deficiency intensity index was 7.75% respectively. This means that in March/June 2015, each household below the poverty line should receive, on average, PLN 4.1 (0.0076 x PLN 541) in order to eliminate poverty. In order to eliminate deficiency, the average transfer to each household living below the deficiency line should amount to PLN 125 (0.775 x PLN 1606). The extreme poverty severity index, derived from the incidence and depth of poverty and income inequalities among the poor, was 0.30% in March/June 2015, while the deficiency severity index was 3.3% respectively.

With the two approaches combined, the highest percentage of households living in poverty concerned the groups of households living on unearned sources of income and retirees (31.8 and 5.9% of extremely poor households respectively under the objective approach and 77.6% and 60.5% of households living in deficiency under the subjective approach, Tables 8.2.1. and 8.2.2.). The lowest extreme poverty incidence was reported in the groups of households of retirees, employees and the self-employed (the headcount ratio in those groups of households was, respectively, 0.4, 0.8 and 2.0%). However, with the subjective approach the notably lowest levels were reported in the groups of households of the self-employed and employees (8.1% and 16.5% respectively). The deepest poverty with the objective approach was reported in households living on unearned sources of income as well as among the self-employed. They amounted to 26.6% and 30.1% respectively. In the group of self-employed households, the relatively deep extreme poverty is related to the presence, within this group, a small sub-group of households with self-employed having a very low equivalent income. The deepest deficiency level with the subjective approach in March/June 2015 was reported in households living on unearned sources of income as well as among farmers and retirees. Deficiency depth indices in those groups of households amounted to 49.5%, 33.9% and 33.4% respectively.

Table 8.2.1. Aggregate extreme poverty indices by socio-economic groups and type of economic activity in March/June 2015 - the objective approach

Socio-economic group and type of economic activity	Aggregate extreme poverty indices * 100			
	Incidence	Depth	Intensity	Severity
Employees	1.98	20.88	0.41	0.17
Farmers	7.83	24.81	1.94	0.86
Retirees	0.78	12.45	0.10	0.03
Pensioners	7.93	20.80	1.65	0.51
Entrepreneurs	0.38	30.05	0.11	0.04
Living on unearned sources	31.76	26.57	8.44	3.43
Without unemployed members	2.03	20.71	0.42	0.15
With unemployed members	13.79	25.34	3.50	1.47
Total	3.32	22.83	0.76	0.30

The extreme poverty and deficiency were definitely the most intensive and severe in the group of households living on unearned sources of income. In this group, the extreme poverty intensity index was 8.4% and deficiency intensity index was 38.4%. The extreme poverty severity index in this group of households amounted to 3.4% and the deficiency severity was 22.7%.

Table 8.2.2. Aggregate deficiency indices by socio-economic groups and type of economic activity in March/June 2015 - the subjective approach

Socio-economic group and type of economic activity	Aggregate deficiency indices * 100			
	Incidence	Depth	Intensity	Severity
Employees	16.48	25.48	4.20	1.71
Farmers	32.73	33.89	11.09	5.31
Retirees	38.04	20.84	7.93	2.62
Pensioners	60.45	33.40	20.19	9.02
Self-employed	8.07	19.36	1.56	0.53
Living on unearned sources	77.59	49.48	38.39	22.74
Without unemployed members	25.56	25.08	6.41	2.56
With unemployed members	49.23	37.80	18.61	9.52
Total	16.48	25.48	4.20	1.71

Not less than 13.8% and 49.2% of households with unemployed members lived in extreme poverty or deficiency respectively in March/June 2015, whereas in the group of households without unemployed members these indices amounted merely to 2.0% and 25.6% respectively (Tables 8.2.1. and 8.2.2.). Also, the poverty depth with the two measuring approaches was higher in the former group of households than in the latter. The income gap index for households living in extreme poverty amounted in these groups to 25.3% and 20.7% respectively. Deficiency depth indices in those groups of households amounted to 18.6% and 6.4% respectively. Similar levels of indices among the discussed groups of households can be reported in the case of assessing the intensity and severity of poverty (Tables 8.2.1. and 8.2.2.).

Among the types of households, in March/June 2015 the highest incidence of poverty was reported with the objective approach among the groups of married couples with many children, single-parent families and non-family households with many people (8.6% and 5.7% respectively lived in extreme poverty) and, with the subjective approach, among the group of non-family single person households, couples with many children and single-parent families (53.7%, 38.5% and 38.3% respectively lived in deficiency; Tables 8.2.3. and 8.2.4.). Poverty depth is much less diversified according to household types than its incidence. The highest values of the extreme poverty depth were reported in the group of non-family single person households – 26.6% of households within this group lived in extreme poverty. However, the highest values of the poverty depth index can be observed in non-family multi-person households and married couples with many children. Almost 35% and over 33%, respectively, of those households lived in deficiency (in the view of the subjective approach).

Poverty intensity and severity were also the highest in those groups of households where the highest levels of poverty incidence were reported. With the objective approach, the visibly highest levels of poverty intensity and severity indices were reported in the group of households of married couples with many children (1.8% and 0.7% respectively), whereas the highest levels of deficiency intensity and severity indices were reported in the groups of non-family one-person households, non-family multi-person households and incomplete families. Indexes of poverty intensity in these household groups were respectively 14.0%, 13.3% and 12.1%, and indexes of deficiency severity were 6.1%, 5.9% and 5.3%.

Table 8.2.3. Aggregate extreme poverty indices by household type in March/June 2015 - the objective approach

Household type	Aggregate extreme poverty indices * 100			
	Incidence	Depth	Intensity	Severity
Single family:				
No children	1.96	20.25	0.40	0.13
1 child	1.82	20.94	0.38	0.10
2 children	1.88	18.64	0.35	0.13
3+ children	8.62	20.52	1.77	0.65
Incomplete families	5.65	21.58	1.22	0.40
Multi-family	2.08	24.39	0.51	0.18
Non-family:				
Single person	4.10	26.56	1.09	0.51
Multi-person	5.65	6.34	0.36	0.06

Table 8.2.4. Aggregate deficiency indices by household type in March/June 2015 - the subjective approach

Household type	Aggregate deficiency indices * 100			
	Incidence	Depth	Intensity	Severity
Single family:				
No children	16.30	25.53	4.16	1.69
1 child	11.34	32.29	3.66	1.57
2 children	19.83	23.61	4.68	1.68
3+ children	26.55	33.29	8.84	4.01
Incomplete families	38.52	31.44	12.11	5.30
Multi-family	14.59	24.74	3.61	1.40
Non-family:				
Single person	53.69	26.14	14.03	6.17
Multi-person	38.25	34.65	13.25	5.94

The obtained results indicate the impact of the size of place of residence on the incidence of extreme poverty and deficiency (Tables 8.2.5. and 8.2.6.). In March/June 2015, the percentage of households living in extreme poverty is higher, the smaller their place of residence. Among households living in rural areas, 4.9% lived below the extreme poverty line (according to the objective approach) and 39.4% lived below the deficiency line (as per the subjective approach). The headcount ratios for the extreme poverty and deficiency in the largest cities accounted at that time for merely 2.0% and 16.0% respectively.

Diversification of the extreme poverty and deficiency depth among the respective classes of place of residence was not too high. The deepest poverty with the subjective approach was reported in rural areas, where the deficiency depth index reached 31.0%. In turn, the deepest extreme poverty concerned households in small-sized cities with 20-100k inhabitants (the extreme poverty depth index in this group of households amounted to 26.0%).

The highest intensity of both extreme poverty and deficiency was reported in rural areas (where poverty intensity indices accounted for 1.2% and 11.3% respectively). Poverty severity with both approaches (subjective and objective) was also the highest in the group of households in rural areas (severity indices of the extreme poverty and deficiency in this group of households accounted for 0.5% and 5.0% respectively).

Table 8.2.5. Aggregate extreme poverty indices by place of residence class in March/June 2015- the objective approach

Place of residence class	Aggregate extreme poverty indices * 100			
	Incidence	Depth	Intensity	Severity
Towns of more than 500k	2.04	19.40	0.40	0.11
Towns of 200-500k	2.23	20.13	0.45	0.16
Towns of 100-200k	2.04	12.32	0.25	0.04
Towns of 20-100k	3.26	26.01	0.85	0.35
Towns of fewer than 20k	2.54	23.01	0.59	0.24
Rural areas	4.89	23.62	1.16	0.48

Table 8.2.6. Aggregate deficiency indices by place of residence class in March/June 2015- the subjective approach

Place of residence class	Aggregate deficiency indices * 100			
	Incidence	Depth	Intensity	Severity
Towns of more than 500k	16.04	23.81	3.82	1.67
Towns of 200-500k	22.35	25.29	5.65	2.34
Towns of 100-200k	24.87	22.80	5.67	2.12
Towns of 20-100k	27.15	26.45	7.18	3.14
Towns of fewer than 20k	29.21	24.37	7.12	2.78
Rural areas	36.36	30.95	11.25	5.00

The highest poverty with the objective approach was reported in Warmińsko-Mazurskie, Lubelskie and Łódzkie Voivodships (with 4.9% in Warmińsko-Mazurskie and 4.5% of households in the other two voivodships lived in extreme poverty, Table 8.2.7.) in March/June 2015. With the subjective approach, the highest deficiency incidence was reported in Lubelskie and Kujawsko-Pomorskie Voivodships (38.1% and 36.3%, respectively of the households lived in deficiency, Table 8.2.8.).

The deepest poverty in the analysed period was reported in Warmińsko-Mazurskie and Świętokrzyskie Voivodships where the income gap indices for the extremely poor were 35.6% and 33.7% respectively. The relatively deepest deficiency was reported in Lubelskie, Podkarpackie, Opolskie and Świętokrzyskie Voivodships. In those Voivodships the income gap indices for households living in deficiency were 31.9%, 30.6%, 30.3% and 30.1% respectively. This means that in those Voivodships, the households living in extreme poverty (with the objective approach) or in deficiency (with the subjective approach) were on average the least wealthy.

Table 8.2.7. Aggregate extreme poverty indices by Voivodship in March/June 2015 - the objective approach

Voivodship	Aggregate extreme poverty indices * 100			
	Incidence	Depth	Intensity	Severity
Dolnośląskie	3.65	21.87	0.80	0.40
Kujawsko-pomorskie	4.23	21.08	0.89	0.37
Lubelskie	4.54	23.21	1.05	0.41
Lubuskie	1.52	23.10	0.35	0.13
Łódzkie	4.46	17.16	0.76	0.20
Małopolskie	2.25	25.68	0.58	0.22
Mazowieckie	2.41	21.07	0.51	0.19
Opolskie	3.59	21.76	0.78	0.23
Podkarpackie	4.33	19.79	0.86	0.29
Podlaskie	3.79	23.94	0.91	0.34
Pomorskie	3.34	17.78	0.59	0.18
Śląskie	2.30	24.82	0.57	0.25
Świętokrzyskie	4.45	33.70	1.50	0.78
Warmińsko-mazurskie	4.86	35.56	1.73	0.85
Wielkopolskie	3.60	20.89	0.75	0.21
Zachodniopomorskie	2.82	23.75	0.67	0.31

The greatest intensity of extreme poverty in March/June 2015 occurred in Warmińsko-Mazurskie and Świętokrzyskie, attaining over 1.5% intensity index. The index of deficiency intensity reached the highest value in Lubelskie, Podkarpackie and Świętokrzyskie (the index of deficiency intensity reached 12.2%, 10.6% and 10.1% respectively). The most severe deficiency was recorded in Lubelskie Voivodship (the severity index was 53%) and the most severe extreme poverty – in Warmińsko-Mazurskie and Świętokrzyskie Voivodships (indexes were, respectively, 8.5% and 7.8%).

Table 8.2.8. Aggregate deficiency indices by Voivodship in March/June 2015 - the subjective approach

Voivodship	Aggregate deficiency indices * 100			
	Incidence	Depth	Intensity	Severity
Dolnośląskie	26.23	26.83	7.04	3.11
Kujawsko-pomorskie	36.27	26.33	9.55	3.90
Lubelskie	38.10	31.90	12.15	5.31
Lubuskie	24.61	24.55	6.04	2.37
Łódzkie	33.34	28.40	9.47	4.01
Małopolskie	25.89	25.27	6.54	2.73
Mazowieckie	23.08	26.84	6.19	2.59
Opolskie	29.62	30.31	8.98	3.91
Podkarpackie	34.63	30.58	10.59	4.69
Podlaskie	32.49	29.14	9.47	4.15
Pomorskie	25.18	26.57	6.69	2.93
Śląskie	22.67	25.56	5.79	2.43
Świętokrzyskie	33.40	30.12	10.06	4.79
Warmińsko-mazurskie	30.43	28.10	8.55	4.14
Wielkopolskie	26.15	27.04	7.07	2.89
Zachodniopomorskie	28.95	25.17	7.29	3.05

#### 8.2.2.2. Changes in the sphere of poverty

Between March 2013 and March/June 2015 we observed in Poland the decrease in the incidence of extreme poverty and deficiency (over 2p.p. and 9p.p. respectively, Table 8.2.9. and 8.2.10.), which was influenced by an increase of the value of real equivalent incomes in the studied period.

In the studied period there was also a decrease of the depth of extreme poverty (over almost 5p.p.) and the depth of deficiency (over almost 3p.p., Tables 8.2.9. and 8.2.10.). This means that households living in extreme poverty were on average more prosperous in 2015 than in 2013, while the average wealth of households living in deficiency clearly rose in the studied period.

The intensity of poverty measured by the income gap index decreased significantly between March 2013 and March/June 2015 in subjective terms (over almost 4p.p.) and in objective terms did not change significantly (Tables 8.2.9. and 8.2.10.). We observe a similar tendency of change in the case of the poverty severity (Tables 8.2.9. and 8.2.10.). The value of the poverty severity index decreased in the studied period on the general national scale, according to the subjective approach, by 1.6p.p. and according to the objective approach, did not show a marked change.

The decrease of incidence of extreme poverty between March 2013 and March/June 2015 was observed for all socio-economic groups of households, apart from the group of households living on unearned sources, where the incidence of poverty increased by almost 1p.p. (Table 8.2.9.). The extreme poverty rate decreased the most, in the studied period, among the groups of pensioners and farmers (respectively by almost 6p.p. and 5p.p.). In the subjective perspective, during the studied period, the strongest decrease in households living in deficiency took place among farmers, retirees and employees (in these groups, the deficiency rate decreased respectively by almost 16p.p., 11p.p. and 11p.p., Table 8.2.10.). The increase of deficiency in the period studied can be observed only in the group of households with unearned income (by almost 2p.p.).

The depth of extreme poverty has decreased significantly in the studied period in the group of employees' households and those living on unearned incomes (indexes of extreme poverty depth for these groups fell by over 8p.p., Table 8.2.9.). At the same time, the depth of extreme poverty increased significantly only among farmers (increase in the indexes of poverty depth by 2p.p.). The values of deficiency depth indexes decreased significantly in all socio-economic household groups, apart from the group of households living on unearned incomes, though the strongest decrease was reported in households of pensioners and self-employed (decrease in depth of deficiency index of over 6p.p. and almost 4 p.p. respectively). The intensity of extreme poverty decreased significantly between March 2013 and March/June 2015 only in case of households living on unearned incomes, farmers and pensioners (decrease of extreme poverty intensity index of nearly 2p.p., Table 8.2.9.). The intensity of deficiency decreased however in the studied period in all socio-economic household groups, apart from the group of households living on unearned income (the index increase of almost 2p.p.), with the strongest decrease among farmers and pensioners households (nearly 15p.p. and over 4p.p. respectively, Table 8.2.10.).

The severity of extreme poverty decreased significantly only in the group of households living on unearned income (index value decreased by over 2p.p., Table 8.2.9.). However, the severity of deficiency decreased significantly in all socio-economic groups of households apart from those living on unearned income. The most significant decrease was observed among pensioners (decrease in index values of over 2 p.p., Table 8.2.10.).

In the group of households with unemployed members there was a marked decrease of the range of extreme poverty between March 2013 and March/June 2015 (over 5p.p.), while in the households without unemployed members the changes of the range were not significant. However, the depth of extreme poverty decreased significantly in the analysed period in the households without unemployed members (by almost 5p.p.) and in the households with unemployed members (by almost 7p.p.). The remaining characteristics of extreme poverty did not significantly change in this period, apart from the decrease in the intensity of extreme poverty in the households with unemployed members (by nearly 2p.p.) and the decrease in the severity of extreme poverty (by over 1p.p.). In the case of the sphere of deficiency, the decrease of its intensity was observed in both households with and without unemployed members (intensity by over 3p.p. and nearly 4p.p. respectively, and severity almost 2p.p. in both cases).

*Table 8.2.9. Changes of aggregate extreme poverty indices, by one-dimensional approach and by socio-economic group as well as by the type of economic activity in the period between March 2013-March/June 2015 - the objective approach*

Socio-economic group and type of economic activity	Aggregate extreme poverty indices * 100 (March/June 2015 – March 2013)			
	Incidence	Depth	Intensity	Severity
Employees	-2.05	-7.91	-0.77	-0.37
Farmers	-4.76	1.71	-1.04	-0.24
Retirees	-1.87	-3.39	-0.39	-0.13
Pensioners	-5.58	-5.20	-1.83	-0.80
Entrepreneurs	-2.97	-0.36	-0.82	-0.40
Living on unearned sources	1.09	-7.63	-1.88	-1.60
Without unemployed members	-2.20	-4.52	-0.64	-0.26
With unemployed members	-2.94	-6.65	-1.78	-1.09
Total	-2.30	-4.55	-0.76	-0.35

*Table 8.2.10. Changes of aggregate deficiency indices in one-dimensional approach, by socio-economic group and type of economic activity in March 2013-March/June 2015 - the subjective approach*

Socio-economic group and type of economic activity	Aggregate poverty indices * 100 (March/June 2015 - March 2013)			
	Incidence	Depth	Intensity	Severity
Employees	-10.95	-1.60	-3.24	-1.39
Farmers	-15.63	0.28	-4.61	-1.67
Retirees	-7.62	-5.80	-4.19	-1.88
Pensioners	-7.96	-2.07	-3.96	-2.23
Entrepreneurs	-10.67	-3.89	-3.21	-1.50
Living on unearned sources	1.69	1.18	1.71	0.53
Without unemployed members	-9.49	-3.47	-3.58	-1.57
With unemployed members	-8.01	-0.44	-3.17	-1.68
Total	-9.39	-2.77	-3.55	-1.59

The incidence of extreme poverty between March 2013 and March/June 2015 decreased among all households, while the strongest decrease was observed in case of households of couples with many children and single-parent families (respectively, by over 4p.p. and almost 4p.p., Table 8.2.11.). The incidence of the sphere of deficiency decreased significantly as well in the studied period in all types of households, while the strongest decrease was reported in case of households of couples without children and incomplete families (decrease in levels of shortage of nearly 17% and over 14p.p. respectively, Table 8.2.12.).

The changes in the depth of extreme poverty decreased in the types of households in the studied period. The strongest decrease in the depth of extreme poverty was observed in the non-family, multi-person households and the couples without children (extreme poverty index fell by over 16p.p. and over 10p.p. respectively, Table 8.2.11.). However, the depth of deficiency increased significantly in the studied period only among married couples with one child (almost 8p.p.). The above indicates that the households from this group became impoverished during the last two years. The greatest decrease in the index of deficiency depth took place among single-person non-family households and married couples without children as well as with many children (respectively, nearly 5p.p. in the first case and over 4p.p. for the rest, Table 8.2.12.).

Intensity of extreme poverty decreased significantly between March 2013 and March/June 2015 in the households of the following types: multi-person, couples with many children, incomplete families (decrease of the index by over 1p.p., Table 8.2.11.). The severity was not subject to significant changes.

In the subjective approach, we observe a marked fall in the intensity and severity of deficiency in all household types (Table 8.2.12.). The strongest decrease took place in groups of incomplete families, non-family single-person households and married couples with many children, with the intensity index value decreasing by almost 5p.p., while the severity index fell by over 2p.p. in two first groups and by almost 2p.p. in case of the third group.

*Table 8.2.11. Changes of aggregate extreme poverty indices in one-dimensional approach, by household type in the period between March 2013 and March-June 2015 - the objective approach*

Household type	Aggregate extreme poverty indices * 100 (March/June 2015 – March 2013)			
	Incidence	Depth	Intensity	Severity
Single family:				
No children	0.59	2.58	0.21	0.10
1 child	0.32	1.85	0.12	0.05
2 children	0.20	-4.88	-0.11	-0.03
3+ children	2.83	-0.93	0.56	0.24
Incomplete families	0.68	-2.30	-0.02	-0.04
Multi-family	-0.23	11.31	0.38	0.35
Non-family:				
Single person	2.24	3.56	0.82	0.45
Multi-person	2.28	13.17	1.00	0.41

*Table 8.2.12. Changes of aggregate deficiency indices in one-dimensional approach by household type in the period between March 2013 and March-June 2015 - the subjective approach*

Household type	Aggregate deficiency indices * 100 (March/June 2015 – March 2013)			
	Incidence	Depth	Intensity	Severity
Single family:				
No children	12.18	3.30	4.39	2.03
1 child	9.69	2.38	3.38	1.54
2 children	1.46	6.53	2.31	1.03
3+ children	6.70	3.75	4.08	2.09
Incomplete families	12.07	5.70	7.01	3.54
Multi-family	5.87	1.44	1.95	0.81
Non-family:				
Single person	16.88	0.11	5.69	2.97
Multi-person	9.40	6.08	5.99	3.62

The range of extreme poverty between March 2013 and March/June 2015 decreased significantly among rural and medium and small town (with less than 200 000 inhabitants) households (by nearly 4p.p. and almost 1p.p. respectively, Table 8.2.13.). The decrease in the range of deficiency was more significant and, in general, the bigger it was, the smaller the class of the place of residence (Table 8.2.14.). In rural areas, it was almost 12p.p. and in the cities with 200-500 inhabitants almost 5p.p.

According to the objective approach, changes in the intensity and severity of the extreme poverty during the studied period March 2013 - March/June 2015 were not significant, with the exception of the intensity of extreme poverty in households of the rural areas (decrease of the respective index by almost 1p.p.). However, from the subjective

perspective, there was, during this time, a marked fall of both the intensity and severity of deficiency in all classes of the place of residence. The strongest fall in the intensity and severity of deficiency occurred in rural areas (decrease of the deficiency intensity index by nearly 5p.p. and the deficiency severity index by almost 2p.p.).

Between March 2013 and March/June 2015, we have observed a significant decrease in the incidence of the extreme poverty in the vast majority of voivodships, with the strongest decrease in Lubelskie and Świętokrzyskie (by over 4p.p., Table 8.2.15.). The deficiency incidence decreased significantly in this period in all voivodships (Table 8.2.16.), with the strongest decrease in Warmińsko-Mazurskie, Podkarpackie and Lubuskie (nearly 14p.p.in each case).

*Table 8.2.13. Changes of aggregate extreme poverty indices in one-dimensional approach by class of place of residence between March 2013 and March/June 2015- the objective approach*

Class of place of residence	Aggregate extreme poverty indices * 100 (March/June 2015 – March 2013)			
	Incidence	Depth	Intensity	Severity
Towns of more than 500k	-0.82	-10.76	-0.45	-0.25
Towns of 200-500k	-0.87	-6.02	-0.38	-0.22
Towns of 100-200k	-1.53	-23.18	-0.84	-0.43
Towns of 20-100k	-1.77	-4.59	-0.61	-0.35
Towns of fewer than 20k	-1.79	-1.42	-0.52	-0.19
Rural areas	-4.03	-2.27	-1.15	-0.46

*Table 8.2.14. Aggregate deficiency indices in one-dimensional approach by class of place of residence between March 2013 and March/June 2015- the subjective approach*

Class of place of residence	Aggregate deficiency indices * 100 (March/June 2015 – March 2013)			
	Incidence	Depth	Intensity	Severity
Towns of more than 500k	-7.55	-3.19	-2.65	-1.28
Towns of 200-500k	-4.93	-3.61	-2.24	-1.01
Towns of 100-200k	-8.35	-4.39	-3.16	-1.65
Towns of 20-100k	-9.19	-2.60	-3.26	-1.34
Towns of fewer than 20k	-9.49	-3.87	-3.85	-1.56
Rural areas	-11.86	-2.07	-4.49	-2.04

*Table 8.2.15. Changes of aggregate extreme poverty indices in one-dimensional approach by voivodship between March 2013 and March/June 2015 - the objective approach*

Voivodships	Aggregate extreme poverty indices * 100 (March/June 2015 – March 2013)			
	Incidence	Depth	Intensity	Severity
Dolnośląskie	-1.31	-8.45	-0.72	-0.27
Kujawsko-pomorskie	-3.08	-0.92	-0.90	-0.38
Lubelskie	-4.32	-11.18	-1.88	-0.98
Lubuskie	-2.90	-3.26	-1.05	-0.43
Łódzkie	-0.20	-2.60	-0.13	-0.08
Małopolskie	-3.49	5.76	-0.59	-0.12
Mazowieckie	-1.97	-4.15	-0.58	-0.22
Opolskie	-1.26	-8.93	-0.59	-0.29
Podkarpackie	-3.45	-11.14	-1.27	-0.69
Podlaskie	-1.31	4.35	-0.11	0.03
Pomorskie	-2.78	-15.22	-1.27	-0.59
Śląskie	-1.98	-5.15	-0.74	-0.39
Świętokrzyskie	-4.15	-5.05	-1.67	-0.97
Warmińsko-mazurskie	-3.12	8.94	-0.51	-0.23
Wielkopolskie	-0.99	3.65	-0.09	-0.01
Zachodniopomorskie	-2.08	-5.07	-0.70	-0.40

In the studied period, the changes in the depth of extreme poverty at voivodship level increased only in Warmińsko-Mazurskie, Małopolskie, Podlaskie and Wielkopolskie (almost 9p.p., almost 6p.p., over 4p.p. and almost 4p.p. respectively). At the same time, we observe a fall in the depth of extreme poverty in all the remaining voivodships, with the largest decrease in Pomorskie, Lubelskie and Podkarpackie (over 15p.p., over 11p.p. and over 11p.p. respectively). The depth of deficiency increased at this time only in Opolskie (the depth index increased by around 2p.p., Table 8.2.16.). In the majority of the remaining voivodships we observe a significant decrease of the depth of poverty, with the largest reported in Kujawsko-Pomorskie, Pomorskie and Zachodniopomorskie (the decrease of the poverty depth by almost 7p.p., almost 6p.p. and over 5p.p. respectively).

The decrease of the intensity of extreme poverty in the studied period March 2013-March/June 2015 was significant in the majority of voivodships, while the strongest one was observed in Lubelskie and Świętokrzyskie (by almost 2p.p.). The intensity of deficiency decreased in this period in all voivodships (Table 8.2.16.). The strongest decrease in value of deficiency intensity index took place in Kujawsko-Pomorskie (by almost 6p.p.).

During the studied period we do not observe any significant changes in the severity of the extreme poverty in any of the voivodships (Table 8.2.15.). Yet, the deficiency severity during this period decreased in all voivodships (Table 8.2.16.). The strongest decrease of the deficiency severity index was reported in Kujawsko-Pomorskie and Lubelskie (by almost 3p.p. and over 2p.p. respectively, Table 8.2.16.).

The conducted analysis of changes in the sphere of poverty and deficiency between March 2013 and March/June 2015 indicate that the assessment of direction and scale of these changes depends on the assumed poverty line, i.e. on the premise who we consider to be poor. However, assuming as the poverty line both the minimum existence value (in other words: analysing the extreme poverty) and the deficiency analysis, the changes noted during the studied period should be regarded, in general, as positive.

Table 8.2.16. Changes of aggregate deficiency indices in one-dimensional approach by voivodship between March 2013 and March/June 2015 - the subjective approach

Voivodships	Aggregate deficiency indices * 100 (March/June 2015 – March 2013)			
	Incidence	Depth	Intensity	Severity
Dolnośląskie	-11.13	-3.51	-4.31	-1.88
Kujawsko-pomorskie	-9.52	-6.55	-5.69	-2.65
Lubelskie	-11.91	-0.76	-4.05	-2.05
Lubuskie	-13.65	-0.19	-3.62	-1.57
Łódzkie	-10.34	-1.76	-3.64	-1.41
Małopolskie	-9.86	-4.64	-3.87	-1.83
Mazowieckie	-7.58	-3.02	-3.13	-1.45
Opolskie	-12.05	2.06	-2.58	-0.65
Podkarpackie	-13.70	-0.93	-4.16	-1.71
Podlaskie	-7.86	-4.69	-4.15	-1.78
Pomorskie	-8.67	-5.96	-3.90	-1.71
Śląskie	-4.54	-4.44	-2.38	-1.26
Świętokrzyskie	-7.97	-1.99	-3.15	-1.52
Warmińsko-mazurskie	-13.75	-1.54	-4.16	-1.67
Wielkopolskie	-9.88	0.27	-2.46	-0.85
Zachodniopomorskie	-6.81	-5.10	-3.13	-1.68

### 8.2.2.3. Poverty permanence

For most households participating in the last two research waves, the extreme poverty was not of a permanent nature with the objective approach<sup>90</sup>. During the both analysed years, only 4,1% of households lived in extreme poverty. However, out of 5.3% of households living in poverty in March 2013, only 27% remained in extreme poverty also in May 2015 (Table 8.2.17.). 25% of households remained in the sphere of deficiency in both years. Among households living in permanent deficiency in March 2013 as many as 64% still lived in deficiency in May 2015 (Table 8.2.18.) which means that the deficiency was of a rather permanent nature for most households studied in the analysed period.

Table 8.2.17. Movements of households either in or out of the extreme poverty sphere from March 2013 to May 2015

Specification	Non-poor households in May 2015 (%)	Poor households in May 2015 (%)	Total
Non-poor households in March 2013 (%)	93.20	1.54	94.73
Poor households in March 2013 (%)	3.84	1.42	5.27
Total	97,04	2,96	100,00

<sup>90</sup> Analysis was conducted on the basis of panel data, that is on a group of households which took part in the study in both 2013 and 2015.

Table 8.2.18. Movements of households either in or out of the deficiency sphere from March 2013 to May 2015

Specification	Non-deficient households in May 2015 (%)	Deficient households in May 2015 (%)	Total
Non-deficient households in March 2013 (%)	56.77	4.43	61.21
Deficient households in March 2013 (%)	13.82	24.97	38.79
Total	70.59	29.41	100.00

In comparison with March 2013, in May 2015, approximately 5.4% of households shifted their status between the extreme poverty and non-poverty (Table 8.2.19.). The number of households that have left the poverty sphere in the last two years was higher (3.84% of households) than the number of those that entered this sphere (1.54%).

A similar mobility trend can be noted in the case of households belonging to the deficiency sphere (Table 8.2.19.). In the analysed period, almost 18.3% of households shifted between the deficiency sphere and beyond that sphere. In May 2015 the income of almost 14% of households improved with regard to March 2013 to the extent that they left the deficiency sphere. In the same period, only 4% of households entered the deficiency sphere due to significantly lower income. In other words, positive movements were higher than negative movements by 9.4p.p..

Table 8.2.19. Mobility of households in terms of belonging to the poverty and deficiency sphere from March 2011 to May 2015

Mobility indices	Mobility indices value * 100	
	Extreme poverty	Deficiency
S	5.38	18.26
SU <sup>+</sup>	3.84	13.82
SU <sup>-</sup>	1.54	4.43
CM	2.30	9.39

#### 8.2.2.4. Determinants of poverty

Table 8.2.20. presents the results of the probit analyses of the manifest poverty risk. They include estimates of probit model parameters, standard errors of parameter estimates, values of t-Student statistic and empirical significance levels value  $P > |t|$ , where we reject the hypothesis about the insignificance of the probability that the absolute value of the random variable which has the t-Student distribution assumes the value no lower than the obtained value of the t-Student statistic.

The comparison of the value of  $\chi^2$  statistic equal to 470.7 (at 22 degrees of freedom) with the corresponding empirical levels of significance equal to 0.000, indicates high goodness-of-fit of model and the significance of all its independent variables (variants of the attributes) examined jointly. The level of significance assumed for the analysis of the significance of particular independent variables (variants of the attributes) selected for the model equals 0.05. This means that a given variable (variant of the attribute) is significant when the corresponding critical empirical level of significance is lower than 0.05.

##### *Socio-economic group (source of income of the household head)*

The point of reference assumed for the assessment of impact of the main source of income of a household (the socio-economic group the household belonged) on poverty risk was the group of self-employed households. This means that the degree of poverty risk for a group of households broken down by the main source of income was analysed in relation to the degree established for the self-employed households.

The groups of households with the biggest poverty risk are households living on unearned sources of income other than pension or retirement pay. This is confirmed by higher positive values of the parameters for these categories. Members of the former group of households are often unemployed and so they have relatively the lowest income. At the same time the remaining households selected for source of income did not significantly differ in terms of poverty risk from the household group of the entrepreneurs<sup>91</sup>.

<sup>91</sup> There is a range of strongly correlated determinants of poverty, which means that they carry the same information about the poverty risk. The strongest one is the educational attainment. After elimination of this variable, it turned out that belonging to households located in rural areas or located in the group of farmers had a significant influence on the increase in poverty risk.

Table 8.2.20. Results of poverty risk probit model estimates by objective approach in 2015.

Predictors	Parameter estimates	Standard errors of estimates	t-Student statistic	P> t
(Constant)	-2.932	0.519	-5.645	0.000
<b>Socio-economic group:</b>				
Employees	0.380	0.392	0.968	0.333
Farmers	0.648	0.410	1.581	0.114
Self-employed	Ref.			
Retirees	-0.061	0.416	-0.147	0.884
Pensioners	0.633	0.407	1.556	0.120
Living on unearned sources	1.468	0.399	3.680	0.000
<b>Number of household members:</b>				
1	0.418	0.174	2.412	0.016
2	0.375	0.162	2.310	0.021
3	0.098	0.167	0.589	0.556
4	-0.108	0.177	-0.609	0.543
5	0.011	0.182	0.062	0.951
6 and more	Ref.			
<b>Class of the place of residence:</b>				
Towns of over 500k residents	Ref.			
200-500k	-0.223	0.233	-0.960	0.337
100-200k	-0.269	0.245	-1.098	0.272
20-100k	-0.190	0.187	-1.016	0.310
Towns of over 20k	-0.432	0.214	-2.019	0.044
Rural areas	-0.087	0.173	-0.505	0.614
<b>Household head level of education:</b>				
Primary and lower	1.162	0.273	4.253	0.000
Basic vocational	0.819	0.269	3.041	0.002
Secondary	0.376	0.278	1.351	0.177
Higher	Ref.			
<b>Age of the household head:</b>				
under 35	0.140	0.196	0.717	0.474
35-59	0.321	0.112	2.863	0.004
60 and more	Ref.			
<b>Household labour-market status:</b>				
At least one unemployed person	Ref.			
No unemployed persons	-0.753	0.094	-7.997	0.000
<b>Household disability status:</b>				
At least one disabled person	Ref.			
No disabled persons	-0.217	0.089	-2.441	0.015

#### *Number of household members*

The point of reference for estimating the impact of the number of household members on the poverty risk was the group of six-person or more households. The number of persons in a household clearly influences the poverty risk for this household only in case of households having 1 or two members (Table 8.2.20.). The risk is significantly higher than in the group of six-person or more households, while the highest risk is in the group of single-person households.

#### *Class of place of residence*

The point of reference assumed for estimating the impact of class of the place of residence on poverty risk was the group of households in the largest towns. All estimates of model parameters behind the variables representing the class of place of residence are not significant, apart from households living in the smallest towns. Living in these towns slightly increases the poverty risk in relation to living in the largest towns (Table 8.2.20.).

#### *Educational level of attainment of household head*

The educational level of attainment of a household head clearly determines poverty risk (Table 8.2.20.). The point of reference assumed for estimating the impact of educational level of attainment of the household head on poverty risk was the group of households where the household head had a university degree. All estimated parameters are statistically significant – apart from the group of households where the household head with secondary education level – and have

positive values. This means that clearly the lowest risk of entry into the poverty sphere concerns those households with a head that has higher education. However, when the household head has the basic vocational education, its household poverty risk is higher than that of household heads with primary or lower education.

#### *Age of the household head*

Household head age groups were distinguished according to adults' stages of life. The point of reference assumed here was the group of households where household heads were at the age of 60 and older. The differences in the level of poverty risk between the reference group of households and all other groups of households turned out to be significant only for the group of households where the household heads were 35-39 (Table 8.2.20.). For that group of households, the poverty risk was significantly lower than for the reference group of households. It is probably related to the fact that the majority of the households included in the reference group are the households of pensionaries, where the income is generally higher than the minimum of existence.

#### *Household status on the labour market*

Households analysed in terms of their status on the labour market were divided into the households without unemployed members and those where at least one household member was unemployed. Second was assumed as the point of reference for poverty risk assessment. The obtained parameter estimates showed that the poverty risk was considerably higher for households with unemployed members (Tables 8.2.20.).

#### *Disability status*

The point of reference assumed here was a group of households with at least one disabled person. The occurrence of the disabled significantly increases the poverty risk for households. However, this impact is relatively lower in comparison to the situation when there are unemployed members in the household (Table 8.2.20.).

### **8.2.3. Results of poverty analysis in the multidimensional approach**

The multivariable approach to the analysis of monetary poverty was broadened to an analysis of nonmonetary poverty (material deprivation). 10.5% of households suffered from material deprivation in Poland in 2015, which is much more than the poor in the monetary sense (Table 8.2.21.). It should however be noted that to a marked extent accepted assumptions as to the material deprivation lines have an influence on the size of deprivation indexes, both for separate dimensions for all dimensions, taken together. The depth of non-monetary poverty was found to be on a higher level than monetary poverty (depth index readings 33.8% and 23.5% respectively, Table 8.2.21.). However, the intensity and severity of material deprivation were much greater than the monetary poverty. The indexes of the intensity and severity of material deprivation were 3.6% and 4.5% while the intensity and severity indexes of material poverty were at 0.8% and 0.3%.

By far the highest percentage of material deprivation occurred in households living on unearned sources and households of pensioners (35.3% and 26.5% of the materially deprived respectively). The depth of material deprivation was also the greatest in these two household groups (index readings were 43.4% and 26.5%). However, the differences between socio-economic groups in terms of depth of material deprivation are much smaller than for the range of this deprivation. Groups of those living on unearned income and households of pensioners are also characterised by the greatest intensity and severity of material deprivation (index readings 15.3% and 7.9% for the former and 9.8% and 4.4% the latter). In the group with unemployed members the range of material deprivation in 2015 was much greater than in those without unemployed members. In the first of these groups there were 26.0% of materially deprived households and in the second 8.7%. Also the depth, intensity and severity of material deprivation in the households with unemployed members are much greater than in the households without the unemployed.

Among types of households, the material deprivation had the largest incidence in February/March 2013 in the following groups of households: non-family multi-person, incomplete families and couples with many children (Table 8.2.22.), as respectively 24.8%, 20.6%, and 16.7% of these households suffered from material deprivation. Also the households of incomplete families and couples with many children were characterized by the greatest depth, intensity and severity of material deprivation at 36.1%, 7.4% and 3.3% for the former and 37.2%, 6.2% and 3.0% for the latter.

The biggest incidence of material deprivation in 2015 was among households in small cities (20-100k) and rural areas (Table 8.2.23.). In small cities, 12.3% of households were subject to the material deprivation, while 11.5% of them in rural areas. The deepest material deprivation was observed among households in small cities (20-100k) and rural areas (34.3% and 36.3% respectively). Also, the intensity and the severity of deprivation were the highest in those groups. Indexes reached the level of 4.2% and 1.9% in rural households, while among households in small cities it was 3.4% and 1.5%.

Świętokrzyskie, Podkarpackie and Dolnośląskie suffered from the greatest incidence of material deprivation in March/June 2015 (Table 8.2.24.) with the respective index readings of 14.4%, 18.8% and 13.3%. In terms of depth of material deprivation, these were Opolskie and Warmińsko-Mazurskie (index readings 46.5% and 42.3% respectively). The highest intensity and severity of material deprivation was observed in 2015 in Świętokrzyskie, Warmińsko-Mazurskie, Dolnośląskie and Podkarpackie (intensity index readings were 5.2%, 4.9%, 4.6% and 4.9%, while severity index readings were 2.7%, 2.3%, 2.2% and 2.2%).

In the final reckoning, households are considered living in poverty if they are both monetary and non-monetary poor, and such poor households made up 1.7% of the total studied population in 2015 (Table 8.2.21.)<sup>92</sup>. The values of the remaining obvious poverty characteristics were also significantly lower than monetary and non-monetary poverty.

Definitely the largest incidence of the manifest poverty was recorded in 2015 among households living on unearned income and households of pensioners (index reading for these groups were 21.8% and 4.1% respectively, Table 8.2.21.), while depth of the manifest poverty was clearly the greatest among the groups of households of self-employed, those living on unearned income and pensioners (poverty depth index readings were 29.4%, 34.4% and 29.2% respectively), which means that in these groups the poor households were on average the least wealthy. The intensity and severity of poverty were also significantly differentiated among the socio-economic household groups, with the example of households living on unearned incomes as well as the households of pensioners being the groups with relatively very high index values of poverty intensity and severity (12.0%, 5.8%, 5.6% and 2.5% respectively).

The incidence of the manifest poverty in March/June 2015 was significantly higher in the households with unemployed members than in those without (Table 8.2.21.). In the first group, there was over 8% of households living in poverty while in the second it was only 0.9%. Also the depth, intensity and severity of poverty in the former group were much higher than in the latter group at 31.8%, 6.9% and 3.2% for the households with unemployed members and 27.1%, 1.6% and 0.6% for those without unemployed members.

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<sup>92</sup> In the calculations households that provided an answer to both level of income as well as symptoms of material deprivation were included.  
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Table 8.2.21. Aggregated indices of poverty in multidimensional approach by socio-economic group and type of economic activity in March 2013.

Socio-economic group and type of economic activity	Aggregate manifest poverty indices * 100											
	Non-monetary				Monetary				Manifest			
	reach	depth	intensity	severity	reach	depth	intensity	severity	reach	depth	intensity	severity
Employees	8.81	31.52	2.78	1.09	1.94	23.23	0.45	0.19	0.88	27.37	1.61	0.64
Farmers	7.82	35.08	2.74	1.26	8.22	27.28	2.24	1.02	1.21	31.18	2.49	1.14
Retirees	8.51	30.55	2.60	0.97	0.70	12.08	0.08	0.02	0.16	21.32	1.34	0.50
Pensioners	26.46	37.12	9.82	4.41	8.35	21.24	1.77	0.56	4.11	29.18	5.80	2.49
Self-employed	3.73	28.78	1.07	0.38	0.45	30.05	0.13	0.05	0.36	29.42	0.60	0.22
Living on unearned sources	35.29	43.36	15.30	7.93	33.93	25.35	8.60	3.30	21.80	34.36	11.95	5.61
Without unemployed	8.67	31.99	2.77	1.09	2.03	22.15	0.45	0.17	0.86	27.07	1.61	0.63
With unemployed	26.02	38.59	10.04	4.85	14.66	25.09	3.68	1.50	8.34	31.84	6.86	3.17
Total	10.52	33.75	3.55	1.49	3.38	23.52	0.80	0.31	1.66	28.63	2.17	0.90

Table 8.2.22. Aggregated indices of poverty by multidimensional in terms of household type in March 2013

Household type	Aggregate poverty indices * 100											
	Non-monetary				Monetary				Manifest			
	reach	depth	intensity	reach	depth	intensity	reach	depth	intensity	reach	depth	intensity
Single family:												
No children	5.82	31.43	1.83	0.74	2.03	20.47	0.42	0.14	1.10	25.95	1.12	0.44
1 child	6.62	30.98	2.05	0.77	1.97	21.09	0.42	0.11	0.81	26.03	1.23	0.44
2 children	8.76	32.91	2.88	1.22	2.11	18.90	0.40	0.15	0.68	25.90	1.64	0.68
3+ children	16.72	37.21	6.22	2.98	8.51	22.70	1.93	0.73	2.68	29.96	4.08	1.86
Incomplete families	20.59	36.10	7.43	3.27	6.05	21.97	1.33	0.45	3.15	29.03	4.38	1.86
Multi-family	10.40	32.87	3.42	1.44	1.98	27.92	0.55	0.20	1.37	30.39	1.99	0.82
Non-family:												
Single person	11.89	33.58	3.99	1.64	3.94	26.92	1.06	0.48	2.27	30.25	2.53	1.06
Multi-person	24.76	33.12	8.20	3.22	6.33	6.09	0.39	0.06	3.76	19.60	4.29	1.64

Table 8.2.23. Aggregated indices of poverty in multidimensional approach by class of place of residence in March 2013.

Class of place of residence	Aggregate poverty indices * 100											
	Non-monetary			Monetary			Manifest					
	reach	depth	intensity	reach	depth	intensity	reach	depth	intensity	reach	depth	intensity
Towns of more than 500k	8.69	31.78	2.76	1.09	2.11	19.38	0.12	0.12	1.33	25.58	1.59	0.61
Towns of 200-500k	9.12	32.03	2.92	1.17	2.38	20.21	0.17	0.17	0.97	26.12	1.70	0.67
Towns of 100-200k	8.37	28.42	2.38	0.89	2.19	11.99	0.04	0.04	1.33	20.20	1.32	0.47
Towns of 20-100k	12.31	33.14	4.08	1.65	3.36	23.55	0.29	0.29	1.89	28.35	2.44	0.97
Towns of fewer than 20k	10.00	34.30	3.43	1.48	2.84	23.21	0.27	0.27	1.29	28.75	2.04	0.87
Rural areas	11.52	36.34	4.19	1.89	4.95	26.48	0.57	0.57	2.16	31.41	2.75	1.23

Table 8.2.24. Aggregated indices of poverty in multidimensional approach by of voivodship in March

Voivodships	Aggregate poverty indices * 100											
	Non-monetary			Monetary			Manifest					
	reach	depth	intensity	reach	depth	intensity	reach	depth	intensity	reach	depth	intensity
Dolnośląskie	13.30	35.08	4.66	2.02	3.38	13.53	0.46	0.16	1.64	24.30	2.56	1.09
Kujawsko-pomorskie	9.58	32.96	3.16	1.28	4.21	22.82	0.96	0.42	1.22	27.89	2.06	0.85
Lubelskie	12.60	32.72	4.12	1.78	4.73	24.65	1.17	0.46	1.89	28.68	2.64	1.12
Lubuskie	10.23	35.51	3.63	1.55	1.48	24.82	0.37	0.14	0.97	30.16	2.00	0.84
Łódzkie	12.36	35.32	4.36	1.93	4.94	17.38	0.86	0.23	2.03	26.35	2.61	1.08
Małopolskie	6.68	29.55	1.97	0.75	2.32	27.46	0.64	0.25	0.81	28.50	1.31	0.50
Mazowieckie	9.30	32.05	2.98	1.15	1.96	26.36	0.52	0.20	1.01	29.21	1.75	0.68
Opolskie	6.79	46.62	3.17	1.72	3.72	23.32	0.87	0.27	2.97	34.97	2.02	0.99
Podkarpackie	13.80	35.47	4.90	2.01	4.94	19.77	0.98	0.33	2.40	27.62	2.94	1.17
Podlaskie	9.82	31.34	3.08	1.17	4.08	23.94	0.98	0.36	0.97	27.64	2.03	0.77
Pomorskie	6.60	30.73	2.03	0.77	3.53	17.78	0.63	0.19	1.85	24.25	1.33	0.48
Śląskie	11.33	32.19	3.65	1.52	2.45	25.77	0.63	0.29	1.70	28.98	2.14	0.90
Świętokrzyskie	14.36	36.02	5.17	2.28	4.96	34.17	1.69	0.90	3.02	35.10	3.43	1.59
Warmińsko-mazurskie	11.48	42.78	4.91	2.71	5.26	36.26	1.91	0.95	3.63	39.52	3.41	1.83
Wielkopolskie	9.84	31.63	3.11	1.16	3.75	22.79	0.85	0.24	1.74	27.21	1.98	0.70
Zachodniopomorskie	12.80	33.63	4.31	1.77	2.67	26.92	0.72	0.34	1.30	30.28	2.51	1.05

Among types of households, the largest poverty incidence was observed in March/June 2015 in the following households: non-family multi-person, incomplete families and couples with many children (tab. 8.2.22.). There were respectively almost 3.8%, 3.2% and 2.7% of poor households in those groups. The deepest level of poverty at that time was among multi-family households and non-family single-person households. The indices of poverty depth reached in these groups respectively almost 30%. The intensity and the severity of the manifest poverty were the strongest among the couples with many children, incomplete families and non-family multi-person households, with respective index readings of 4.1%, 4.4%.and 4.5% as well as 1.9%, 1.9% and 1.6%.

The incidence of manifest poverty was not markedly differentiated in 2015 in respect of the class of place of residence (Table 8.2.23.), though it was clearly greater in rural areas than in the cities, with 2.2% of rural households living in poverty. The depth of the manifest poverty was also the greatest among rural households (depth index values at 31.4%). Rural households were characterised by the greatest intensity and severity of manifest poverty (index values at 2.8 and 1.2% respectively).

The highest percentages of households in manifest poverty in March/June 2015 were observed in Warminko-Mazurskie and Świętokrzyskie (respective index readings at 3.6% and 3.0%, Table 8.2.24.). Also, the greatest depth of manifest poverty occurred in those voivodships (the poverty depth index ratings were respectively 39.5% and 35.1%). Both the intensity and severity of manifest poverty were the greatest as was its range in Warmińsko-Mazurskie and Świętokrzyskie (index readings of the intensity and severity were respectively at 3.4%, 3.4%, 1.8% and 1.6%).

The analysis of the manifest poverty in Poland gives a better picture of the poverty sphere than the analysis of the poverty only in terms of the current household income (the monetary poverty), as low current household incomes do not always mean household poverty in the sense that basic needs are not satisfied on the minimal acceptable level. If households have stored material assets in previous periods, these can be used when the current incomes are too low in order to avoid falling into poverty.

### 8.3. Unemployment

The registered unemployment rate in the sample of individual respondents in the working age group was 9.5% (slightly less than estimated by the Central Statistical Office in the month of the study- 10.8%). All unemployed persons registered in the labour offices can be divided into two large groups: the real and the fake unemployed. The fake unemployed can, in turn, be divided into those who are not interested in working (they are not seeking and/or not ready to get a job) and those working illegally. Similarly to the previous waves of the study, the share of the fake unemployed in all registered unemployed was significant (about 1/3 in 2003 and 2005 and from 2007 onwards already between 40% and 50%, and currently 57%.<sup>93</sup>) (Table 8.3.1.).

For the majority of the registered unemployed women, the main reason for not seeking a job is childcare (44%, a fall of 7p.p. since 2011) and general household duties (the total of 16.4% including housework and care of disabled or elderly household members). Men do not seek a job mostly due to the loss of hope in finding work (31%) and, in the second place, due to their health condition (26%, an increase by 3p.p. compared to 2011). It is symptomatic that quite often, mainly in case of men, (though twice less often than two years ago) the reason for not seeking a job is the desire to keep the right to receive social benefits (4.6% in comparison with 1.8% in the group of the unemployed women). Also men, more often than women, explicitly admit that they do not feel like getting a job (3.8% and 1.8% respectively, Table 8.3.2.).

*Table 8.3.1. Share of the unemployed in the working age group (18-60 women, 18-65 men) excluding the pensioners, receivers of welfare benefits and students according to various unemployment categories*

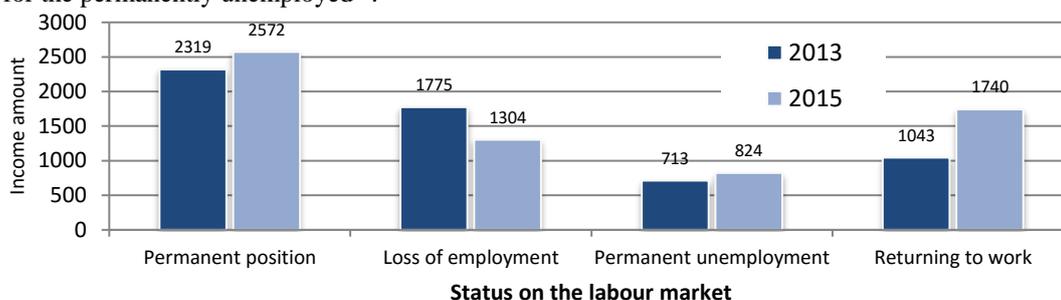
Unemployment category	Rate of unemployment for age in employment					
	2005	2007	2009	2011	2013	2015
Registration	17.6	12.5	9.9	10.9	13.9	9.5
Registration + ready to work	14.7	8.9	7.2	9.0	11.4	5.9
Registration + ready to work + actively seeking employment	11.9	6.5	5.1	6.5	8.6	5.4
Together with unregistered unemployed (passive labour, ready to work and looking for employment, N=214)					10.3	6.7

<sup>93</sup> The increase in the percentage share of apparently unemployed among the registered out of work is a result of mainly the fall in the level of registered unemployed with a relatively sTable size of group.

Table 8.3.2. Share of registered unemployed women and men not interested in working, who justified not seeking work in 2013-2015

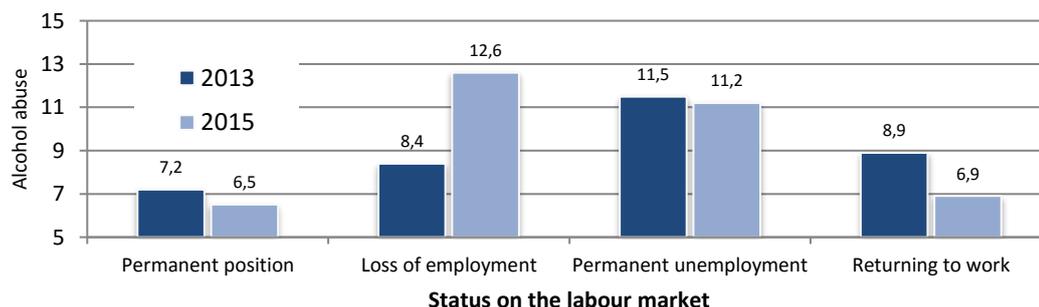
Reasons for not seeking work	Women		Men		Total	
	2013	2015	2013	2015	2013	2015
Study, raising qualifications	4.3	2.4	4.6	1.8	4.4	2.2
Homemaker	14.3	13.9	0.0	0.9	10.3	10.4
Childcare	43.9	36.1	0.0	4.6	31.4	27.5
Taking care of disabled or elderly household members	2.1	3.7	2.3	5.5	2.2	4.2
Bad health	7.6	12.6	26.2	19.3	12.9	14.4
Inappropriate age	1.8	1.0	5.4	6.4	2.8	2.5
Lack of proper qualifications	2.1	1.7	3.1	2.8	2.4	2.0
Believe they will not find a job	12.5	18.4	30.8	30.3	17.7	21.6
Does not want to lose benefits	1.8	3.7	4.6	4.6	2.6	4.0
Does not want to work	1.8	0.7	3.8	4.6	2.4	1.7
Other reasons	6.7	5.8	19.2	11.1	10.3	8.7

Losing and regaining a job have many life consequences affecting income, lifestyle, health and psychological well-being. However, the probability of losing a job depends on several personal features, including those relating to income, social relations, lifestyle, health or mental condition. Figures 8.3.1.-8.3.7. show this mutual dependence. People who lose a job had, already in the past, lower income, they have more often problems with alcohol abuse, show higher level of depression and lower level of psychological well-being<sup>94</sup> and worse quality of life<sup>95</sup>. The job loss alone deteriorates those deficits. On the other hand, finding a new job improves all those factors, although for people who find a new job, those indicators have been usually better already before finding the new job than it is the case for the permanently unemployed<sup>96</sup>.



NOTES: main effect of date of measurement  $F(1, 4922)=25,386$ ,  $p<0,000$ ,  $\eta^2=0,005$ ; main effect of status on the labour market  $F(3, 4922)=91,786$ ,  $p<0,000$ ,  $\eta^2=0,053$ ; effect of interaction of date of measurement and status of the labour effect  $F(3, 4922)=27,786$ ,  $p<0,000$ ,  $\eta^2=0,017$ ; co-variables were age and gender.

Figure 8.3.1. Level of personal monthly net income between 2013 and 2015 among those in employment who had lost their jobs after 2013 and had not yet found work before 2015, those who were unemployed during both years and those who found work after 2013 and were employed in 2013



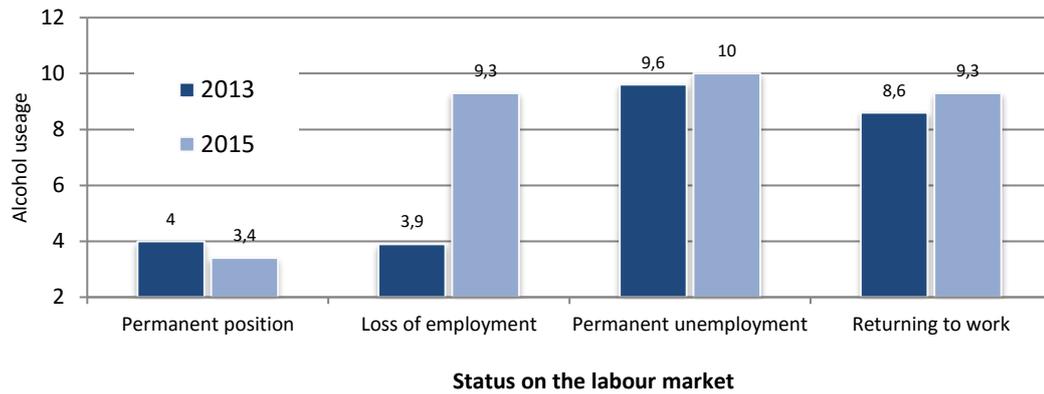
NOTES: main effect of date of measurement n.s.; main effect of status on the labour market  $F(3, 6644)=10,398$ ,  $p<0,000$ ,  $\eta^2=0,005$ ; effect of interaction of date of measurement and status on the labour market  $F(3, 6644)=2,346$ ,  $p=0,071$ ,  $\eta^2=0,001$ ; co-variables were age and gender.

Figure 8.3.2. Percentage of people with alcohol abuse problems in 2013 and 2015 in the group of persons who worked during those two years, lost their jobs in 2013, were unemployed during both years and in the group of persons who got their job back after 2013.

<sup>94</sup> For the operational definition of this indicator, see Chapter 9.2.

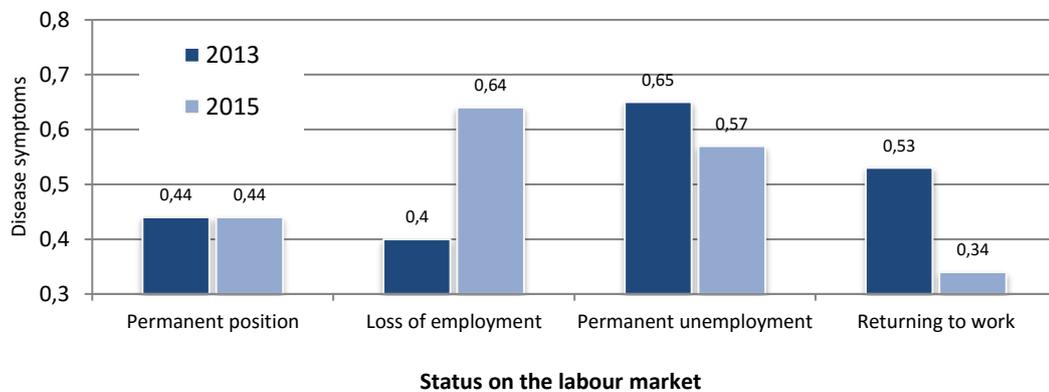
<sup>95</sup> For the operational definition of this indicator, see Chapter 9.2.

<sup>96</sup> A more detailed description of mutual connections between individual features and the change of status on the labour market can be found in previous editions of Social Diagnosis ([www.diagnoza.com](http://www.diagnoza.com))



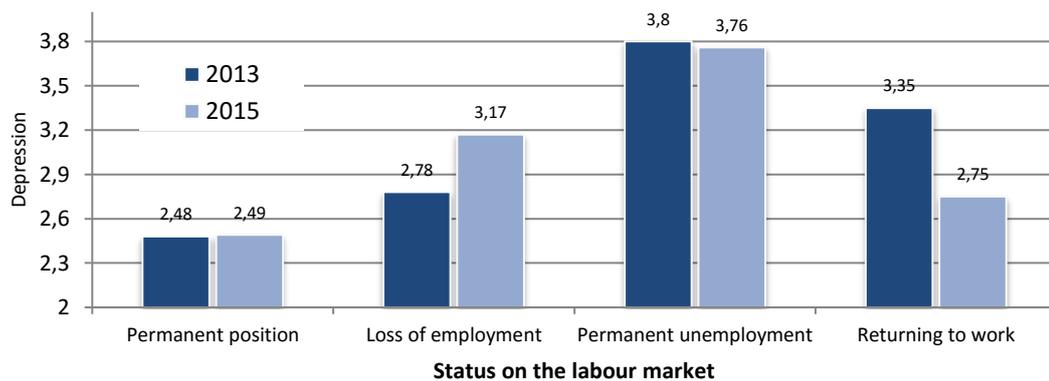
NOTES: main effect of date of measurement n.s.; main effect of status on the labour market  $F(3, 6393)=27,170, p<0,000, \eta^2=0,013$ ; effect of interaction of date of measurement and status on the labour market  $F(3, 6393)=4,524, p=0,004, \eta^2= 0,002$ ; co-variables were age and gender.

Figure 8.3.3. Percentage of people who drank alcohol in difficult situations in 2013 and 2015 in the group of persons who worked during those two years, lost their jobs after 2013, were unemployed during both years and in the group of persons who got their job back after 2013.



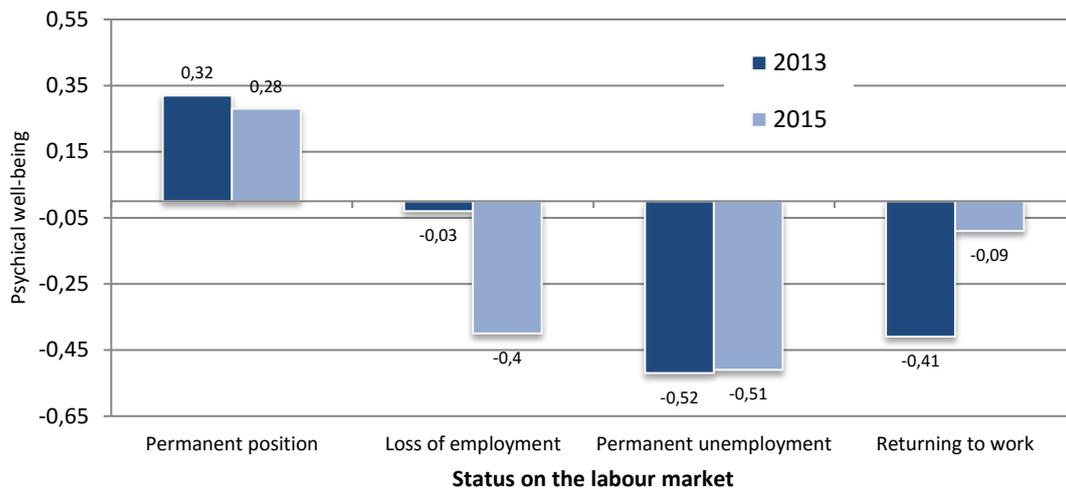
NOTES: main effect of date of measurement n.s.; main effect of status on the labour market  $F(3, 6658)=3,570, p<0,01, \eta^2=0,002$ ; effect of interaction of date of measurement and status on the labour market  $F(3, 6658)=3,528, p=0,05, \eta^2= 0,002$ ; co-variables were age and gender.

Figure 8.3.4. Number of serious symptoms of diseases in 2013 and 2015 in the group of persons who worked during those two years, lost their jobs after 2013, were unemployed during both years and in the group of persons who got their job back after 2013.



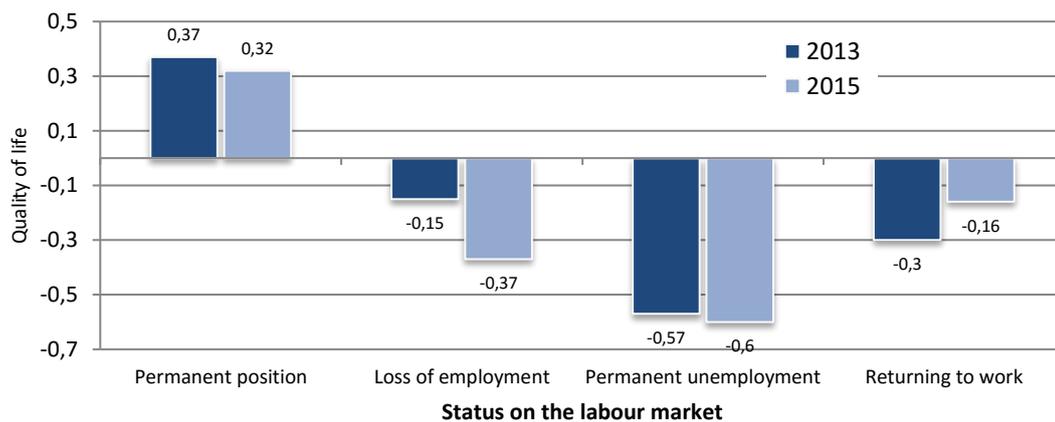
NOTES: main effect of date of measurement n.s.; main effect of status on the labour market  $F(3, 6552)=25,618, p<0,000, \eta^2=0,012$ ; effect of interaction of date of measurement and status on the labour market  $F(3, 6552)=9,996, p<0,000, \eta^2= 0,005$ ; co-variables were age and gender.

Figure 8.3.5. Level of symptoms of psychological depression in 2013 and 2015 in the group of persons who worked during those two years, lost their jobs after 2013, were unemployed during both years and in the group of persons who got their job back after 2013.



NOTES: main effect of date of measurement  $F(1, 5932)=6,817$ ,  $p<0,01$ ,  $\eta^2=0,001$ ; main effect of status on the labour market  $F(3, 5932)=204,407$ ,  $p<0,000$ ,  $\eta^2=0,094$ ; effect of interaction of date of measurement and status on the labour market  $F(3, 5935)=37,918$ ,  $p<0,000$ ,  $\eta^2=0,019$ ; covariables were age and gender.

Figure 8.3.6. Social well-being in 2013 and in 2015 among those in employment in those years, those who lost their jobs after 2013, those who were unemployed in those years and those who found a new job after 2013



NOTES: main effect of date of measurement  $F(1, 4523)=13,017$ ,  $p<0,000$ ,  $\eta^2=0,003$ ; main effect of status on the labour market  $F(3, 4523)=150,371$ ,  $p<0,000$ ,  $\eta^2=0,091$ ; effect of interaction of date of measurement and status on the labour market  $F(3, 4523)=10,168$ ,  $p<0,000$ ,  $\eta^2=0,007$ ; covariates were age and gender.

Figure 8.3.7. General quality of life in 2013 and 2015 in the group of persons who worked during those two years, lost their jobs after 2013, were unemployed during both years and in the group of persons who got their job back after 2013

## 8.4. Social discrimination

One of the important risks for social integration is the discrimination occurring when a certain category of citizens is denied equal rights and access to various aspects of life due to their particular features, and when neither the discrimination nor its consequences are formally penalised.

In order to define the type and the level of risk for social order which discrimination can entail, it is first necessary to assess its incidence and the extent of intolerance in our society. We did not ask our respondents about nationality, ethnicity, religion or race and households of foreigners were excluded from the study. Therefore, we are unable to estimate the level of discrimination regarding these attributes. It should be pointed out however that the Third Republic of Poland is a very homogeneous country in terms of race, ethnicity and religion. Contrary to many Western countries, we have not experienced racial, religious or national conflicts. Thus omitting these attributes should not significantly distort our estimates. In Poland, we witness other signs of discrimination, both

‘hot’ or emotive (e.g. towards homosexuals and HIV positive people), and ‘cold’ which are inextricably linked with culture and mechanisms of social stratification including gender, disability and the place of residence.

In general, the sense of discrimination in Poland is still low, although it is three times higher than in mid-1990s (Table 8.4.1.).

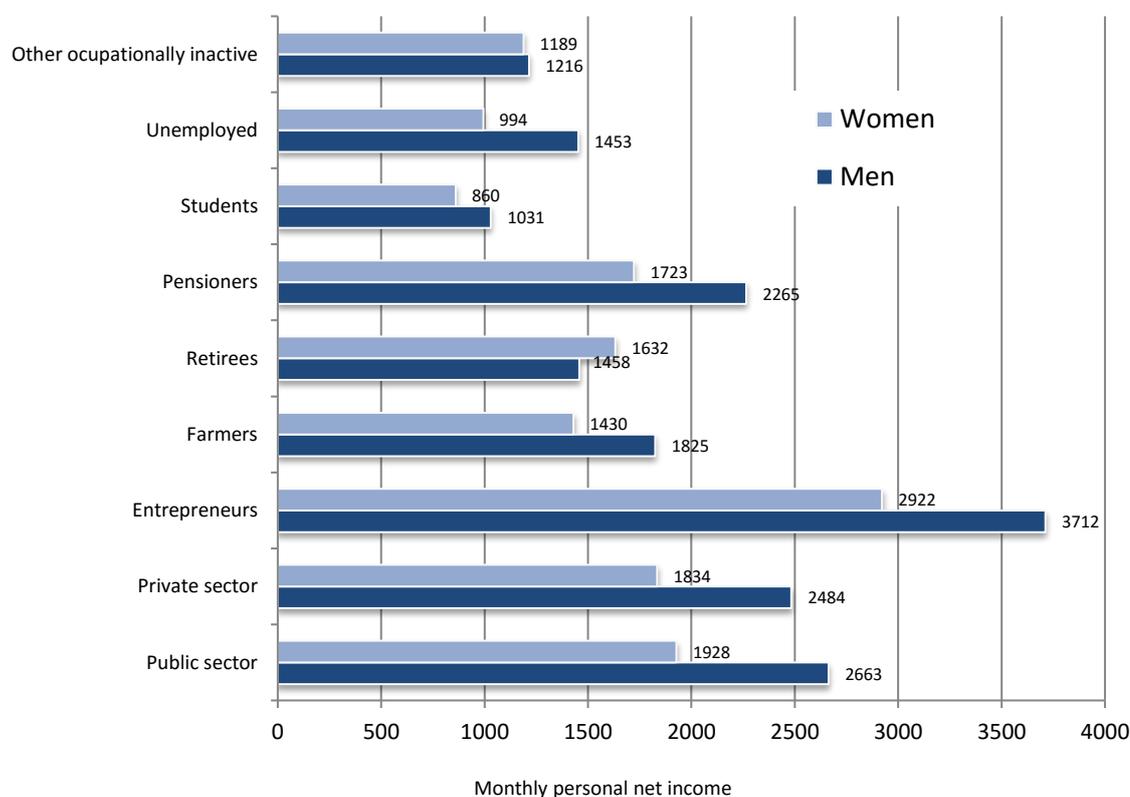
Table 8.4.1. Percentage of adults who felt discriminated 1992-2015

1992 r. N=3396	1994 r. N=2298	1995 r. N=3024	1997 r. N=2100	2000 r. N=5431	2003 r. N=9620	2005 r. N=8609	2007 r. N=12638	2009 r. N=26122	2011 r. N=26300	2013 N=26201	2015 N=22203
0,8	0,7	0,9	0,6	1,2	1,6	1,8	1,9	1,8	1,7	1,8	1,6

Source: 1992-1997 — Czapiński, 1998; 2000-2013 — *Social Diagnosis*.

We asked about the sense of discrimination on any grounds. Some objective grounds for the discrimination in Poland, such as disability (e.g. accessibility barriers or a negative attitude of employers) or gender-based income inequality can be easily indicated.

Firstly, let us discuss gender-based discrimination. We have already mentioned income disproportions between men and women (chapter 5.5.1.). The average personal income declared by women is by 1/5 lower than the income declared by men (a little bit less than in previous years)<sup>97</sup>. This discrepancy does not result from different social and professional status. In all social and professional groups, except for pensioners, the difference is either equal or similar to the general difference revealed after verification of the level of attainment (Figure 8.4.1.).



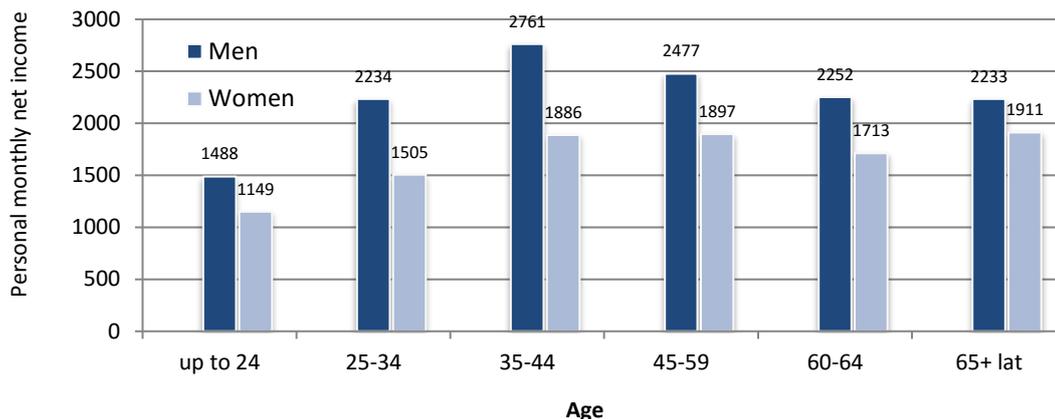
NOTES: main effect of gender  $F(1, 15922)=119,222, p<0,000, \eta^2=0,007$ ; main effect of status  $F(8, 15922)=161,626, p<0,000, \eta^2=0,075$ ; effect of interaction of gender and status  $F(8, 15922)=16,356, p<0,000, \eta^2=0,008$ .

Figure 8.4.1. Average monthly personal net income (disposable income) of men and women by social and professional status with verification for years in education

The difference remains at the same level also in all age groups. This difference is the greatest in the working age group (25-59) and the smallest in the oldest group (65+) (Figure 8.4.2.).

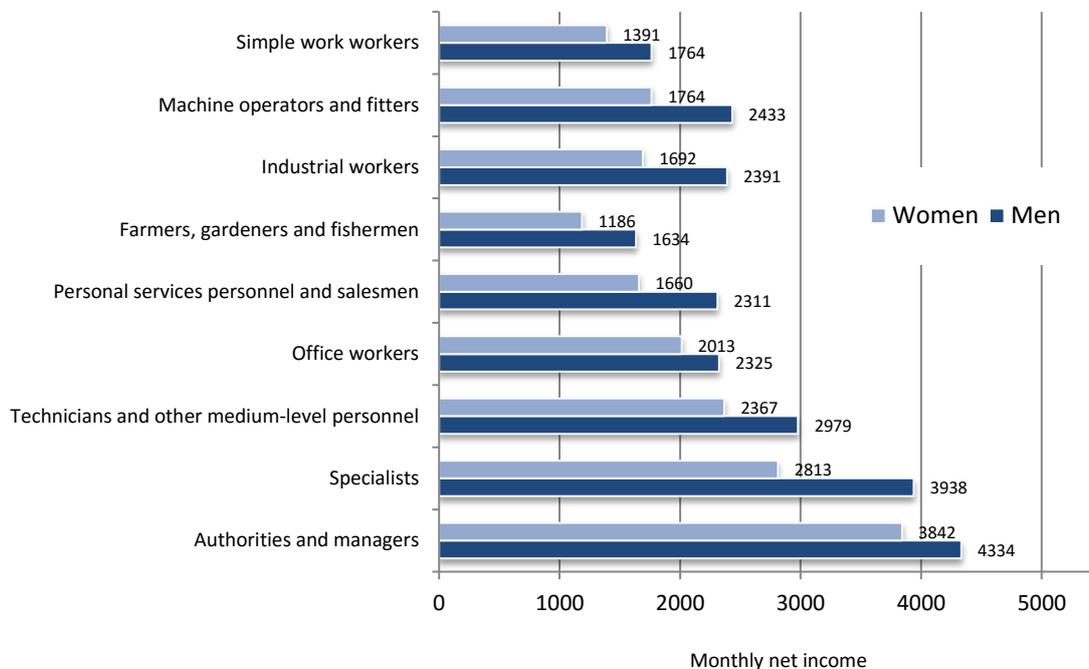
One can question these results by saying that income inequalities depend on the type of profession and position rather than gender. However, the male-female income disparity does not disappear even within respective professional groups representing relatively equal competences, duties and positions although remains at the same level (Figure 8.4.3.). Therefore, the actual gender-based discrimination in terms of income can be estimated at 22%.

<sup>97</sup> However, in the panel sample between 2013 and 2015, the differences increased from 26.4 to 27.5%. Income of men increased significantly more than those of women.



NOTES: main effect of gender  $F(1, 15953) = 489,604, p < 0,000, \eta^2 = 0,030$ ; main effect of age  $F(5, 15953) = 81,650, p < 0,000, \eta^2 = 0,025$ ; effect of interaction of gender and age  $F(5, 15953) = 15,224, p < 0,000, \eta^2 = 0,003$ .

Figure 8.4.2. Average monthly personal net income (disposable income) of men and women by age group with verification for years in education



NOTES: main effect of gender  $F(1, 9894) = 243,559, p < 0,000, \eta^2 = 0,024$ ; main effect of group  $F(8, 9894) = 243,157, p < 0,000, \eta^2 = 0,154$ ; effect of interaction of gender and group  $F(9, 9894) = 7,381, p < 0,000, \eta^2 = 0,006$ .

Figure 8.4.3. Average net income for men and women in various professional groups with verification of age

During the detailed analysis of differences between men and women on the detailed division into professional groups, the general indicator of women's pay discrimination amounted to 22%. Verification of the level of educational attainment increases the difference between men and women in terms of personal income up to 23% (Figure 8.4.4.). Women have on average a year longer education. This means that if we compare the income generated by men and women working in the same professions with the assumption that both have the same level of attainment measured by years of study, the difference is even bigger. This means that education and not time worked is the critical factor in reducing the income difference between men and women.

Let us consider if such visible income discrimination translates into a greater feeling of being discriminated against. It appears that women do not feel discriminated against more often than men (Figure 8.4.5.), and in 2005 and in 2011 the share of men who subjectively felt discriminated against was higher than the share of women (in the remaining years the differences were statistically insignificant). Even if we consider only people who are working and if we compare men and women with the same tenure and level of attainment, we do not state any

greater sense of being discriminated against among women (1.5% and 1.9% respectively, with a statistically insignificant difference).

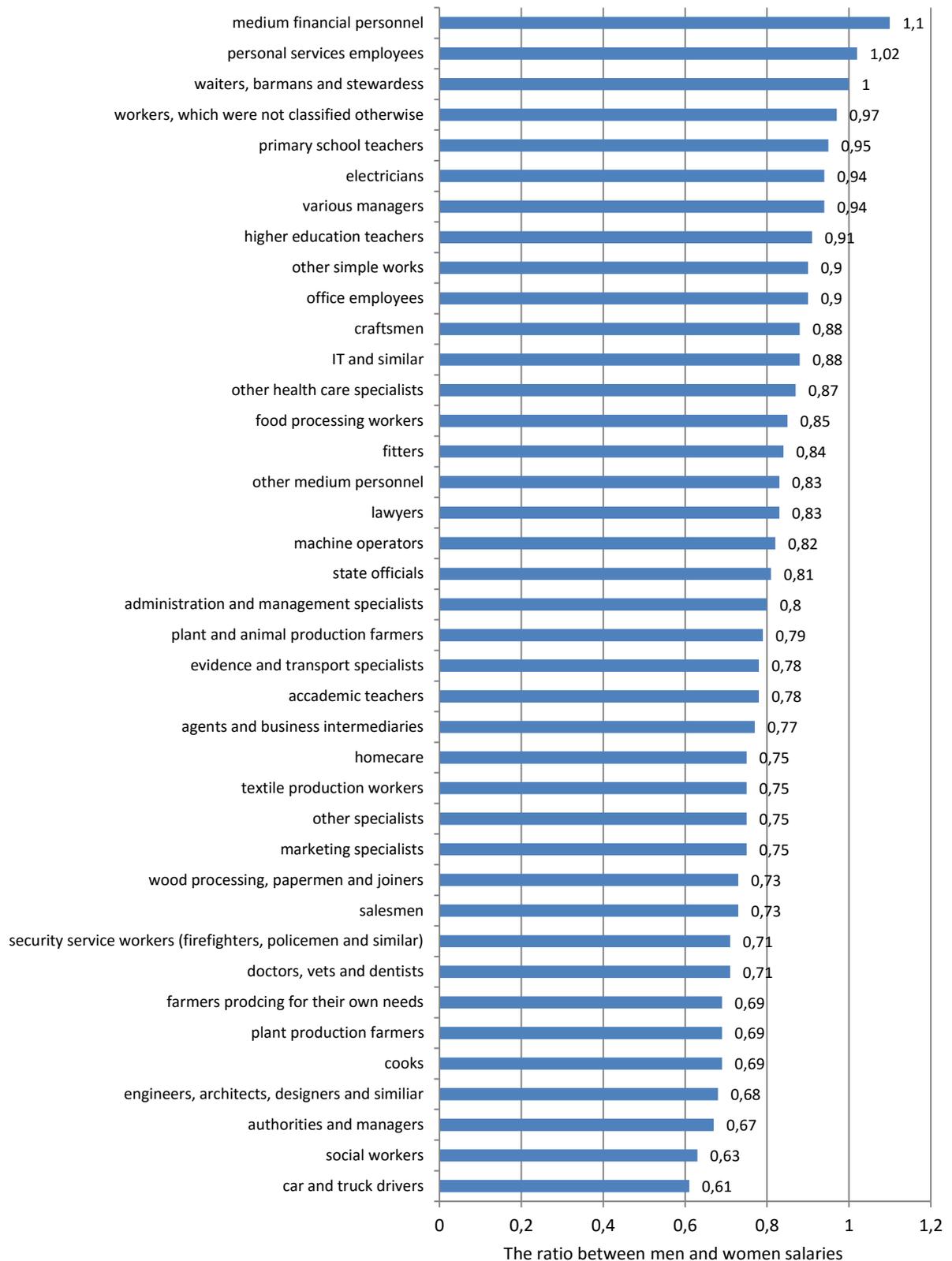


Figure 8.4.4. Proportion of personal net income for women to men in various professions with control for age and number of years in education

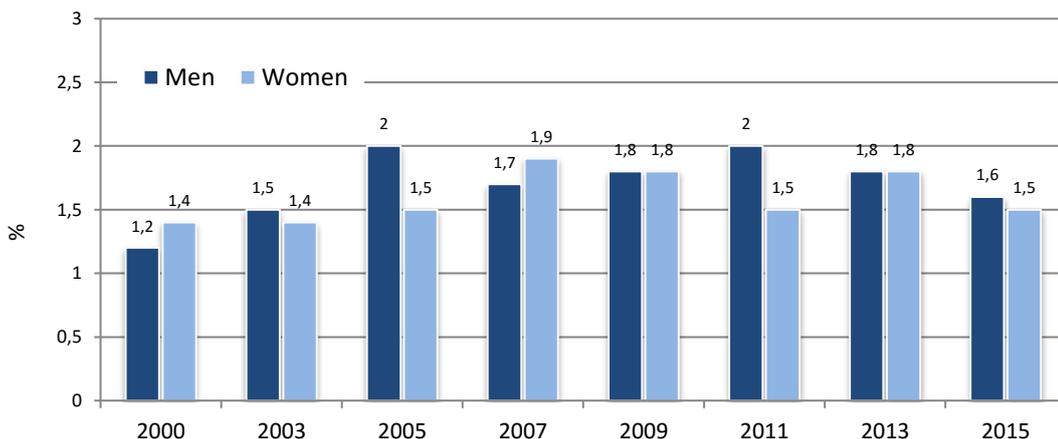
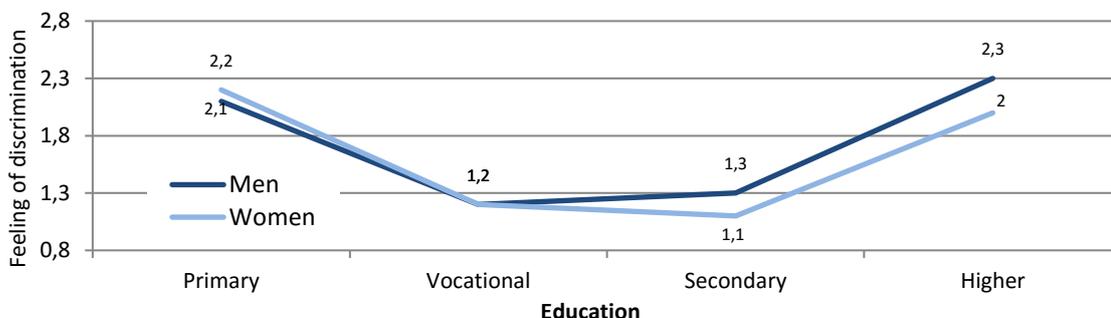


Figure 8.4.5. Share of men and women who felt discriminated between 2000-2015

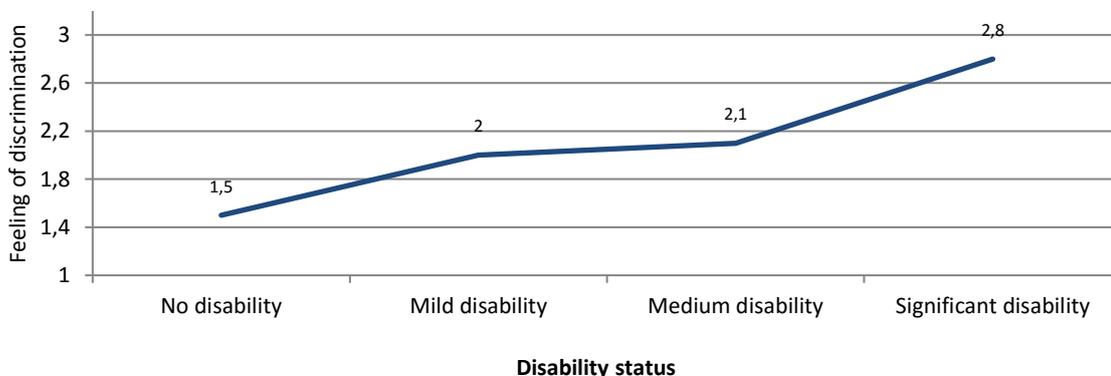
The level of education (Figure 8.4.6.) does not affect the differences in the sense of discrimination between men and women. In general, both men and women with the lowest and the highest education level feel mostly discriminated.



NOTES: main effect of gender ns.; main effect of education  $F(3, 21611)=8,866, p<0,000, \eta^2= 0,001$ .; effect of interaction of gender and education ns.

Figure 8.4.6. Share of men and women who felt discriminated due to their level of education after verification for age

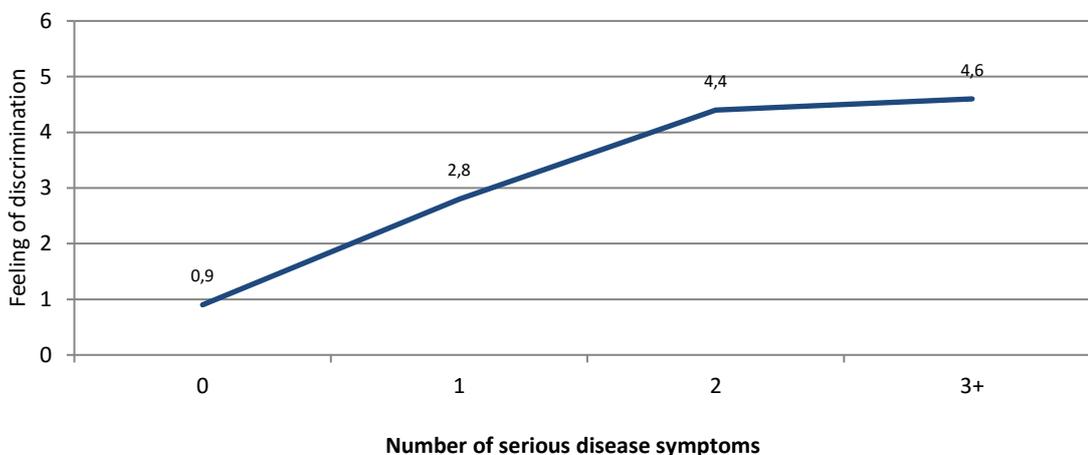
Another group other than women that is objectively discriminated and denied equal access to goods, institutions, services and rights are the disabled. However, apparently their objective social inequality only moderately translates into their sense of being discriminated against. Here, the degree of disability is crucial (Figure 8.4.7.). In the group of persons with a high degree of disability, the subjective discrimination rate is nearly double higher than in the group of persons with a low degree of disability, and three times more than with able-bodied groups.



NOTES: main effect of gender ns.; main effect of disability  $F(3, 21257)=3,115, p<0,05, \eta^2=0,000$ ; effect of interaction of gender and disability ns.

Figure 8.4.7. Percentage of persons who feel discriminated due to their disability status with verification for gender, age and education.

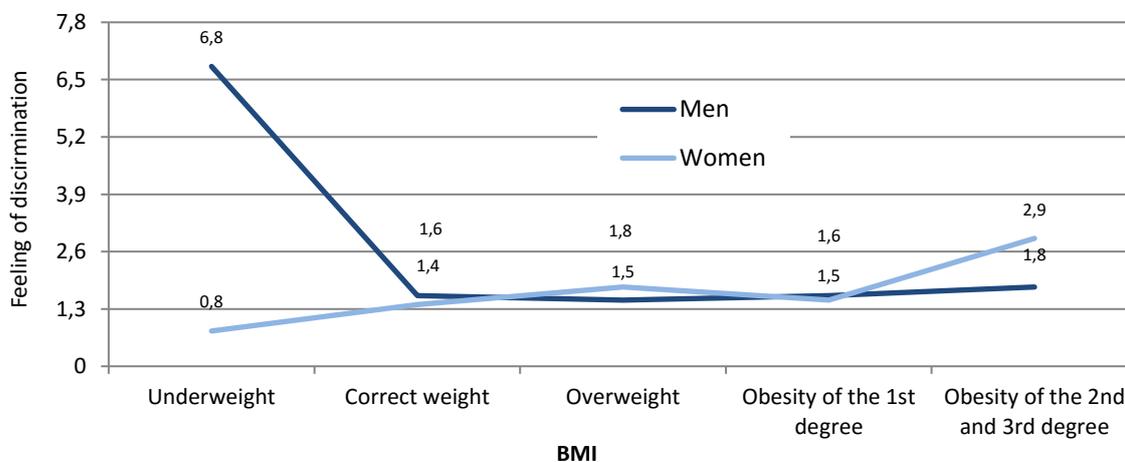
Regardless the disability, the health is far more deciding when it comes to the feeling of discrimination. Persons with at least two serious disease symptoms<sup>98</sup> felt discriminated five times more frequently than the group of persons who did not experience any serious disease symptom (Figure 8.4.8.). The difference does not depend on gender, age and education.



NOTES: main effect of gender ns.; main effect of number of symptoms  $F(3, 21610)=68,315, p<0,000, \eta^2=0,009$ ; effect of interaction of gender and number of symptoms ns.

Figure 8.4.8. Percentage who feel discriminated by the number of serious disease symptoms with control for gender, age and level of education

BMI is not significantly correlated to the sense of discrimination. Only men with underweight feel discriminated four times more frequently than those with correct weight or a weight higher than the correct one. In case of women, only significant level of obesity slightly increases the sense of discrimination (Figure 8.4.9.).



NOTES: main effect of gender  $F(1, 21445)=6,866, p<0,01, \eta^2= 0,000$ ; main effect of weight  $F(4, 21445)=3,036, p<0,05, \eta^2= 0,001$ .; effect of interaction of gender and BMI  $F(4, 21445)=5,066, p<0,000, \eta^2= 0,001$ .

Figure 8.4.9. Percentage of women and men who feel discriminated due to their BMI with verification of age and education

However, it is not the disabled or sick persons who feel discriminated against most often, but persons who are the victims of crime and criminals (Figures 8.4.10. and 8.4.11.), smoke cigarettes, abuse alcohol or take drugs<sup>99</sup>(Figure 8.4.12.) or undergo psychiatric or psychological treatment (Figure 8.4.13.).

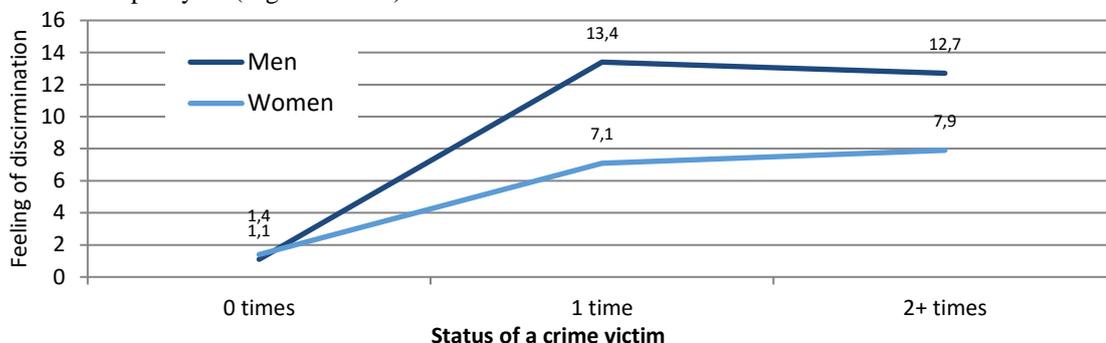
Being a victim of a crime drastically increases the sense of discrimination, notably among men (Figure 8.4.10.), and numerous conflicts with law increase 20 times, up to 32%, the sense of discrimination among women (Figure 8.4.11.).

<sup>98</sup> The indicator is to choose two or more symptoms from a list of 15, which have been lasting for at least half of the last month (Annex 1, the individual questionnaire, question 62).

<sup>99</sup> The biggest difference in case of feeling of discrimination is drug addiction and smoking is the lowest (but still significant).

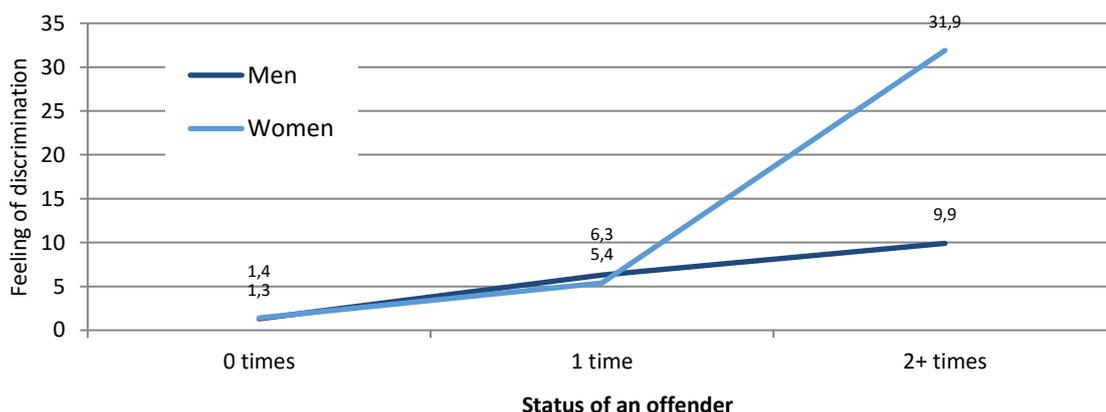
The sense of discrimination of people addicted to three drugs is diversified in terms of gender. A single addiction (in most cases to nicotine) does not increase the subjective discrimination rate; only when it is accompanied by alcohol and/or drug addiction does this rate grow in particular and with three radically addicted, among women, the indicator of subjective discrimination rises to over 18% (Figure 8.2.12.).

Persons who undergo psychiatric or psychological treatment feel discriminated a few times more frequently (over six times more in case of men and five times in case of women) in comparison to persons who never used such services in the past year (Figure 8.4.13.).



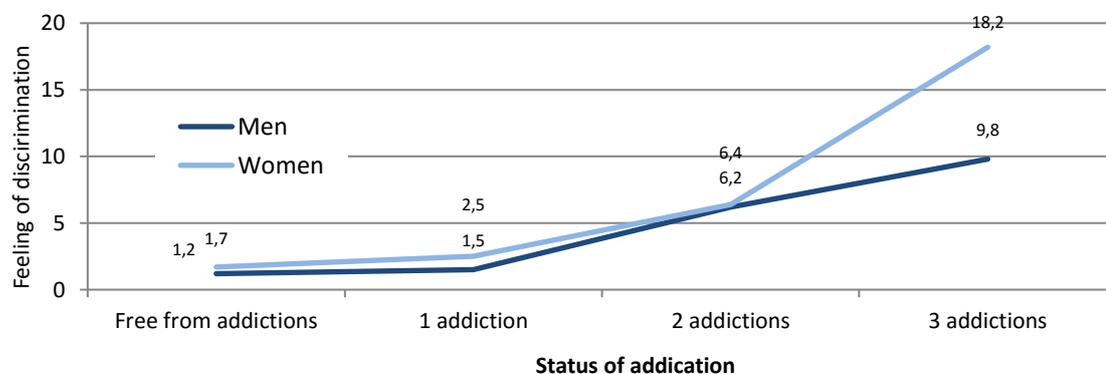
NOTES: main effect of gender  $F(1, 21612)=21,684, p<0,000, \eta^2= 0,001$ ; main effect of victim  $F(2, 21612)=160,084, p<0,000, \eta^2= 0,015$ ; effect of interaction of gender and victim  $F(2, 21612)=19,666, p<0,000, \eta^2= 0,002$ .

Figure 8.4.10. Percentage of men and women who felt discriminated by status of crime victim after verification for age, gender and education



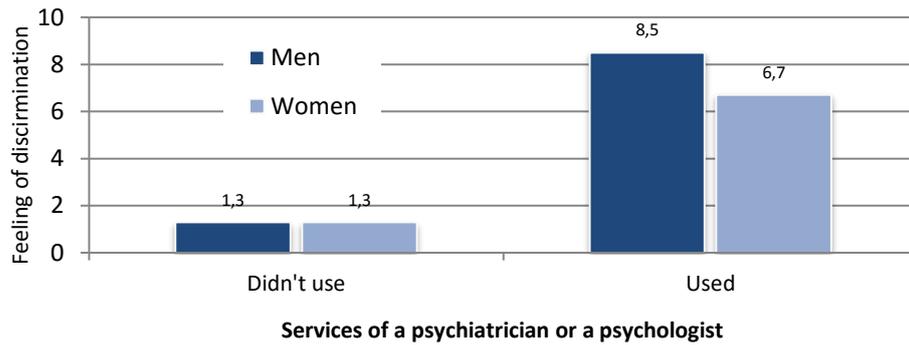
NOTES: main effect of gender  $F(1, 21612)=58,679, p<0,000, \eta^2= 0,003$ ; main effect of victim  $F(2, 21612)=153,082, p<0,000, \eta^2= 0,014$ ; effect of interaction of gender and victim  $F(2, 21612)=35,507, p<0,000, \eta^2= 0,003$ .

Figure 8.4.11. Percentage of men and women who felt discriminated by status of perpetrator after verification for age and education



NOTES: main effect of gender  $F(1, 21612)=9,132, p<0,01, \eta^2= 0,000$ ; main effect of addiction  $F(2, 21612)=49,244, p<0,000, \eta^2= 0,006$ ; effect of interaction of gender and addiction  $F(2, 21612)=2,879, p<0,05, \eta^2= 0,000$

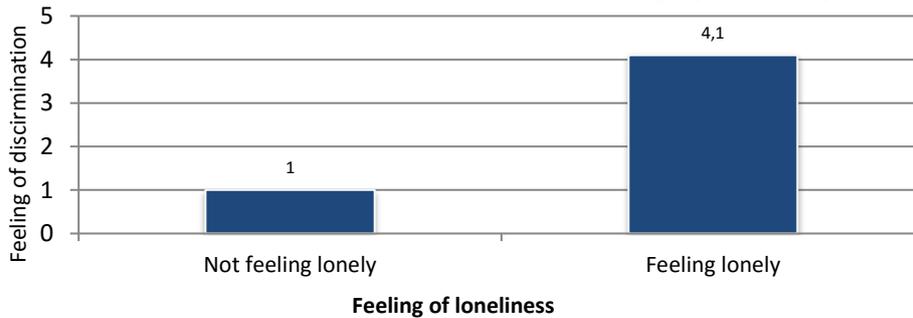
Figure 8.4.12. Percentage of men and women who felt discriminated by status of dependency with control for age and level of education



NOTES: main effect of gender  $F(1, 21609)=5,199, p<0,05, \eta^2= 0,000$ ; main effect of treatment  $F(1, 21609)=240,103, p<0,000, \eta^2= 0,011$ ; effect of interaction of gender and treatment  $F(1, 21609)=4,701, p<0,05, \eta^2= 0,000$ .

Figure 8.4.13. Share of persons who felt discriminated against due to their psychiatric or psychological treatment after verification for age and education

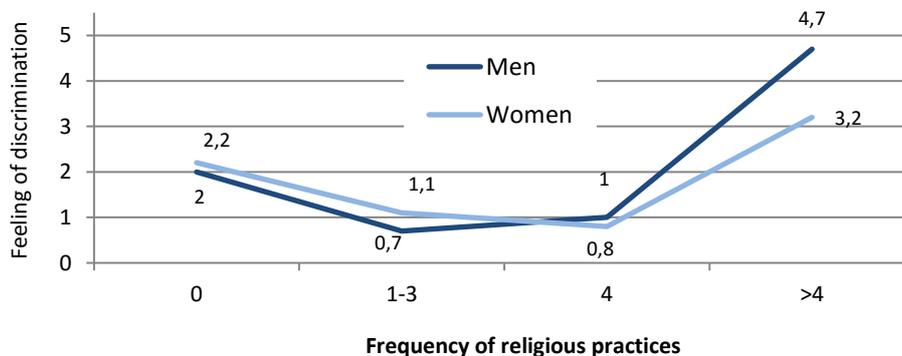
Also single persons more often feel discriminated against (Figure 8.3.14.). The latter feature might be however considered as yet another symptom of social ostracism. The feeling of being discriminated against is also the case for the socially excluded who, for reasons other than prejudice, have a similarly limited (or even more so) access to resources, institutions and social services than discriminated people (see chapter 8.5.).



NOTES: main effect of gender ni.; main effect of loneliness  $F(1, 21245)=181,944, p<0,000, \eta^2= 0,008$ ; effect of interaction of gender and loneliness n.s.

Figure 8.4.14. Percentage of persons who feel discriminated due to their sense of loneliness with control of age, gender and education

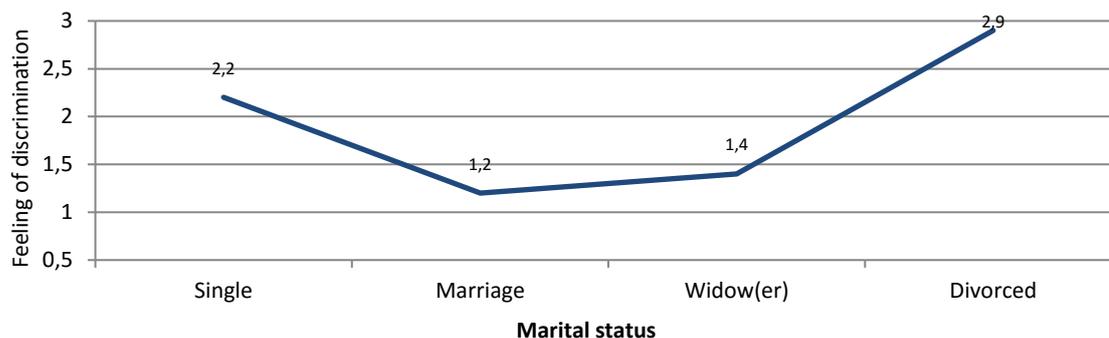
A separate category of persons who might be discriminated against in a country where most people are practising Roman Catholics are atheists and according to our categories, persons not participating in any religious practices. This is indeed the case. However, also the religiously devoted who go to church more often than four times a month are at a higher risk of discrimination, especially men (Figure 8.4.15.).



NOTES: main effect of gender ni.; main effect of practice  $F(3, 21520)=41,165, p<0,000, \eta^2= 0,006$ ; effect of interaction of gender and practice  $F(3, 21520)=3,189, p<0,05, \eta^2= 0,000$ .

Figure 8.4.15. Percentage of men and women who felt discriminated by frequency of religious practice per month with verification for age and education level

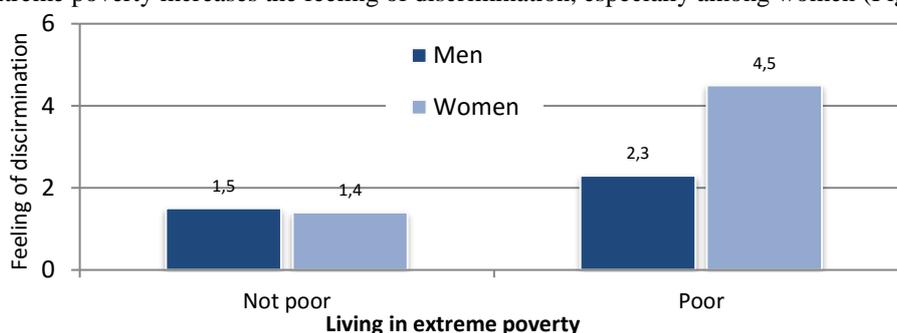
The ones that feel less discriminated (with control of age, education and gender) are married persons and widow(er)s, and the most frequently divorced persons (Figure 8.4.16.).



NOTES: main effect of gender n.s.; main effect of marital status  $F(3, 21549)=11,225, p<0,000, \eta^2=0,002$ ; effect of interaction of gender and marital status n.s.

Figure 8.4.16. Percentage of persons who feel discriminated due to their marital status with verification of gender, age and education

Also, the extreme poverty increases the feeling of discrimination, especially among women (Figure 8.4.17.).



NOTES: main effect of gender  $F(1, 19729)=4,649, p<0,05, \eta^2= 0,000$ ; main effect of poverty  $F(1, 19729)=13,753, p<0,000, \eta^2= 0,001$ ; effect of interaction of gender and poverty  $F(1, 19729)=4,831, p<0,05, \eta^2= 0,000$ .

Figure 8.4.17. Percentage of women and men who feel discriminated due to their life in extreme poverty with verification for age and education

The correlation between the feeling of being discriminated and the class of the place of residence is unclear (Figure 8.4.18.). The most often, the residents of the largest cities feel discriminated and the least the residents of rural areas. This outcome is even more unexpected, since in rural areas the social control over individuals is higher, which should result in more frequent stigmatization of those who upset norms and rules dominant in a given environment.



NOTES: main effect of gender n.s.; main effect of marital status  $F(3, 21549)=11,225, p<0,000, \eta^2=0,002$ ; effect of interaction of gender and marital status n.s.

Figure 8.4.18. Percentage of people who feel discriminated due to their class of place of residence, with verification for gender, age and education

The data from the *Diagnosis* prove that in Poland the main grounds for social discrimination are deviations from the majority standards in terms of alcohol, nicotine and drug addiction, psychological disorders, criminal offences, divorce, poverty, bad health condition and religious practices. On the other hand, disabled and women do not feel significantly discriminated against. This does not imply however that the latter groups are not objectively discriminated against in any way.

## 8.5. Types of social exclusion

The correlations between respective exclusion criteria such as those mentioned above (poverty, unemployment and social discrimination) are relatively weak. Therefore, it is difficult to indicate a single and coherent exclusion syndrome. An individual may be excluded from different dimensions of the social life due to various reasons. This has also been proved in a factor analysis involving ten quite obvious barriers to complete participation in the mainstream of society, such as old age, loneliness, poverty, living in rural areas, low level of educational attainment, alcohol or drug addiction, infringement of the law, sense of discrimination, disability and unemployment. In the first four waves of measurement in 2000, 2003, 2005 and 2007, these ten criteria coherently formed three orthogonal factors together explaining over 40% of the variances. In the last three editions a certain change in structure of factors was observed. Apart from the three factors identified earlier: i.e. physical, structural and normative exclusion, we indicated a fourth, which is strictly linked with unemployment and poverty. It can be referred to as material exclusion resulting from the lack of permanent income from work (Table 8.5.1.). Indeed, the largest share of materially excluded households (over 45% in comparison with the population of 7.4%) is the group of households living on passive sources of income (Figure 8.5.3.).

From the beginning of social exclusion studies, poverty and unemployment have been considered the main barriers preventing full participation in social life. Most attention has been paid to these problems, as it has been assumed that combating unemployment and poverty should constitute the principal aim of social reintegration policy. The fact that material exclusion is at present one of four distinct types of exclusion in Poland suggests the need to diversify reintegration policy so that it could include other grounds for exclusion which are independent of labour market situation and material living standards and which require separate instruments addressed to the less educated, rural area inhabitants, the disabled, alcohol and drug addicts as well as those who break the law. Therefore, full employment and elimination of poverty does not imply that the problem of social exclusion is solved.

Let us see the extent of exclusion and the risk of exclusion for reasons other than unemployment and poverty in the entire society and across different social groups.

*Table 8.5.1. Results of factor analysis (factor loadings) of chosen criteria of exclusion with varimax rotation between 2013 and 2015*

Criteria	Factors								
	physical		structural		normative		material		
	2013	2015	2013	2015	2013	2015	2013	2015	
50+ years of age	0.72	0.72							
Disability	0.71	0.68							
Loneliness	0.41	0.45							
Residence in rural areas			0.81	0.81					
Below middle education			0.73	0.76					
Addiction (alcohol, narcotics)					0.65	0.69			
Conflict with the law					0.72	0.69			
Sense of discrimination					0.53	0.43			
Poverty							0.70	0.75	
Unemployment							0.77	0.73	
% variance explained	14.41	14.69	12.85	12.57	14.97	13.74	10.26	10.54	

NOTE: factor readings above 0.4 only

### 8.5.1. The range of exclusion in various social groups

It is difficult to fully define objective limits of exclusion, just as it is difficult to define the true and universal level of poverty (apart from the obvious criteria of biological survival). Both are relative in character - one can be more or less poor compared to the general living standard of society and one can be more or less socially excluded. For the poverty sphere, a certain income level was accepted (see chapter 8.1.). However, for exclusion the most important criterion is the level of social differentiation of barriers or risk factors. The operational measure of differentiation is standard deviation. In applying this gauge in relation to four types of exclusion, we identified two limiting values - threat of exclusion and exclusion itself. For the exclusion line we took the size of two standard deviations from the norm of the factor defining the given type of exclusion, and for the threat of exclusion, the size of one standard deviation. Because these criteria are relative, it is difficult to estimate what percentage of Poles is actually excluded or in danger of exclusion. However, it is possible to show which groups in various socio-demographic sections are characterized by greater or lesser degrees of exclusion or threat of exclusion (Table 8.5.2. and 8.5.5.).

The greatest percentage of Poles of 16 years of age and more is under risk of structural and physical exclusion (12.6% and 10.5% respectively, Table 8.5.2.), but the most exclusions have a material cause (7.4%). Only in the case of material exclusion there are less under threat of exclusion than those actually excluded. For structural exclusion, the relation of the excluded to those under threat is the greatest (22.6% to 1.3%), which indicates that as far as reintegration policy is concerned, combating unemployment and associated poverty ought to be priority measures, as in the case of this kind of exclusion, almost all those under threat of exclusion are in fact already excluded.

The risk of specific types of exclusion is slightly different for men and women (Table 8.5.2.). For men, the greatest is the risk of material and normative exclusion, while for women it is material and physical.

As far as socio-economic groups are concerned, material exclusion is the most frequent among households subsisting on unearned income sources (45% are excluded and 12% under threat, Table 8.5.3.). Also, normative exclusion affects and endangers mainly households subsisting on unearned sources, but also those who are self-employed. Structural exclusion most threatens, which is no surprise due to the nature of the defining criteria, households of farmers, and physical exclusion affects pensioners and those receiving welfare benefits. Households of receivers of welfare benefits and those living on unearned sources are most under threat of general social exclusion for whatever reason and the least under threat are households of employees and the self-employed.

Table 8.5.2. Percentage of persons under threat of exclusion and the excluded by type of exclusion and gender

Gender	Exclusion type							
	physical		structural		normative		material	
	threat	exclusion	threat	exclusion	threat	exclusion	threat	exclusion
Men	8.8	4.7	26.7	1.3	9,6	6,7	0,2	7,1
Women	11.0	4.8	21.7	0.3	2,5	3,5	0,1	7,9
General	9.9	4.8	24.0	0.8	5,8	5,0	0,1	7,5
Chi-square,	25; 0.000		134; 000		580; 0.000		5; ni	

Table 8.5.3. Percentage of persons under threat of exclusion and the excluded by type of exclusion and socio-economic household group

Socio-economic group	Exclusion type							
	physical		structural		normative		material	
	threat	exclusion	threat	exclusion	threat	exclusion	threat	exclusion
Employees	5.4	1.5	19.2	.8	6,8	5,8	0,2	6,7
Farmers	6.4	1.7	58.3	1.5	5,9	3,0	0,0	7,9
Entrepreneurs	4.9	1.4	15.7	1.0	8,9	5,9	0,2	3,7
Retirees	18.8	10.5	24.5	.3	3,2	2,9	0,1	3,2
Receivers of welfare	22.7	20.0	32.2	1.2	3,5	4,5	0,0	16,3
Unearned income	19.4	7.0	29.2	.8	7,3	8,0	0,2	44,3
Chi-square,	2288; 0.000		1136; 0.000		199; 0.000		1455; 0.000	

In terms of household type (Table 8.5.4.), absolutely the most at risk of physical exclusion are people from single person households without families (mainly pensioners), couples without children (also largely pensioners) and non-family multi-person households (also households of elderly relatives). Structural exclusion mostly threatens couples with three or more children, incomplete families and multi-family households. This means that in this kind of household, there is an especially low level of cultural capital (low education). The risk of normative exclusion is greatest in incomplete families and in households of couples with 2, 3 or more children (this mainly concerns children covered by our study of 16+ years of age). Also, material exclusion most often reaches couples with 3 or more children and incomplete families, while the general threat of exclusion most concerns non-family, incomplete family and many children households.

In terms of voivodship, physical exclusion occurs most often in Lubuskie and Małopolskie (Table 8.5.5.). Structural exclusion and its threat is most widespread in the east of the country, especially in Lubelskie, Podkarpackie, Świętokrzyskie and Małopolskie. The greatest percentage of normatively excluded is in Podkarpackie, Śląskie and Kujawsko-Pomorskie, and of materially excluded in Kujawsko-Pomorskie and Lubelskie. Generally, the differentiation of exclusion risk in terms of voivodship is relatively small, and much smaller than for socio-economic group and household type.

Table 8.5.4. Percentage of persons under threat of exclusion and the excluded by type of exclusion and household type

Household type	Exclusion type							
	physical		structural		normative		material	
	threat	exclusion	threat	exclusion	threat	exclusion	threat	exclusion
Married with no children	12.4	8.2	20.0	0.4	4.7	3.0	0.1	3.9
Married with 1 child	6.4	2.9	19.9	0.6	6.2	4.9	0.1	6.3
Married with 2 children	4.0	.8	20.4	0.9	6.4	5.4	0.1	7.4
Married with 3+ children	4.6	1.5	33.4	1.3	5.8	4.4	0.2	12.6
Unmarried without children	3.2	1.6	4.8	0.0	15.7	11.9	0.0	5.4
Unmarried with children	2.6	1.6	14.9	1.3	9.7	5.5	0.6	16.9
Incomplete family	13.8	6.2	25.4	0.6	5.3	7.8	0.3	12.3
Multi-family without children	11.1	5.2	25.4	3.7	7.5	6.0	0.0	3.7
Muti-family with children	6.4	2.9	43.6	1.4	6.0	3.4	0.3	8.2
Non-family single-person	27.9	13.4	17.7	0.4	4.3	5.1	0.0	4.3
Non-family multi-person	16.3	4.8	16.3	0.0	6.2	12.9	0.0	12.0
Chi-square	1971; 0.000		837; 0.000		221; 0.000		309; 0.000	

Table 8.5.5. Percentage of persons under threat of exclusion and the excluded by type of exclusion in terms of voivodship

Voivodship	Exclusion type							
	physical		structural		normative		material	
	threat	exclusion	threat	exclusion	threat	exclusion	threat	exclusion
Dolnośląskie	12.2	4.2	16.7	0.4	7.1	3.7	0.1	6.8
Kujawsko-pomorskie	12.1	5.1	26.0	0.6	5.3	3.2	0.5	11.8
Lubelskie	10.5	4.7	34.0	0.9	5.6	3.7	0.0	10.3
Lubuskie	12.8	9.1	20.6	2.5	9.5	7.9	0.2	5.9
Łódzkie	9.6	5.6	21.0	0.5	4.8	5.2	0.1	9.7
Małopolskie	8.6	4.8	31.3	0.6	4.7	3.2	0.0	5.4
Mazowieckie	10.1	4.4	22.2	0.4	6.0	5.9	0.1	5.4
Opolskie	11.2	3.4	29.9	0.9	5.2	6.2	1.0	9.3
Podkarpackie	10.8	4.7	34.3	0.6	4.8	4.0	0.0	12.2
Podlaskie	9.7	3.7	21.4	0.9	9.1	4.8	0.0	9.4
Pomorskie	8.9	6.0	20.7	0.5	7.4	6.5	0.0	5.4
Śląskie	9.1	3.5	13.2	0.6	6.3	6.2	0.0	5.1
Świętokrzyskie	8.2	6.6	30.8	1.3	5.3	4.3	0.0	8.4
Warmińsko-mazurskie	8.3	4.7	28.4	0.8	3.9	2.7	0.0	10.4
Wielkopolskie	9.9	5.5	27.3	1.7	5.1	4.6	0.2	6.5
Zachodniopomorskie	8.8	3.5	21.8	0.0	5.3	7.0	0.0	8.4
Chi-square, significance	86; 0.000		492; 0.000		132; 0.000		226; 0.000	

### 8.5.2. Exclusion, psychological well-being and coping skills

The factors of exclusion risk are a potential threat to social order. Concerns like a high rate of unemployment, level of disability and high rates of crime and poverty cannot be ignored by any responsible politician. This does not however automatically mean the negative influence of exclusion defined by these factors on the subjective quality of life (psychological well-being). The unemployed, poor, disabled and criminals are not necessarily less happy, more depressed and less well motivated for life than the employed, rich, able-bodied and law-abiding citizens. Indeed, world studies show that the objective conditions of life have a minor effect on psychological well-being (Andrews, Withey, 1976, Campbell, Converse, Rodgers, 1976; Czapiński, 1992, 2009, 2004; Diener, Biswas-Diener, 2008; Myers, 1993). The poor turn out to be only slightly less happy than the rich, the elderly are just as happy as the young and the educated are on average only slightly more satisfied than the uneducated. Only marital status and health (though only subjectively, not however an objective medical diagnosis) consistently and clearly determine level of psychological well-being. People living alone, especially the widowed and divorced, and those who consider themselves infirm, are much less happy than those who are married and feel healthy. As far as government can increase the feeling of health security and thus the amount of citizens who are happy with their health, so small an influence do they have on interpersonal relations and the marital status of citizens. Equally they have a small potential influence on citizens' sense of happiness.

Also changes in life situation do not often result in a lasting change in psychological well-being. For example, in the USA, Japan, Great Britain and the majority of other developed countries, the sense of happiness and satisfaction with life have not changed for decades despite continuous economic growth<sup>100</sup>.

However, in Poland the relationship between the objective conditions of life and psychological well-being is a lot stronger than in other, more wealthy countries (Czapiński, 1996, 2012). One can therefore expect that social exclusion is going to have a considerable effect on the subjective quality of life here, and to ascertain this, we calculated with the aid of multiple regression equations the value of predictive factors defining three types of exclusion for different gauges of psychological well-being.

In terms of general subjective well-being, all three factors have a similar, and quite large, meaning for all six readings and together explain from 15% to 35% of variation in 2013 depending on the indicator of well-being, with the greatest being physical, and the next material exclusion (Table 8.5.6.). In terms of will to live (suicidal tendencies and desire for life), the main predictors are physical and normative exclusion, and the smallest is structural exclusion. The strong link between psychological depression and physical exclusion results from the high correlation of depression indicator and age (see chapter 5.3.), which makes up one of the main indicators of physical exclusion.

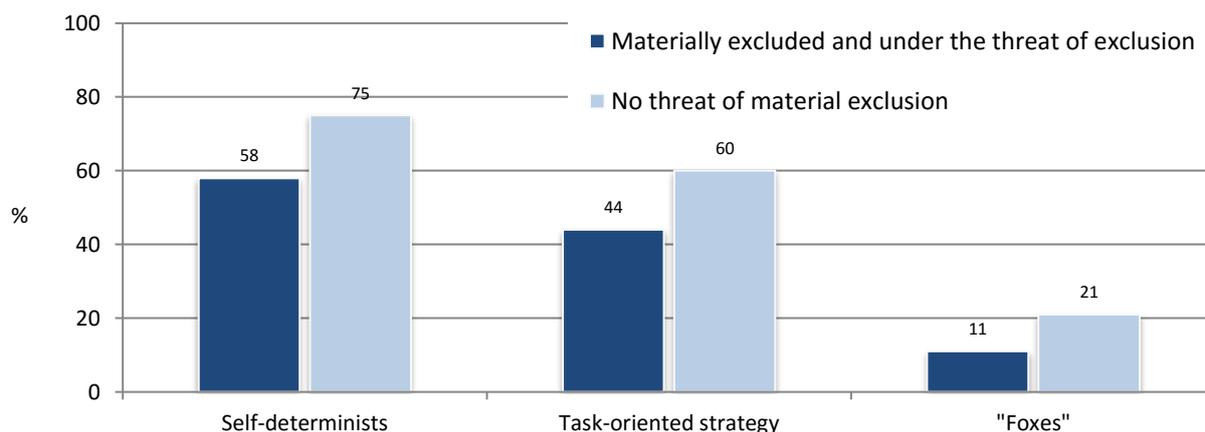
Table 8.5.6. Results of multiple regression analysis of four types of exclusion as predictors of three psychological well-being indicators

Predictor	Will to live			General subjective well-being			Depression		
	Beta	p	R <sup>2</sup>	Beta	p	R <sup>2</sup>	Beta	p	R <sup>2</sup>
Normative	-0.279	0.000		-0.226	0.000		0.049	0.000	
Physical	-0.237	0.000		-0.365	0.000		0.614	0.000	
Structural	-0.032	0.025		-0.063	0.000		0.091	0.000	
Material	-0.140	0.000		-0.212	0.000		-0.004	0.504	
			0,155			0,233			0,387

The socially excluded are, with a certain exception discussed below, less able to cope with life. We have taken various indicators of coping: self-determinism (see chapter 5.6.), the task based strategy for dealing with problems (see chapter 5.8.) and entrepreneurship, known as also the "fox" strategy (Czapiński, Wojciszke, 1997), or the undertaking of at least one of four activities supposed to increase income (Appendix 1, individual questionnaire, questions 30-33). Figures 8.5.1.-8.5.4. show the relations between these four types of exclusion.

The materially excluded<sup>101</sup> are more rarely self-determined than the non-excluded, and they more rarely apply task-based strategy or belong to the "foxes" (Figure 8.5.1.).

The physically and structurally excluded are very similar to the materially excluded in terms of coping with life; they are less likely to be self-determined, use task-based strategy or belong to the "foxes" (Figures 8.5.2., 8.5.3.).

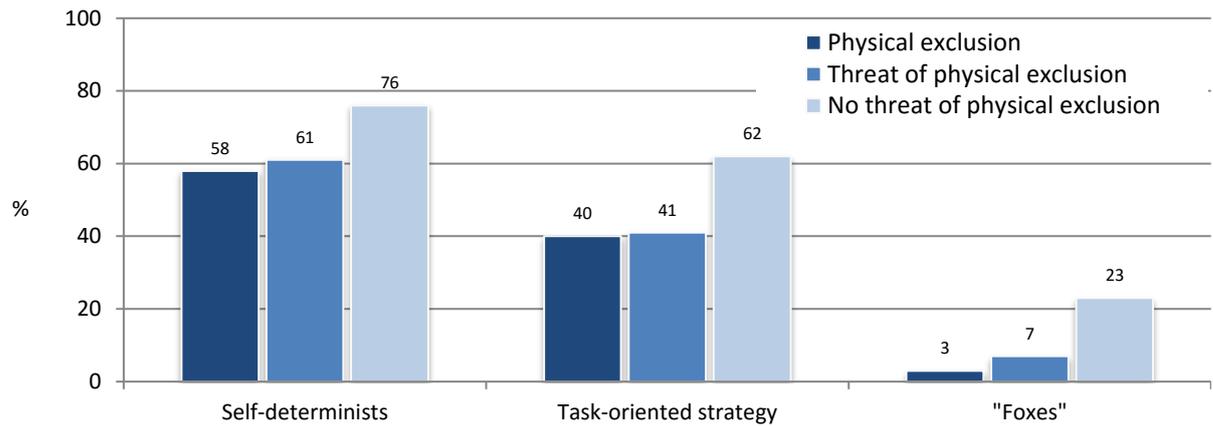


NOTES: main effect of material exclusion: for self-determinists  $F(1, 18764)=193,977, p < 0,000, \eta^2 = 0,010$ ; for task-oriented strategy  $F(1, 18733)=179,891, p < 0,000, \eta^2 = 0,019$ ; for "foxes"  $F(1, 19037)=93,770, p < 0,000, \eta^2 = 0,005$

Figure 8.5.1. Percentage of self-determinists using the task-oriented and emotional strategy, betting and „foxes” among materially excluded and non-excluded persons with verification for gender and age

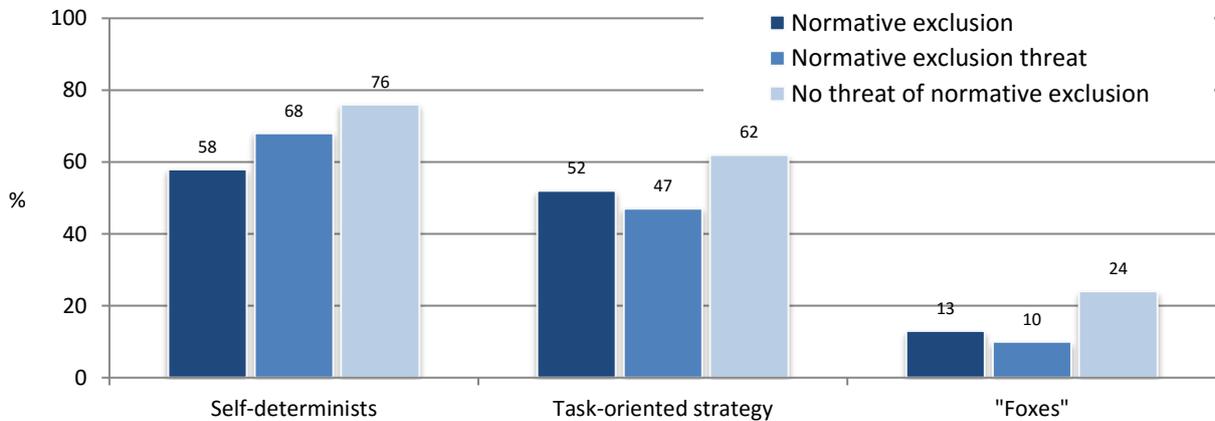
<sup>100</sup> It is worth remembering that economic growth is not the only indicator of social development. In addition, it is more and more frequently criticised.

<sup>101</sup> Due to the small number of persons under the threat of material exclusions, we joined them with the excluded group.



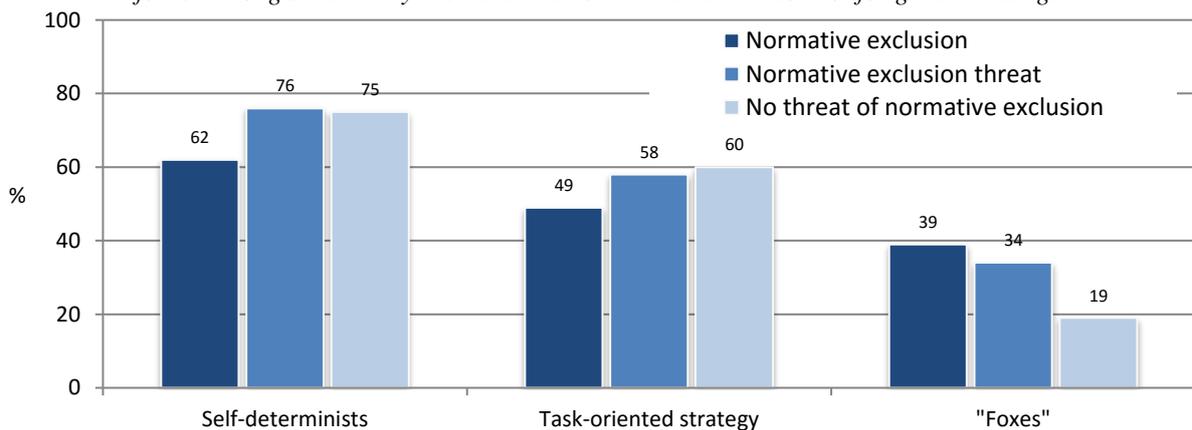
NOTES: main effect of physical exclusion for: self-determinism  $F(2, 18762)=150,947, p < 0,000, \eta^2= 0,016$ ; for task-oriented strategy  $F(2,22202)=58,260, p < 0,000, \eta^2= 0,005$ ; for "foxes"  $F(2, 19036)=226,258, p < 0,000, \eta^2= 0,023$ .

Figure 8.5.2. Percentage of self-determinists using the task-oriented coping strategy and "foxes" among structurally excluded and non-excluded with control for gender and age



NOTE: main effect of structural exclusion: for self-determinism  $F(2, 18762)=56,787, p < 0,000, \eta^2= 0,006$ ; task-oriented strategy  $F(2, 18731)=170,669, p < 0,000, \eta^2= 0,018$ ; "foxes"  $F(2, 19035)=204,354, p < 0,000, \eta^2= 0,021$

Figure 8.5.3 Percentage of self-determinists using the task-oriented coping and emotional strategy, betting and "foxes" among structurally excluded and non-excluded with control for gender and age



NOTE: main effect of normative exclusion: on self-determinism  $F(2, 18762)=34,799, p < 0,000, \eta^2= 0,004$ ; for task-based strategy  $F(2, 18731)=19,394, p < 0,000, \eta^2= 0,002$ ; "foxes"  $F(2, 22435)=96,425, p < 0,000, \eta^2= 0,008$

Figure 8.5.4. Percentage of self-determinists using the task-oriented coping strategy and "foxes" among the normatively excluded and non-excluded with control for gender and age

The normatively excluded clearly differ from the other types in terms of entrepreneurship as they belong to the group of "foxes" much more often (Figure 8.5.4.). The different nature of this normative exclusion profile is also confirmed in terms of social functioning (see above).

### 8.5.3. Social functioning and quality of life of the excluded

Irrespective of whether exclusion from the community or threat of exclusion causes suffering or lowers psychological well-being, it is better that there are as few excluded as possible. It is better for the community, its coherence, standard of life and opportunities for development. It is generally accepted as a certainty that the fewer excluded, the better the social integration and the stronger the community. In Poland, as we have already indicated in chapter 6.3, all is not well with the attitudes and behaviours that make up social capital conditioning the strength of civil society. The question arises whether the excluded can in this context come out even worse and can they have even less, compared to the whole of society, a positive attitude to democracy, an even lower trust in others and even less value the public good. Are the excluded a worse kind of citizen?

It turns out that the exclusion, especially the structural exclusion, linked to low education and residence in rural areas, go together with higher level of prejudices and lower sensibility to disturbing the common good as well as the lower number of social contacts outside home and seldom participation in culture events (Table 8.5.7.). The exception is normative exclusion, as those excluded or in danger of exclusion due to conflict with the law and dependence on alcohol or drugs differ fundamentally from groups under threat from other types of exclusion. As far as physical and structural exclusion limits social life and participation in cultural events, the normatively excluded often attend social meetings, more often go out to eat and slightly more often go to the cinema, theatre or concerts. They also more often than other excluded and non-excluded groups express the readiness to go abroad in search of work and less often go to church. Material exclusion limits social activity and participation in the life of the religious community. All forms of exclusion increase the level of social domination and – apart from the normative exclusion – increase the level of prejudice<sup>102</sup>. Exclusion, especially the physical kind, drastically lowers the general quality of life<sup>103</sup>

Table 8.5.7. Correlation of four types of social exclusion with indicators of quality of life, social capital, sensitivity to the common good, frequency of participation in religious ceremonies and social attitudes and behaviours and the intention to emigrate

Indicators of quality of life	physical	structural	normative	material
Quality of life	-0.26**	-0.44**	-0.18**	-0.15**
Social well-being	-0.19**	-0.28**	-0.01	-0.07**
Sensitivity to the common good	-0.01	0.01	-0.12**	-0.06**
Participation in religious ceremonies	-0.10**	0.07**	0.11**	-0.09**
Prejudice	0.00	0.05**	0.16**	0.02**
Positive attitude to democracy	0.07**	-0.10**	-0.08**	-0.07**
Domination	0.02*	0.03**	0.05**	0.02*
Intention to emigrate	0.14**	-0.09**	-0.01	-0.07**
Going to the cinema, theatre or concerts	0.08**	-0.11**	-0.10**	-0.05**
Going to restaurants, cafes or pubs	0.17**	-0.13**	-0.13**	-0.03**
Going to social meetings	0.15**	-0.13**	-0.07**	-0.02*

\* p<0,05; \* p<0,01

Different conditions of exclusion demand different programmes of social integration. It is necessary to do one thing to limit the extent of physical exclusion (mainly of the disabled and the elderly), and another to counter normative exclusion linked to crime and addiction. Dealing with structural exclusion would require the faster civilising of the Polish countryside, and countering material exclusion considerable spending on reducing the sphere of extreme poverty and the activation of the professionally unemployed. There is no one recipe for an effective programme of social integration. Fortunately, number of areas of exclusion are being reduced rapidly such as mainly low education. Indicators of crime are also falling but others of addiction are unfortunately on the rise (especially alcohol). Ahead of us there is a great danger connected to demography, the aging of society and the rise of the share of disabled in society. Therefore, a programme of integration is necessary directed above all at physical exclusion. The most effective action in this area seems to be pro-family policy favouring childbirth and intergenerational solidarity, as well as more effective rehabilitation and professional activation of the disabled and persons over 50.

<sup>102</sup> The indicator of prejudice here is denying homosexuals the right to live according to their convictions and a negative attitude to foreigners (Annex 1, individual questionnaire, questions 57.8 and 57.10).

<sup>103</sup> See chapter 9 for a discussion of how the indicator is made up.

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## 9. THE QUALITY OF LIFE IN POLAND - WINNERS AND LOSERS

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### Abstract

The article is a summary of the Social Diagnosis research project within the scope of the dimension of individual resourcefulness of Polish people, the general quality of life indicator in various social groups and economic stratification layers.

### 9.1. A plus for the Pole, a minus for the Poles

Polish people were getting richer between 2002 and 2012 in a rate slightly slower than the GNP increase<sup>104</sup>, but in the last two years the increase in income of equivalent households, after a slow decrease in 2012, is equal to the GNP increase (Figure 9.1.1.). It means that the GNP share of remunerations is increasing. At the same time, satisfaction with family budget (see chapter 5.2.) is increasing, and the percentage of households whose budget is not enough to satisfy the needs is decreasing (Table 9.1.1.). The resourcefulness of Poles allows them to improve their own existence, without the need to take others into consideration and regardless of the society's state. An illustration of this "divorce" between citizens and their country is a comparison between the evaluation of the state in the country with the percentage of respondents who live in households where the basic income is not enough to satisfy current needs (Table 9.1.1.). Even though there is a systematic improvement of individual existence (the number of poor households is almost four times lower than in 1992), we are still unsatisfied with the situation in the country (as always, since the beginning of the transformation, it is the lowest indicator of satisfaction from 16 various aspects of life – see chapter 5.2.). And even though the percentage of persons satisfied with the situation in the country is over three times greater than in 1992, there is no correlation between the material situation and satisfaction with the situation in the country. For example, in 1997, there was the same number of persons satisfied with the situation in the country as in 2011, even though the percentage of households in which the income allowed them to satisfy their needs increased almost twice. It shows the road Polish people went through to increase their quality of life and the road Poland went through in accordance to its residents. We develop molecularly, not as a group (Czapiński, 2008). The key reason for that is supposedly no social capital (Czapiński, 2011b).

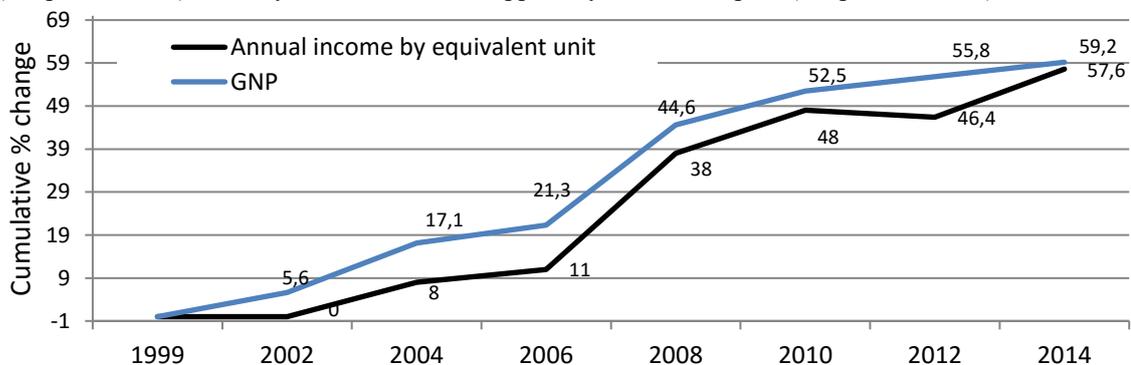


Figure 9.1.1. Cumulative percentage real value change in annual household income per equivalent unit and GDP and state budget between 1999 and 2014

Table 9.1.1. Percentage of households declaring that their stable income does not cover current needs, and percentage of Poles satisfied with the situation in the country in 1992-2015

Indicator	1992	1993	1994	1995	1996	1997	2000	2003	2005	2007	2009	2011	2013	2015
Share of households with income too low to cover current needs	70.6	74.2	68.8	64.5	64.8	66.2	46.7	42.3	37.0	30.2	28.0	25.7	24.8	19.0
Share of satisfied with the situation in the country	9.4	8.2	11.2	16.4	20.1	25.7	19.7	14.1	12.6	19.3	27.0	26.0	23.5	31.0

Source: 1992-1997 — Czapiński, 1998; 2000-2015 — Social Diagnosis.

The increase of individual resourcefulness is not accompanied by an increase of cooperative skills (see chapter 6.3.). We do not learn to cooperate because we do not trust other people, we only make an exception to our family members, and sometimes, neighbours. In general, we do not trust institutions as well (with the exception of the National Bank of Poland) (Figure 9.1.2.).

<sup>104</sup> The data concern monthly income per equivalent unit from the year preceding the survey (2014).

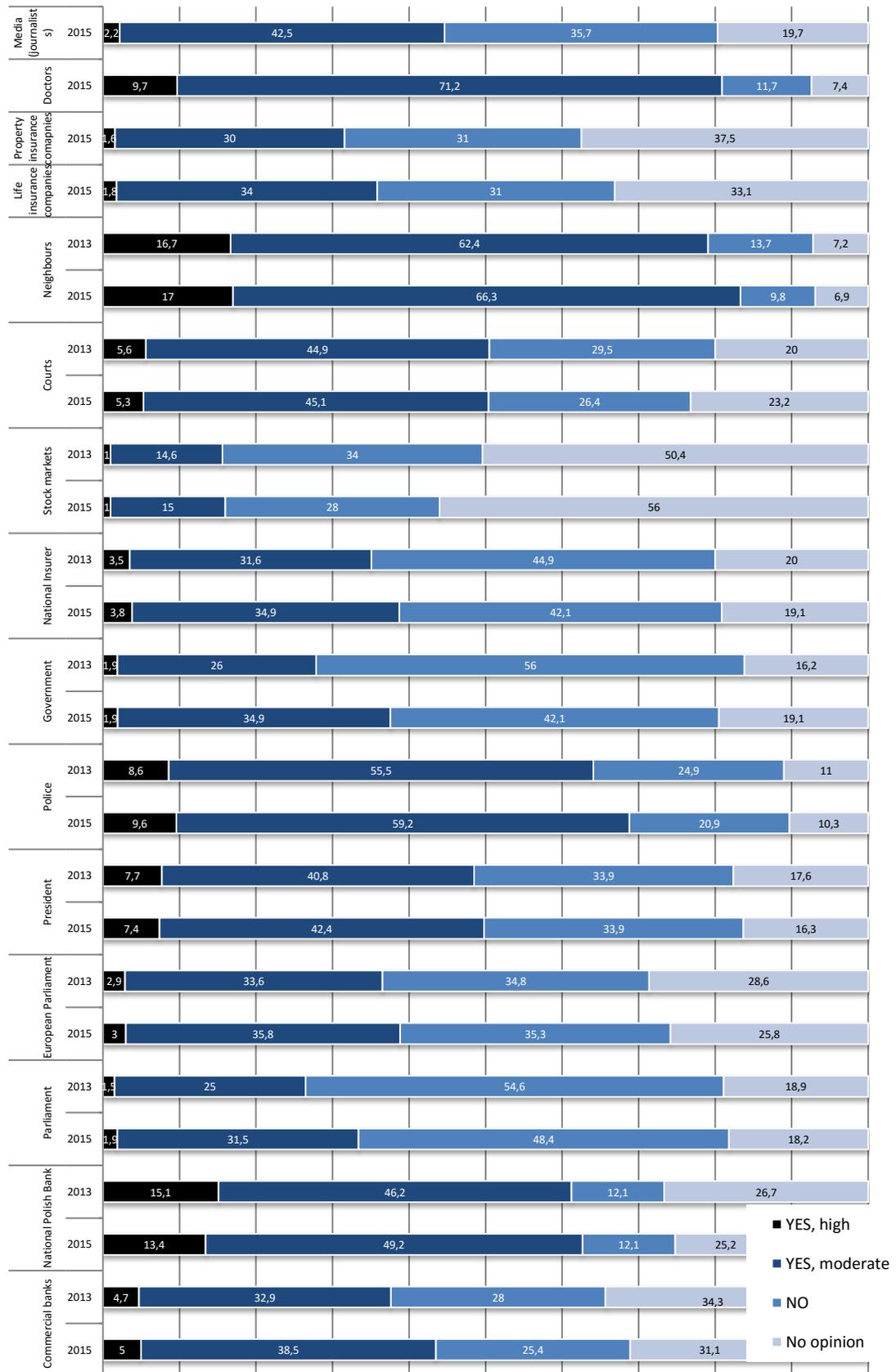
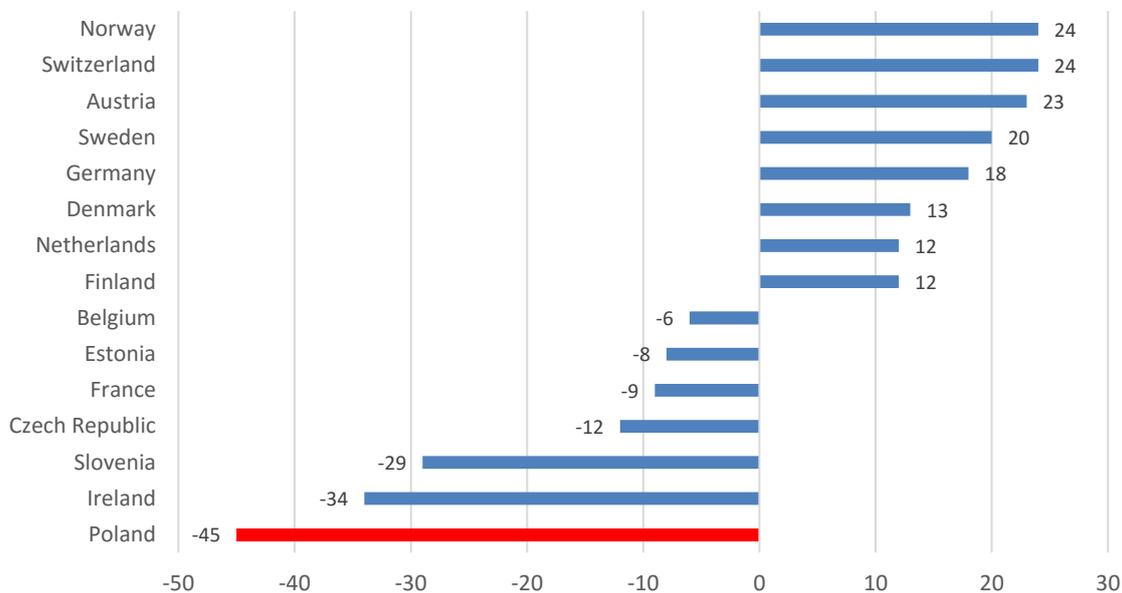


Figure 9.1.2. Percentage declaring trust in various institutions and persons

Poland, after Bulgaria, is an EU Member State where the difference between confidence in the European Parliament and in the national legislative body is the greatest in favour of the former.<sup>105</sup> In 2014, within the group of 15 countries participating in *European Social Survey* Poland holds the first position – the confidence in the national Parliament is less than half of the confidence in the European Parliament. It is also alarming that in social groups which have or will have a decisive influence on the development of the country i.e. among residents of large agglomerations, young people and the well-educated, the hiatus between confidence in national and European authorities is the greatest (Figure 9.1.14.).



NOTES: source: *European Social Survey 2014*; the trust was measured using an 11-point scale (0- no trust, 10- full trust); the indicator's construction: (trust for the national parliament – trust for the EU parliament)/trust for the national parliament\*100.

Figure 9.1.3. The percentage difference between trust for the national and the EU Parliament (a minus means higher trust for EU Parliament than for the national parliament)

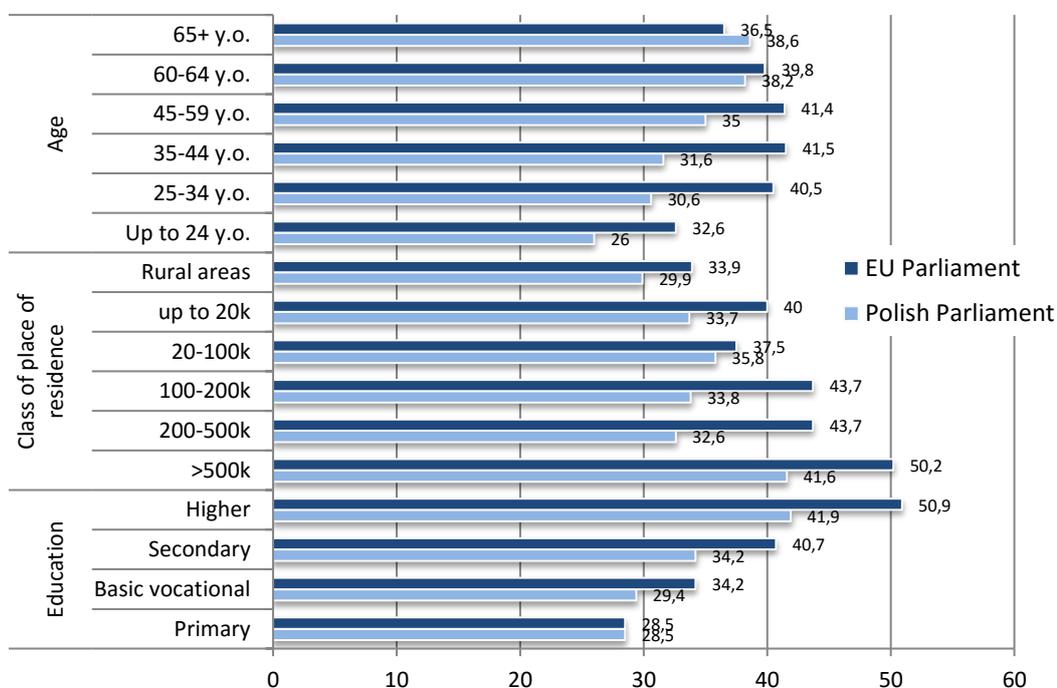


Figure 9.1.4. Trust in Polish and European Parliaments in various socio-demographic groups

<sup>105</sup> In all of the new EU member states, the citizens trust more in the European Parliament than in the parliament in their own state, as opposed to most of the states of the “old” EU (*European Social Diagnosis 2012*).

If we want to - and in our opinion we should - develop collectively, we urgently need to introduce a special subject, provisionally called civil skills in schools and perhaps even already in kindergartens. Young Poles have a fairly good knowledge of society and in this respect they win international ranks, but at the same time they are last in the same ranks in terms of applying civil knowledge in practice. They do not know how to get organised, to cooperate, they do not get involved in volunteer activities and they as “molecular” as their parents (see [www.szkolabezprzemocy.pl](http://www.szkolabezprzemocy.pl)). Thus, they do not need classes in the standard lecture-and-textbook form, but rather such forms of education (or actually upbringing) that will show them the real benefits that come with “taking the risk” of cooperation. Without serious investments in social capital we may forget the dreams of thousands of kilometres of motorways as well as these related to a sovereign innovative economy.

Apart from schools, there are also two other milieus where one could successfully persuade fellow citizens to trust more and to cooperate; i.e. public administration offices and enterprises. Regarding offices, legal regulations and the culture of officials are the key issues. The regulations followed by officers are designed to counter potential fraud, making it impossible to stop the vicious circle of distrust. Obviously, many enterprises appreciate the value of social capital, yet most do not know how to build it. This calls for training advisors and trainers in this particular respect, HR on its own will not suffice.

## 9.2. Quality of life of various socio-demographic groups

It is worth concluding with one general question: how varied are Poles' living conditions and their quality of life today and how has this variation changed in the past years? Is society becoming more deeply or less stratified? For who is life easier and for who is it more difficult? Are the weak becoming even weaker and the strong even stronger?

Let us see how the multi-dimensional quality of life, which covers the most important indicators discussed separately in the chapters above, stratifies Polish society today. Can we speak of straightforward winners and losers, how big are the differences between them, and are these differences getting bigger or smaller in different dimensions of the quality of life?

When designing synthetic indicators of the quality of life, we endeavoured to strike a balance between objective and subjective indicators, as well as to take possibly the widest spectrum of various aspects into account. We distinguished eight dimensions assumed to cover independent content areas, which served to build up a general synthetic indicator of the quality of life:

- **social capital** - activity for the benefit of the local community, participation in elections in 2014 (2013 participation in parliamentary elections in 2011, in 2011 participation in elections in 2010, 2009 participation in parliamentary elections in 2007, in 2007 participation in parliamentary elections and participation in the EU referendum in 2005), participation in non-obligatory meetings, positive attitude to democracy, membership in organisations and serving functions in them, the belief that most people can be trusted;
- **psychological well-being** - sense of happiness, assessment of life-as-a-whole, incidence of mental depression symptoms, assessment of the past year;
- **physical well-being** - incidence of somatic symptoms, serious disease in the past year, degree of disability, intensity of health-related stress;
- **social well-being** - lack of the feeling of loneliness, a sense of being loved and respected, number of friends;
- **civilisation level** - educational level, ownership of modern communication devices and familiarity with them (satellite or cable TV, laptop, desktop computer, mobile phone, Internet connection, computer skills, Internet use), active command of foreign languages, driving license;
- **material well-being** - household income per equivalent unit, number of goods and appliances owned, ranging from automatic washing-machine to a motorboat or summer house (excluding appliances included in the civilisation level indicator);
- **stress in life** - a sum of six categories of stress measured by experiences related to finance, work, liaison with public administration offices, bringing up children, the marriage relationship, environmental protection (home, surroundings);
- **pathology** - alcohol abuse and drug use, smoking, consulting a psychiatrist or psychologist, being a criminal or victim of crime (burglaries, assaults, thefts).

Each partial indicator was a sum of standardised component variables, each of the latter measured on a different scale. Partial indicators were then standardized themselves and the sum of their standardized values formed the general indicator of the quality of life, which in turn was also standardized at the end. In such a form,

these indicators are relative in nature and only show the position of particular groups and individuals in relation to the average of the sample.

Before we go on to discuss social differences in the general indicator of the quality of life, let us see to what extent partial indicators correlate with one another, whether they form one coherent syndrome or whether, similarly to exclusion indicators, they constitute several relatively independent factors which make it possible for individuals and social groups to compensate for shortages in one area with a better position in other areas.

Factor analysis with varimax rotation reveals two independent explanatory factors in five waves, which together explain a total of approximately 50% of variance in partial indicators (Table 9.2.1.). The first factor, which explains the greatest proportion of variance (approx. 30%), may be described as civilisation-related living conditions (shortened to living conditions); these are mainly defined by the civilisation level and material well-being, but they also include social capital, physical well-being and psychological well-being. The other factor, which explains 18% to 19% of variation, is lifestyle mainly defined by stress in life, social well-being and pathology. It shares two aspects with the category of living conditions, namely psychological well-being and physical well-being. Thus, (mental and physical) health is determined both by living conditions and by lifestyle.

This pattern of results confirms the statement that there is no single dimension of the quality of life in Poland at present. Thus, the less well-off are not very modern and show little social activity, but may nevertheless enjoy other favours of fate: absence of pathology, little stress and considerable social support.

If we exclude two dimensions from the factor analysis, which are the same for the level and style of life (physical and psychological well-being), we will receive a two-factor solution, similar to the previous one (Table 9.2.2.). The only difference is that the „lifestyle” factor is reversed now: the higher the value, the less positive the lifestyle (it is negatively correlated with physical –  $r=-0,17$  and psychological well-being –  $r=-0,35$ ). Those factors are related to many socio-demographic and psychological variables. The quality of life is higher in case of men than women and self-determinists than fatalists, it decreases with age and increases with the size of the city and frequency of religious practices, it is higher in case of married and religious people, lower in case of conservative and authoritarian people, lower in case of people living in non-family households and in single-parent families (Table 9.2.3., Figure 9.2.1.-9.2.4.). Women, elderly persons, people living in small towns and villages, people not living in a marriage, self-determinists, religious, non-authoritarian and non-conservative people have a more positive lifestyle (Table 9.2.4., Figures 9.2.5.-9.2.8.).

Table 9.2.1. Results of 8-factor analysis with varimax rotation for aspects of quality of life

Aspects of quality of life	Factor loadings									
	Standard of living					Lifestyle				
	2015	2013	2011	2009	2007	2015	2013	2011	2009	2007
Civilisation level	0.838	0.854	0.848	0.851	0.845					
Material well-being	0.721	0.749	0.747	0.742	0.720					
Social capital	0.541	0.524	0.461	0.497	0.481					
Physical well-being	0.456	0.413	0.492	0.508	0.514	0.461	0.466	0.449	0.441	0.422
Psychological well-being	0.597	0.558	0.604	0.619	0.609	0.603	0.622	0.607	0.592	0.599
Social well-being						0.586	0.442	0.577	0.595	0.628
Life stress						-0.690	-0.720	-0.690	-0.659	-0.673
Pathologies						-0.564	-0.553	-0.546	-0.547	-0.524
Percentage of explained variance	31.7	30.2	31.2	31.8	30.4	18.3	18.2	18.7	18.2	18.4

NOTE: factor-loadings over 0.4 only.

Table 9.2.2. Results of 6-factor analysis with varimax rotation for aspects of quality of life

Aspects of quality of life	Factor loadings	
	Standard of living	Lifestyle
Civilisation level	0.810	
Material well-being	0.781	
Social capital	0.611	
Social well-being		-0.585
Life stress		0.713
Pathologies		0.690
Percentage of explained variance	30.8	22.3

NOTE: factor-loadings over 0.4 only.

Table 9.2.3. Explanatory factors in the multiple regression of the life standard

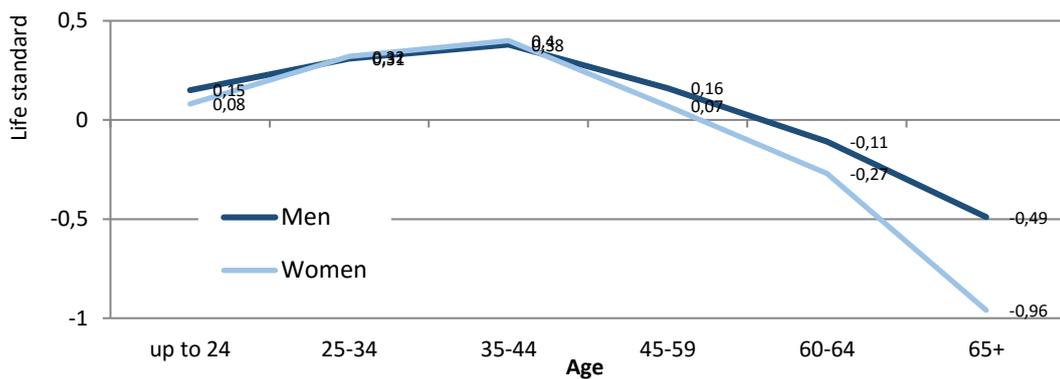
Predictor	Beta	t	p
(Constant)		36.657	0.000
Gender	-0.082	-11.553	0.000
Age	-0.387	-52.686	0.000
Class of place of residence	-0.238	-33.310	0.000
Marriage	0.290	41.033	0.000
Autodeterminism	0.131	17.051	0.000
Fatalism	0.007	0.886	0.376
Religious acts	0.129	17.205	0.000
Autoritarianism	-0.053	-7.562	0.000
Conservatism	-0.125	-17.053	0.000

$R^2=0,32$

Table 9.2.4. Explanatory factors in the multiple regression of lifestyle

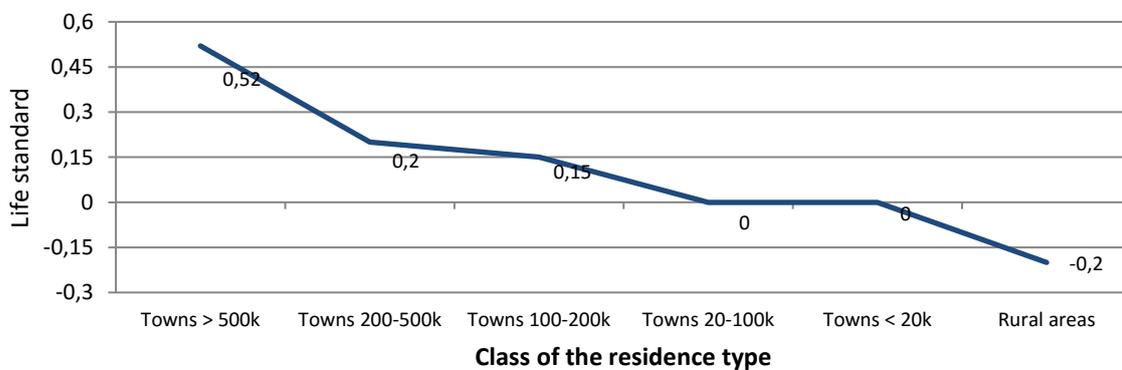
Predictor	Beta	t	p
(Constant)		19.448	0.000
Gender	-0.038	-4.641	0.000
Age	-0.172	-20.223	0.000
Class of place of residence	-0.102	-12.352	0.000
Marriage	0.084	10.295	0.000
Autodeterminism	-0.138	-15.583	0.000
Fatalism	-0.027	-2.965	0.003
Religious acts	-0.153	-17.563	0.000
Authoritarianism	0.077	9.502	0.000
Conservatism	0.039	4.571	0.000

$R^2=0,09$



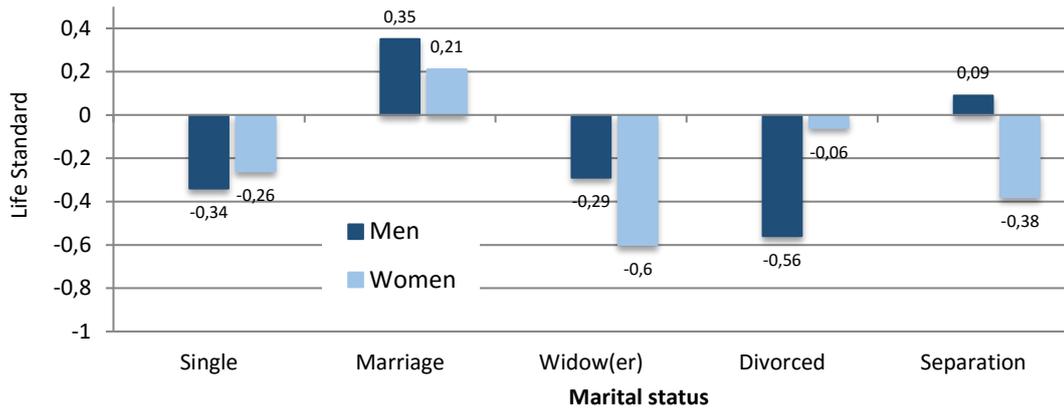
NOTES: main effect of gender  $F(1, 17707) = 73,432, p < 0,000, \eta^2 = 0,004$ ; main effect of age  $F(5, 17707) = 637,050, p < 0,000, \eta^2 = 0,152$ ; effect of interaction between gender and age  $F(5, 17707) = 32,594, p < 0,000, \eta^2 = 0,009$ .

Figure 9.2.1. Life standard of women and men in various age groups



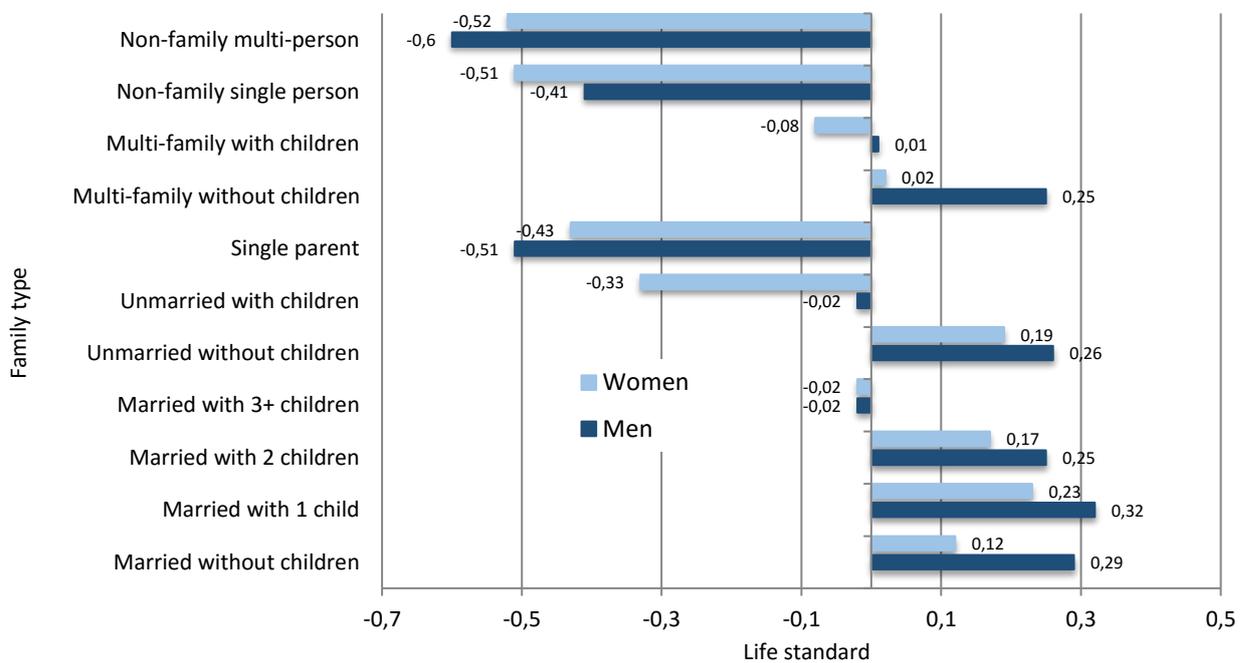
NOTES: main effect of the type of the residence type  $F(5, 17706) = 214,311, p < 0,000, \eta^2 = 0,057$ .

Figures 9.2.2. Life standard according to the size of the city of residence, while controlling the gender and age



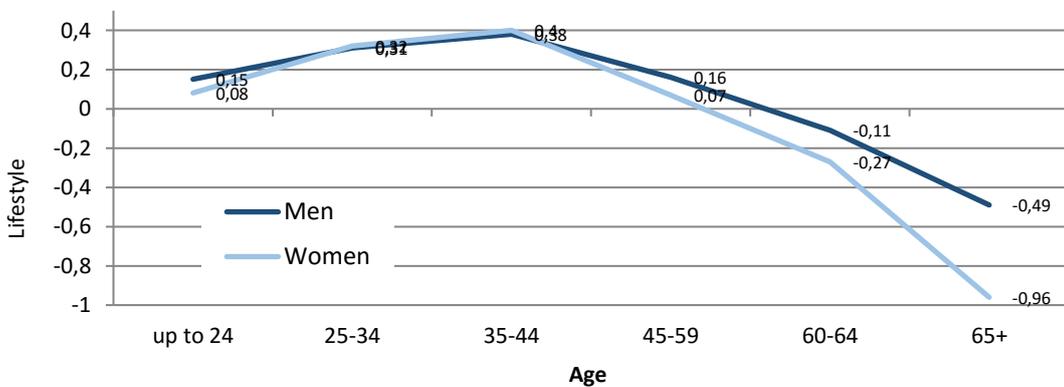
NOTES: main effect of the marital status  $F(4, 17658) = 422,212, p < 0,000, \eta^2 = 0,087$ ; effect of interaction of sex and marital state  $F(4, 17658) = 26,364, p < 0,000, \eta^2 = 0,006$ .

Figure 9.2.3. Life standard of men and women depending on the marital status with control of age



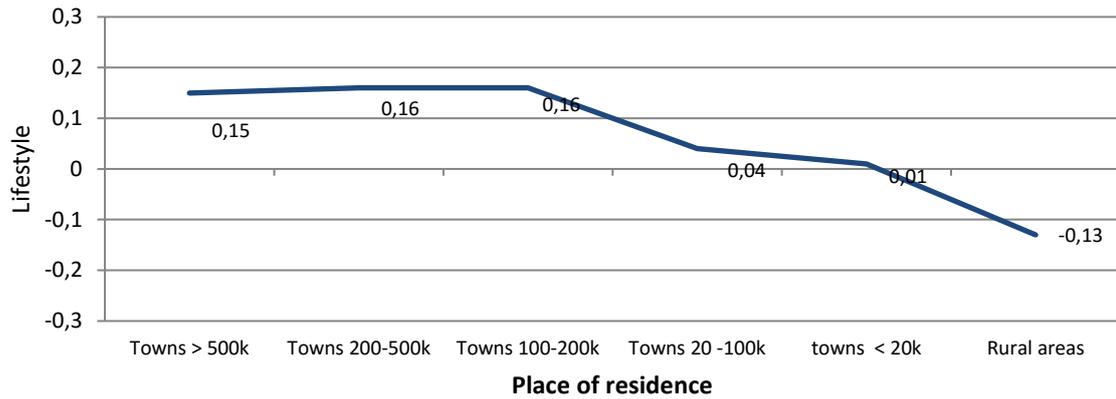
NOTES: main effect of family type  $F(10, 17587) = 162,795, p < 0,000, \eta^2 = 0,085$ ; effect of interaction between family type and gender  $F(10, 17587) = 3,049, p < 0,01, \eta^2 = 0,002$ .

Figure 9.2.4. Life standard of women and men depending on the type of family with control of age



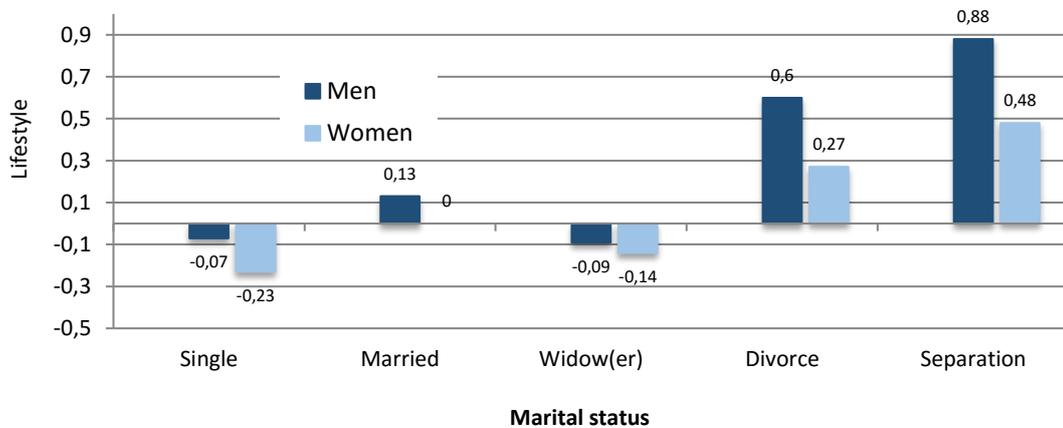
NOTES: main effect of gender  $F(1, 17707) = 73,432, p < 0,000, \eta^2 = 0,004$ ; main effect of age  $F(5, 17707) = 637,050, p < 0,000, \eta^2 = 0,152$ ; interaction between age and gender  $F(5, 17707) = 32,594, p < 0,000, \eta^2 = 0,009$ .

Figure 9.2.5. Lifestyle of men and women depending on age



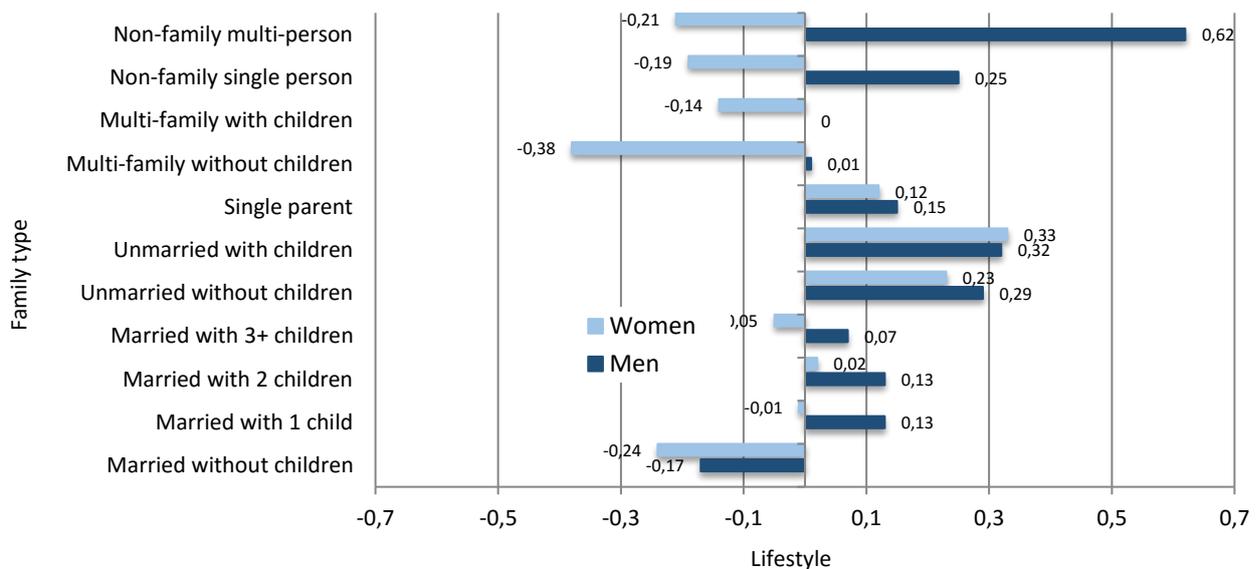
NOTES: main effect of place of residence  $F(5, 17706) = 50,258, p < 0,000, \eta^2 = 0,014$ .

Figure 9.2.6. Lifestyle due to the size of the place of residence with control of age and gender



NOTES: marital status main effect  $F(4, 17658) = 78,072, p < 0,000, \eta^2 = 0,017$ ; effect of interaction between gender and marital status  $F(4, 17658) = 2,682, p < 0,05, \eta^2 = 0,001$ .

Figure 9.2.7. Lifestyle of women and men due to their marital status with control of age



NOTES: main effect of family type  $F(10, 17587) = 23,109, p < 0,000, \eta^2 = 0,013$ ; effect of interaction between gender and family type  $F(10, 17587) = 7,959, p < 0,000, \eta^2 = 0,005$ .

Figure 9.2.8. Lifestyle of women and men depending on the family type with control of age

However, the above-mentioned independence of two factors of the quality of life at the level of the individuals may disappear or radically diminish in cross-section by social group. It is not impossible that some segments of

society suffer, like the biblical Job, all possible calamities while others enjoy the good life in all its aspects. In order to see whether this indeed is the case, we specified the position on the scale of one general and eight specific aspects of the quality of life of 198 groups determined by a range of not fully separable demographic and social criteria such as age, gender, educational level, class of place of residence, Voivodship, subregion, town, family type, social and professional status, occupation as currently pursued and marital status. The results are presented in Tables 9.2.5. to 9.2.14. (general indicator of the quality of life in 2015, 2013, 2011, 2009 and 2007) and in Tables 1-8 in Annex 5 (partial indicators of the quality of life in 2015).

Despite the fact that particular groups have different positions in respect of individual partial aspects, the general indicator of the quality of life clearly shows for whom life is good at present in Poland and for whom it is difficult, who has recently experienced an improvement and for whom there has been a deterioration. Undoubted beneficiaries include those with higher education, young people, entrepreneurs, residents of the largest cities (e.g. of Poznań, Kraków), the Małopolskie, Pomorskie, Mazowieckie and Wielkopolskie Voivodships, the Krakowski, Tyski, Trójmiejski, Gliwicki, Warszawski Zachodni subregions, university teachers, doctors, lawyers, artists, civil servants and directors as well as other specialists. The poorest quality of life is definitely experienced by pensioners, those with primary education, widowed persons, the elderly (aged 65 years and above), those who live on their own, divorcees and unemployed persons, residents of the Świętokrzyskie, Lubuskie, Łódzkie and Zachodniopolskie Voivodships, of Kielce, Opole, Ruda Śląska, Radom and Częstochowa, the Koszaliński, Piotrkowski, Elcki, Warszawski Wschodni and Sieradzki subregions, home helpers, cleaning ladies, support workers in mining and construction industries, other workers for simple works, workers for textile production as well as farmers who produce for their own needs only.

Table 9.2.5. General indicator of the quality of life between 2007 - 2015 in entire samples by socio-demographic group

Rank					Socio-demographic group	Quality of life				
2015	2013	2011	2009	2007		2015	2013	2011	2009	2007
2	1	2	2	2	School and university students	0.60	0.56	0.56	0.53	0.56
1	2	1	1	1	Higher and post secondary education	0.56	0.68	0.60	0.65	0.65
3	3	3	3	3	Private entrepreneurs	0.53	0.52	0.48	0.50	0.49
4	4	5	4	4	Public sector workers	0.42	0.49	0.41	0.46	0.44
5	5	4	5	5	16-24 year-olds	0.40	0.34	0.43	0.41	0.40
6	6	6	6	6	25-34 year-olds	0.32	0.30	0.35	0.38	0.33
7	7	7	7	9	Towns of over 500k residents	0.25	0.27	0.31	0.28	0.20
8	8	8	8	8	Married with 2 children	0.23	0.25	0.27	0.25	0.24
10	9	10	9	12	Private sector workers	0.20	0.16	0.18	0.25	0.11
11	10	11	11	11	Married with 1 child	0.19	0.19	0.17	0.22	0.15
9	11	12	13	19	35-44 year-olds	0.19	0.18	0.16	0.15	0.03
12	12	9	10	7	Unmarried	0.15	0.16	0.22	0.22	0.26
14	13	14	14	17	Married with 3 or more children	0.13	0.11	0.08	0.10	0.03
20	14	13	12	10	Secondary education	0.11	0.13	0.12	0.18	0.17
13	15	15	15	18	Married	0.11	0.10	0.08	0.09	0.03
16	16	18	21	21	Multi-family households	0.08	0.00	0.02	-0.02	0.01
17	17	17	17	15	Man	0.05	0.04	0.06	0.07	0.06
18	18	20	20	22	Married with no children	0.03	0.04	-0.01	0.01	-0.05
16	19	22	18	13	Towns of 100-200k	0.03	-0.02	-0.04	0.04	0.10
25	20	16	16	14	Towns of 200 -500k	0.02	0.12	0.06	0.08	0.07
21	21	19	22	16	Towns of less than 20k	-0.01	-0.02	0.00	-0.03	0.03
19	22	24	25	24	Farmers	-0.03	-0.04	-0.05	-0.11	-0.06
22	23	23	23	23	Women	-0.04	-0.04	-0.05	-0.06	-0.05
23	24	26	26	25	Rural areas	-0.04	-0.09	-0.10	-0.12	-0.12
24	25	21	19	20	Towns of 20 100k	-0.07	-0.01	-0.02	0.04	0.02
26	26	28	27	27	45-59 year-olds	-0.09	-0.11	-0.15	-0.15	-0.16
31	27	29	28	26	Basic vocational education	-0.22	-0.24	-0.16	-0.17	-0.14
28	28	30	30	29	60-64 year-olds	-0.24	-0.22	-0.24	-0.27	-0.21
27	29	27	29	28	Other occupationally inactive	-0.24	-0.26	-0.15	-0.19	-0.18
29	30	33	33	31	Retirees	-0.35	-0.30	-0.39	-0.39	-0.33
30	31	25	24	33	Non-family multi-person households	-0.40	-0.19	-0.09	-0.09	-0.40
32	32	31	32	30	Incomplete families	-0.40	-0.33	-0.27	-0.36	-0.30
33	33	32	31	32	Unemployed	-0.41	-0.40	-0.33	-0.35	-0.40
36	34	36	36	35	65+ year-olds	-0.51	-0.47	-0.61	-0.62	-0.53
34	35	34	35	34	Divorced	-0.51	-0.53	-0.52	-0.56	-0.44
35	36	35	34	36	Non-family single-person	-0.56	-0.46	-0.57	-0.53	-0.58
37	37	37	37	37	Widowed	-0.73	-0.66	-0.72	-0.73	-0.71
38	38	39	38	39	Pensioners	-0.80	-0.76	-0.88	-0.82	-0.77
39	39	38	39	38	Primary education	-0.86	-0.86	-0.86	-0.85	-0.76

Table 9.2.6. General indicators of quality of life in panel samples from 2013-2015 by socio-demographic group

Rank		Socio-demographic group	Average	
2015	2013		2015	2013
2	2	Pupils and students	0.64	0.67
1	1	Higher and post-secondary education	0.54	0.70
3	3	Private entrepreneurs	0.48	0.60
4	5	Age 16-24	0.43	0.42
5	4	Public sector worker	0.38	0.51
6	6	Age 25-34	0.35	0.33
11	7	Married with 2 children	0.26	0.27
7	13	Private sector workers	0.18	0.15
13	9	Age 35-44	0.17	0.22
10	10	Unmarried	0.17	0.19
9	8	Towns of 500k and more	0.15	0.26
8	12	Married with 3 or more children	0.15	0.18
14	11	Married with 1 child	0.14	0.19
12	14	Secondary education	0.08	0.14
22	16	Married	0.05	0.12
15	18	Man	0.01	0.07
16	19	Towns below 20k	0.01	0.06
18	20	Multifamily	0.00	0.06
24	17	Towns of 100-200k	-0.01	0.08
19	21	Married with no children	-0.05	0.05
17	25	Farmers	-0.06	-0.03
20	15	Towns of 200-500k	-0.08	0.13
25	26	Rural areas	-0.08	-0.07
21	22	Towns of 20-100k	-0.09	0.00
26	23	Woman	-0.09	-0.02
23	24	Age 45-59	-0.09	-0.02
29	28	Others occupationally inactive	-0.24	-0.21
28	29	Basic vocational education	-0.24	-0.23
27	27	Age 60-64	-0.33	-0.17
33	30	Retirees	-0.37	-0.25
30	31	Unemployed	-0.39	-0.32
32	33	Incomplete families	-0.39	-0.37
31	35	Numerous non-family	-0.44	-0.44
35	32	Age 65+	-0.52	-0.37
34	36	Divorced	-0.55	-0.49
36	34	Non-family single-person	-0.61	-0.44
37	37	Widow/widower	-0.73	-0.57
38	38	Pensioners	-0.81	-0.65
39	39	Primary and lower education	-0.87	-0.78

However, the question arises as to how durable these differences are. Do they remain the same, or are they growing or perhaps diminishing? A comparison of data from a few measurements proves that the rank of quality of life is essentially stable. Few groups have changed their position to an extent that could be deemed statistically significant.

In the last eight years there have not been greater changes in the highest and lowest quality of life groups. Only persons between 35 and 44 advanced (from 19th to 11th place), married couples with 3 or more children (from 17<sup>th</sup> to 13<sup>th</sup> place), those living in multi-family households (from 21<sup>st</sup> to 16<sup>th</sup> place), while over this time the quality of life of the unmarried, dwellers of towns of 100-500 thousand residents and the smallest towns (less than 20 thousand) decreased. In the last two years there are practically no changes in the panel sample in the rank of socio-demographic groups' quality of life, with the exception of private sector workers (better position) and residents of the biggest cities (decrease).

When it comes to professional groups, we note better positions of lawyers (from 9th to 3rd place), primary school teachers (from 11<sup>th</sup> to 7<sup>th</sup> place) and railway men (from 24<sup>th</sup> to 18<sup>th</sup> place). Drivers, painters and construction workers also improved their position, while administration and management experts (from 8<sup>th</sup> to 15<sup>th</sup> place), secondary education teachers (from 10<sup>th</sup> to 14<sup>th</sup> place) and waiters (from 17<sup>th</sup> to 21<sup>st</sup> place) noted a decrease.

Table 9.2.7. Quality of life of professional groups in entire samples for 2011-2015

	Rank			Professional group	Average		
	2015	2013	2011		2015	2013	2011
1	4	2	Doctors, vets, dentists	1.07	1.05	1.06	
2	2	4	Academic teachers	1.05	1.21	0.98	
3	3	10	Other specialists	0.89	1.06	0.74	
4	1	1	Authorities and directors	0.86	1.29	1.32	
5	6	8	Creators, artists, poets, journalists	0.81	0.98	0.79	
6	5	3	Lawyers	0.77	1.00	1.02	
7	15	11	Financial experts	0.76	0.71	0.73	
8	14	5	IT experts and others	0.72	0.73	0.88	
9	9	12	Secondary education teachers	0.71	0.91	0.71	
10	13	14	Primary school teachers	0.71	0.79	0.67	
11	8	6	Engineers, architects, designers and similar	0.69	0.91	0.82	
12	10	13	Managers of various specialists	0.69	0.86	0.69	
13	11	16	Professional soldiers	0.63	0.85	0.56	
14	12	7	Marketing specialists	0.63	0.79	0.80	
15	17	18	Commercial and business agents	0.62	0.50	0.47	
16	7	9	Administration and management experts	0.57	0.96	0.78	
17	29	24	Hairdressers, beauticians	0.39	0.11	0.34	
18	16	17	Other health care specialists	0.38	0.65	0.48	
19	21	23	Middle financial personnel	0.37	0.41	0.36	
20	19	15	State officials	0.36	0.44	0.64	
21	27	22	Railway men	0.34	0.15	0.38	
22	25	30	Passenger and truck car drivers	0.33	0.17	0.14	
23	20	20	Nurses and midwives	0.32	0.41	0.39	
24	18	19	Other middle personnel	0.31	0.45	0.41	
25	31	33	Waiters, bartenders and stewards	0.29	0.09	0.14	
26	22	21	Office workers	0.26	0.30	0.39	
27	28	32	Transport employees	0.25	0.12	0.13	
28	30	34	Truck and bus drivers	0.25	0.11	0.12	
29	23	28	Electricians	0.24	0.26	0.17	
30	24	38	Machine and mining equipment operators	0.23	0.19	0.02	
31	38	36	Moulders, welders	0.22	0.01	0.12	
32	40	31	Other personal services workers	0.15	-0.03	0.14	
33	26	35	Machine and equipment mechanics	0.14	0.17	0.10	
34	35	25	Steel workers	0.13	0.04	0.28	
35	41	37	Machine and equipment operators	0.13	-0.03	0.04	
36	51	51	Personal care employees	0.12	-0.23	-0.24	
37	44	41	Construction workers - finishing	0.09	-0.06	-0.03	
38	33	26	Sellers	0.08	0.06	0.20	
39	36	27	Plant production specialists	0.08	0.04	0.18	
40	43	29	Wood processing workers, papermakers, joiners	0.06	-0.06	0.15	
41	42	45	Fitters	0.04	-0.05	-0.11	
42	45	43	Blacksmiths, locksmiths	0.00	-0.11	-0.03	
43	34	49	Cooks	-0.02	0.06	-0.19	
44	39	39	Painters and similar workers	-0.04	-0.02	-0.01	
45	47	48	Construction workers - building shell	-0.05	-0.14	-0.14	
46	48	40	Food processing industry workers	-0.06	-0.15	0.02	
47	52	42	Textile production workers	-0.06	-0.25	-0.07	
48	46	47	Plant and animal production specialists	-0.07	-0.11	-0.13	
49	32	44	Security workers (fireman, policeman and similar)	-0.10	0.09	-0.03	
50	49	53	Workers, not classified otherwise	-0.18	-0.17	-0.42	
51	37	46	Craftsmen	-0.20	0.04	-0.07	
52	50	52	Farmers working for their own needs	-0.22	-0.21	-0.41	
53	55	55	Additional workers in mining and constructions	-0.25	-0.57	-0.55	
54	53	54	Cleaners	-0.31	-0.35	-0.42	
55	54	50	Other simple works workers	-0.34	-0.38	-0.20	

Table 9.2.8. Quality of life of professional groups in panel samples for 2013-2015

rank		Professional group	Average	
2015	2013		2015	2013
1	2	Doctors, vets, dentists	1.30	1.28
2	3	Creators, artists, poets, journalists	0.98	1.20
3	9	Lawyers	0.92	0.84
4	5	Other specialists	0.88	0.95
5	1	Academic teachers	0.87	1.56
6	4	Authorities and directors	0.85	1.19
7	11	Primary school teachers	0.75	0.80
8	7	Managers of various specialists	0.74	0.86
9	6	Engineers, architects, designers and similar	0.72	0.94
10	12	IT experts and others	0.68	0.77
11	14	Marketing specialists	0.64	0.68
12	15	Commercial and business agents	0.64	0.63
13	13	Financial specialists	0.63	0.74
14	10	Secondary education teachers	0.62	0.80
15	8	Administration and management specialists	0.56	0.86
16	16	Other health care specialists	0.42	0.59
17	19	Middle financial personnel	0.38	0.40
18	24	Railway men	0.38	0.30
19	18	State officials	0.37	0.53
20	21	Hairdressers, beauticians	0.36	0.39
21	17	Waiters, bartenders and stewards	0.35	0.56
22	22	Office workers	0.31	0.38
23	29	Passenger and truck car drivers	0.31	0.13
24	23	Nurses and midwives	0.29	0.35
25	25	Machine and mining equipment operators	0.28	0.26
26	35	Truck and bus drivers	0.21	0.07
27	27	Machine and equipment mechanics	0.20	0.16
28	42	Painters and similar workers	0.18	-0.05
29	28	Transport specialists	0.16	0.13
30	30	Machine and equipment operators	0.15	0.11
31	26	Electricians	0.13	0.23
32	32	Other personal services workers	0.13	0.08
33	20	Other middle personnel	0.12	0.39
34	36	Steel workers	0.12	0.05
35	40	Construction workers - finishing	0.11	0.03
36	31	Moulders, welders	0.10	0.09
37	37	Plant production specialists	0.07	0.04
38	34	Sellers	0.06	0.07
39	41	Fitters	0.05	-0.01
40	44	Cooks	0.04	-0.07
41	45	Food processing industry workers	0.02	-0.09
42	39	Wood processing workers, papermakers, joiners	-0.01	0.04
43	38	Craftsmen	-0.05	0.04
44	33	Security employees (firefighters, policemen and similar)	-0.06	0.08
45	46	Personal care employees	-0.07	-0.12
46	51	Construction workers - building shell	-0.08	-0.23
47	43	Plant and animal production specialists	-0.09	-0.06
48	49	Blacksmiths, locksmiths	-0.15	-0.22
49	47	Workers, not classified otherwise	-0.18	-0.15
50	52	Textile production workers	-0.28	-0.27
51	48	Farmers working for their own needs	-0.29	-0.19
52	50	Other simple works workers	-0.34	-0.22
53	53	Additional workers in mining and constructions	-0.36	-0.27
54	54	Cleaners	-0.41	-0.36

During the last 4 years, the quality of lives of residents of a few big cities (Zielona Góra, Olsztyn, Gliwice, Rzeszów, Zabrze, Bielsko-Biała) improved, while worsening of the quality of life occurred in Warsaw, Gdynia, Jaworzno, Szczecin, Wrocław, Łódź, Katowice, Bydgoszcz, Gorzów Wielkopolski, Częstochowa and Opole. During the last two years, the following cities from the panel sample improved their position: Zielona Góra, Bielsko-Biała, Sosnowiec, Wrocław, Olsztyn, Łódź, while Jaworzno, Gdańsk, Gorzów Wielkopolski, Lublin, Rzeszów, Opole, Ruda Śląska and Kielce decreased their position.

Table 9.2.9. General indicator of quality of life in entire samples from 2011 – 2015 by larger towns represented by at least 60 respondents

rank			City	Average		
2015	2013	2011		2015	2013	2011
1	4	3	Poznań	0.52	0.40	0.37
2	12	15	Zielona Góra	0.38	0.15	0.00
3	5	4	Kraków	0.37	0.35	0.36
4	7	19	Olsztyn	0.33	0.29	-0.04
5	1	2	Toruń	0.32	0.44	0.41
6	20	26	Gliwice	0.32	0.01	-0.14
7	3	1	Warszawa	0.30	0.42	0.47
8	8	10	Gdańsk	0.20	0.24	0.11
9	11	20	Rzeszów	0.19	0.16	-0.05
10	2	6	Gdynia	0.18	0.44	0.26
11	6	5	Jaworzno	0.17	0.31	0.32
12	9	7	Szczecin	0.17	0.21	0.23
13	13	9	Wrocław	0.15	0.13	0.13
14	16	21	Zabrze	0.12	0.09	-0.06
15	23	18	Sosnowiec	0.03	-0.11	-0.03
16	25	24	Bielsko-Biała	0.00	-0.13	-0.12
17	14	16	Lublin	-0.01	0.12	-0.01
18	19	12	Łódź	-0.01	0.01	0.09
19	15	14	Katowice	-0.03	0.09	0.01
20	18	8	Bydgoszcz	-0.06	0.06	0.14
21	10	11	Gorzów Wlk.	-0.09	0.20	0.09
22	22	22	Białystok	-0.18	-0.02	-0.06
23	27	25	Wałbrzych	-0.18	-0.15	-0.13
24	26	17	Częstochowa	-0.19	-0.14	-0.02
25	24	28	Radom	-0.22	-0.12	-0.24
26	28	23	Ruda Śląska	-0.28	-0.16	-0.09
27	21	13	Opole	-0.35	-0.02	0.05
28	17	27	Kielce	-0.39	0.08	-0.23

Table 9.2.10. General indicator of quality of life in entire samples from 2013 - 2015 by larger towns represented by at least 50 respondents

rank		City	Average	
2015	2013		2015	2013
1	1	Poznań	0.38	0.61
2	6	Gliwice	0.36	0.38
3	16	Zielona Góra	0.36	0.13
4	9	Olsztyn	0.34	0.26
5	2	Toruń	0.26	0.57
6	4	Warszawa	0.26	0.50
7	5	Szczecin	0.26	0.48
8	7	Kraków	0.19	0.29
9	3	Jaworzno	0.14	0.51
10	20	Bielsko-Biała	0.11	0.06
11	17	Wrocław	0.09	0.11
12	10	Gdynia	0.07	0.22
13	13	Zabrze	0.06	0.21
14	8	Gdańsk	0.03	0.29
15	21	Łódź	-0.04	-0.02
16	27	Sosnowiec	-0.08	-0.17
17	11	Gorzów Wlk.	-0.10	0.22
18	14	Lublin	-0.10	0.16
19	19	Bydgoszcz	-0.12	0.09
20	12	Rzeszów	-0.14	0.22
21	18	Katowice	-0.15	0.10
22	25	Radom	-0.18	-0.13
23	15	Opole	-0.20	0.14
24	24	Białystok	-0.20	-0.08
25	26	Wałbrzych	-0.25	-0.16
26	28	Częstochowa	-0.25	-0.28
27	23	Ruda Śląska	-0.42	-0.07
28	22	Kielce	-0.45	-0.02

In the comparison of voivodships, the biggest improvement during the last eight years was observed among residents of Małopolskie, Warmińsko-Mazurskie, Kujawsko-Pomorskie and Lubelskie Voivodships, while there was a decrease among residents of Opolskie and Łódzkie Voivodships. During the last two years, Wielkopolskie and Warmińsko-Mazurskie voivodships increased their position in the panel sample, while Śląskie, Lubuskie and Lubelskie scored worse in the rank.

In the panel sample in the last two years, the biggest improvement was observed in the following subregions: Krakowski (from 14<sup>th</sup> to 3<sup>rd</sup> place), Elbląski (from 21<sup>st</sup> to 9<sup>th</sup> place), Bialski (from 32<sup>nd</sup> to 19<sup>th</sup> place) and Olsztyński (from 51<sup>st</sup> to 23<sup>rd</sup> place). The level of quality of life decreased in the following subregions: Katowicki, Bytomski, Rzeszowski, Białostocki, Elcki, Gorzowski, Lubelski, Wrocławski, Bydgosko-toruński, Trójmiejski and Gdański.

Table 9.2.11. General indicator of quality of life between 2007 and 2015 by voivodship in entire samples

rank		Voivodship					Average				
2015	2013	2011	2009	2007		2015	2013	2011	2009	2007	
1	1	3	5	5	Małopolskie	0.20	0.15	0.07	0.04	0.05	
2	2	4	1	1	Pomorskie	0.10	0.15	0.06	0.12	0.20	
3	5	2	3	2	Wielkopolskie	0.08	0.02	0.07	0.10	0.14	
4	4	1	6	6	Mazowieckie	0.05	0.05	0.10	0.04	0.05	
5	14	10	9	10	Warmińsko-mazurskie	0.05	-0.09	-0.07	-0.03	-0.07	
6	6	5	8	4	Śląskie	0.00	0.01	0.03	0.03	0.07	
7	12	12	10	14	Kujawsko-pomorskie	-0.03	-0.05	-0.08	-0.03	-0.15	
8	10	7	4	7	Dolnośląskie	-0.04	-0.03	0.01	0.06	-0.01	
9	3	6	2	3	Opolskie	-0.07	0.09	0.02	0.12	0.08	
10	7	8	11	9	Podkarpackie	-0.08	-0.01	-0.02	-0.08	-0.06	
11	11	14	13	8	Podlaskie	-0.08	-0.04	-0.09	-0.15	-0.02	
12	9	13	14	16	Lubelskie	-0.09	-0.02	-0.08	-0.17	-0.27	
13	15	15	16	12	Lubuskie	-0.13	-0.10	-0.13	-0.20	-0.09	
14	8	9	7	13	Zachodniopomorskie	-0.14	-0.01	-0.06	0.04	-0.11	
15	13	11	12	11	Łódzkie	-0.14	-0.08	-0.07	-0.11	-0.07	
16	16	16	15	15	Świętokrzyskie	-0.15	-0.21	-0.27	-0.18	-0.22	

Table 9.2.12. General indicator of quality of life by voivodship in 2013 and 2015 panel samples

rank		Voivodship	Average	
2015	2013		2015	2013
1	1	Małopolskie	0.15	0.18
2	7	Wielkopolskie	0.04	0.03
3	2	Pomorskie	0.02	0.13
4	3	Zachodniopomorskie	0.02	0.12
5	13	Warmińsko-Mazurskie	0.02	-0.03
6	5	Opolskie	-0.01	0.06
7	6	Mazowieckie	-0.01	0.04
8	4	Śląskie	-0.03	0.08
9	10	Dolnośląskie	-0.06	-0.02
10	9	Podlaskie	-0.08	-0.01
11	8	Lubuskie	-0.10	0.01
12	11	Kujawsko-Pomorskie	-0.14	-0.03
13	15	Podkarpackie	-0.16	-0.07
14	16	Świętokrzyskie	-0.16	-0.17
15	12	Lubelskie	-0.17	-0.03
16	14	Łódzkie	-0.18	-0.06

Table 9.2.13. Quality of life in entire samples from 2013 and 2015 by subregion (NUTS3)

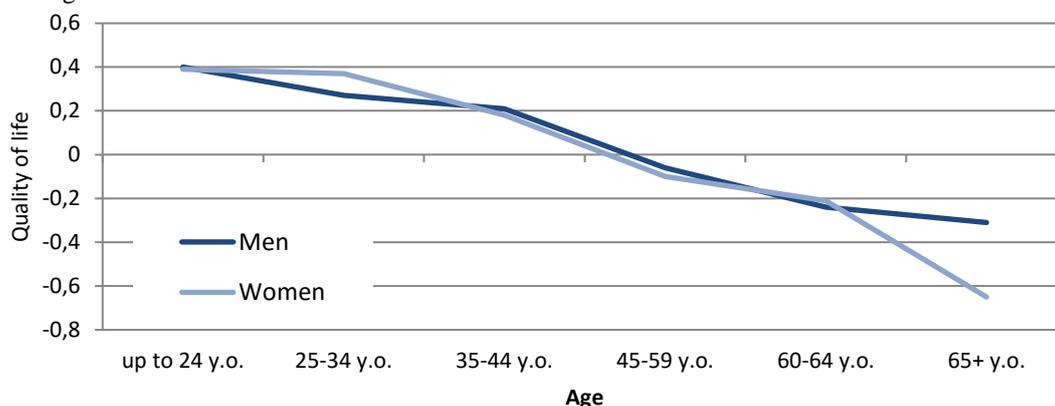
rank		Subregion	Average	
2015	2013		2015	2013
1	6	Warszawski-zachodni	0.29	0.14
2	9	Krakowski	0.28	0.12
3	2	Tyski	0.23	0.28
4	15	Gliwicki	0.20	0.04
5	1	Trójmiejski	0.19	0.30
6	16	Elbląski	0.19	0.03
7	20	Nowosądecki	0.18	0.03
8	34	Oświęcimski	0.17	-0.04
9	3	Ślęski	0.16	0.21
10	27	Stargardzki	0.15	-0.02
11	10	Rybnicki	0.10	0.10
12	35	Łódzki	0.10	-0.05
13	8	Bydgosko-toruński	0.07	0.12
14	19	Bielski	0.07	0.03
15	24	Kaliski	0.07	-0.01
16	21	Poznański	0.06	0.02
17	41	Koniński	0.04	-0.09
18	5	Gdański	0.03	0.16
19	39	Łomżyński	0.02	-0.08
20	54	Olsztyński	0.02	-0.17
21	22	Sosnowiecki	0.01	0.01
22	30	Leszczyński	0.01	-0.03
23	45	Ostrołęcko-siedlecki	0.01	-0.12
24	28	Bialski	0.00	-0.02
25	49	Grudziądzki	-0.01	-0.14
26	11	Lubelski	-0.02	0.08
27	38	Bytomski	-0.02	-0.08
28	50	Starogardzki	-0.02	-0.15
29	4	Opolski	-0.04	0.20
30	12	Rzeszowski	-0.04	0.07
31	13	Jeleniogórski	-0.04	0.06
32	23	Krośnieński	-0.04	0.00
33	7	Tarnowski	-0.05	0.13
34	52	Suwalski	-0.05	-0.15
35	40	Skierniewicki	-0.08	-0.09
36	18	Wrocławski	-0.09	0.03
37	42	Tarnobrzęski	-0.09	-0.09
38	59	Sandomiersko-jędrzejowski	-0.09	-0.27
39	29	Legnicko-głogowski	-0.10	-0.03
40	36	Szczeciński	-0.11	-0.06
41	44	Ciechanowsko-płocki	-0.11	-0.11
42	48	Zielonogórski	-0.11	-0.14
43	26	Katowicki	-0.12	-0.02
44	32	Pilski	-0.12	-0.04
45	37	Nyski	-0.12	-0.07
46	43	Chełmsko-zamojski	-0.13	-0.11
47	46	Włocławski	-0.13	-0.13
48	14	Białostocki	-0.16	0.06
49	33	Gorzowski	-0.16	-0.04
50	58	Wałbrzyski	-0.16	-0.26
51	25	Puławski	-0.18	-0.02
52	53	Kielecki	-0.19	-0.17
53	60	Radomski	-0.19	-0.28
54	31	Przemyski	-0.22	-0.03
55	47	Częstochowski	-0.23	-0.14
56	56	Sieradzki	-0.28	-0.18
57	17	Warszawski-wschodni	-0.29	0.03
58	57	Ełcki	-0.34	-0.21
59	55	Piotrkowski	-0.36	-0.17
60	51	Koszaliński	-0.42	-0.15

Table 9.2.14. Quality of life in panel samples for 2013 and 2015 by subregion (NUTS3)

rank		Subregion	Average	
2015	2013		2015	2013
1	1	Tyski	.28	.33
2	7	Warszawski zachodni	.27	.20
3	14	Krakowski	.20	.11
4	8	Nowosądecki	.15	.19
5	2	Gliwicki	.14	.28
6	10	Słupski	.14	.19
7	9	Opolski	.11	.19
8	17	Bielski	.11	.09
9	21	Elbląski	.11	.06
10	29	Oświęcimski	.10	-.03
11	13	Rybnicki	.09	.14
12	15	Łódzki	.09	.10
13	11	Stargardzki	.08	.16
14	26	Łomżyński	.08	.00
15	35	Poznański	.08	-.05
16	6	Tarnowski	.06	.21
17	22	Kaliski	.04	.04
18	3	Gdański	.02	.27
19	32	Bialski	.02	-.04
20	4	Trójmiejski	.01	.23
21	24	Jeleniogórski	.00	.01
22	30	Leszczyński	.00	-.03
23	51	Olsztyński	-.01	-.14
24	18	Sosnowiecki	-.02	.09
25	39	Krośnieński	-.03	-.08
26	5	Bydgosko-toruński	-.04	.21
27	40	Koniński	-.04	-.09
28	33	Zielonogórski	-.05	-.04
29	34	Skierniewicki	-.08	-.04
30	49	Ostrołęcko-siedlecki	-.08	-.14
31	16	Wrocławski	-.10	.09
32	42	Ciechanowsko-płocki	-.10	-.10
33	31	Szczeciński	-.11	-.03
34	12	Lubelski	-.12	.14
35	37	Suwalski	-.12	-.06
36	46	Legnicko-głogowski	-.12	-.14
37	52	Koszaliński	-.13	-.15
38	56	Starogardzki	-.13	-.19
39	57	Sandomiersko-jędrzejowski	-.13	-.19
40	20	Gorzowski	-.16	.06
41	25	Białostocki	-.16	.00
42	28	Elcki	-.16	-.02
43	44	Pilski	-.16	-.11
44	19	Rzeszowski	-.17	.08
45	23	Bytomski	-.18	.03
46	43	Nyski	-.18	-.11
47	55	Kielecki	-.18	-.17
48	38	Włocławski	-.19	-.08
49	60	Grudziądzki	-.19	-.30
50	45	Częstochowski	-.21	-.13
51	47	Chełmsko-zamojski	-.23	-.14
52	27	Katowicki	-.24	-.01
53	50	Przemyski	-.25	-.14
54	36	Warszawski wschodni	-.26	-.05
55	58	Wałbrzyski	-.26	-.23
56	59	Radomski	-.26	-.25
57	54	Tarnobrzeski	-.29	-.16
58	41	Puławski	-.30	-.10
59	53	Piotrkowski	-.41	-.16
60	48	Sieradzki	-.43	-.14

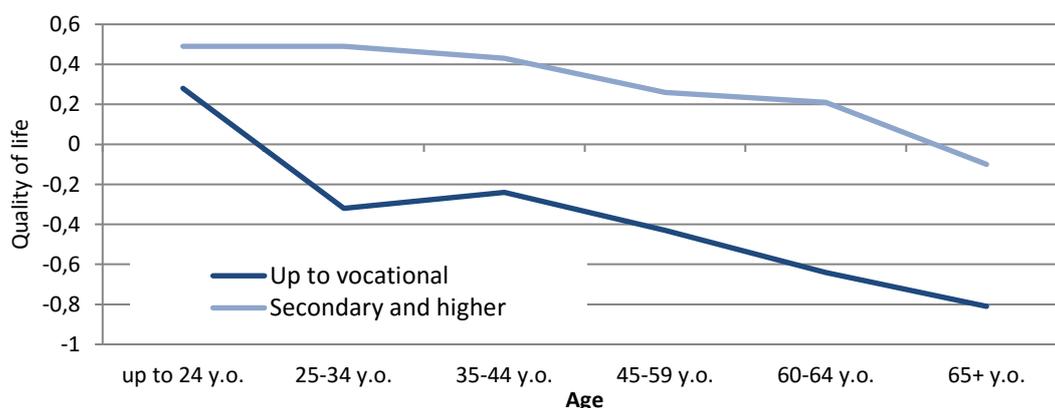
The categories of respondents as defined by some of the criteria may differ only apparently in the sense that they are determined by some other criterion of division into groups correlated with a given group. Gender may serve as an example here. In all waves men score higher in terms of the value of the indicator of the quality of life. This, however, may result from the fact that women live longer and the quality of life deteriorates with age. Indeed, in the 2013 sample women's average life expectancy was more than 3 years longer than that of men while in the eldest group (65 years and above), where the quality of life is the worst, the proportion of women is nearly twice as large as that of men (62% to 38%). Results of the analysis of variance prove that indeed, the difference between men and women in respect of the quality of life is primarily determined by age (Figure 9.2.9.). Only in the group of the eldest people is men's quality of life considerably better than that of women<sup>106</sup>; in other age groups, gender does not differentiate the quality of life.

The differentiating role of the age variable in respect of the quality of life may also be inflated due to the fact that in Poland there is a strong correlation between age and the level of education<sup>107</sup>, with the latter certainly important for the quality of life. The question therefore is whether the low quality of life of the elderly is only attributable to their age, or maybe also to the fact that on average they are much worse educated than younger people. It turns out that the indicator for determinative role of age in the regression analysis decreases nearly three times (from 13.1% to 4.6% of independently explained variance in the quality of life) when the equation is expanded to also include the level of education as well. The analysis of variance reveals a significant effect of interaction of age and educational level in respect of the quality of life (Figure 9.2.10.). Higher education clearly mitigates the negative impact of age on the quality of life; the difference between those with better and poorer education in the eldest group is nearly four times as big as in the youngest group, which is mainly due to the fact that the quality of life changes considerably with age among those with poor education and virtually does not change among those with better education.



NOTES: main effect of age  $F(5, 16047)=320,732$ ,  $p<0,000$ ,  $\eta^2=0,091$ ; main effect of gender  $F(1, 16047)=8,132$ ,  $p<0,01$ ,  $\eta^2=0,001$ ; effect of interaction between age and gender  $F(5, 16047)=18,270$ ,  $p<0,000$ ,  $\eta^2=0,006$ .

Figure 9.2.9. General indicator of the quality of life depending on age and gender.



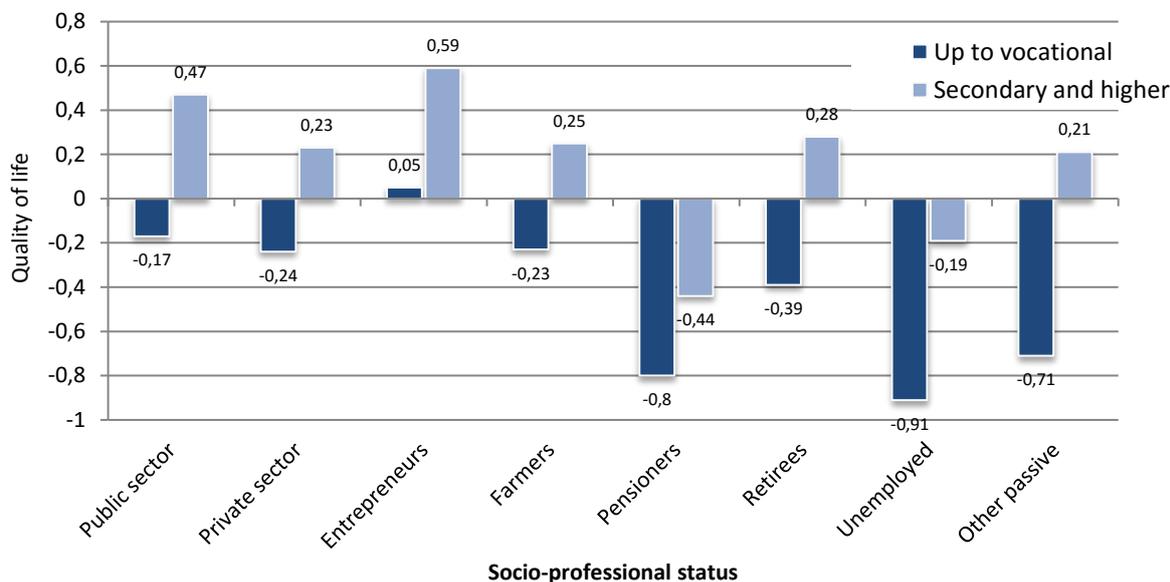
NOTES: main effect of age  $F(5, 16029)=232,607$ ,  $p<0,000$ ,  $\eta^2=0,068$ ; main effect of education  $F(1, 16029)=1715,491$ ,  $p<0,000$ ,  $\eta^2=0,097$ ; effect of interaction between age and education  $F(5, 16029)=27,836$ ,  $p<0,000$ ,  $\eta^2=0,009$ .

Figure 9.2.10. General indicator of quality of life depending on age and education level with control of gender

<sup>106</sup> Average age of women in this group is more than one year more than that of men.

<sup>107</sup> The correlation coefficient of age and educational level as measured by the number of years of schooling (together with those who have not completed education yet) amounts to -0.303 in the entire sample and to -0.441

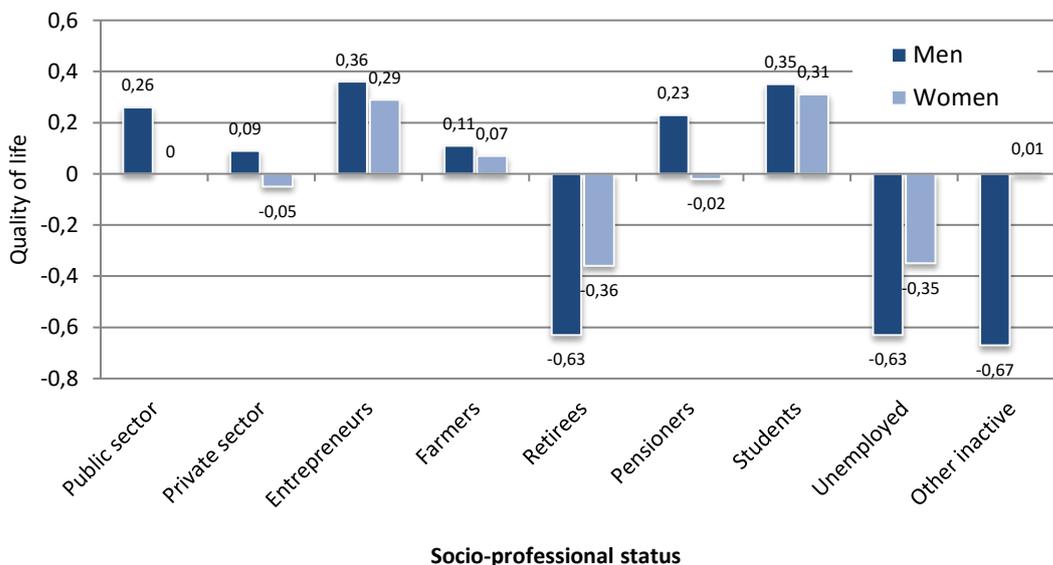
Education also influences the differences in the quality of life of groups determined by social and professional status (Figure 9.2.11.). Even though those with better education live a better life in all groups, their predominance over those with lower education is not always the same. It is relatively small among farmers but enormous among employees, entrepreneurs, retirees, pensioners and unemployed persons.



NOTES: main effect of status  $F(7,15057)=127,187, p<0,000, \eta^2=0,056$ ; main effect of education  $F(1,15057)=924,988, p<0,000, \eta^2=0,058$ ; effect of interaction between status and education  $F(7,15057)=13,152, p<0,000, \eta^2=0,006$ .

Figure 9.2.11. General indicator of quality of life by social and professional status and level of education with control for age and gender

Similarly to education, gender also modifies the differences in the quality of life of groups defined by social and professional status (Figure 9.2.12.). In principle, there are no differences between men and women among farmers, those receiving welfare benefits and school and university students. In the groups of hired workers and retired, men enjoy a better quality of life, but among entrepreneurs and other professionally inactive women's quality of life is better than that of men.

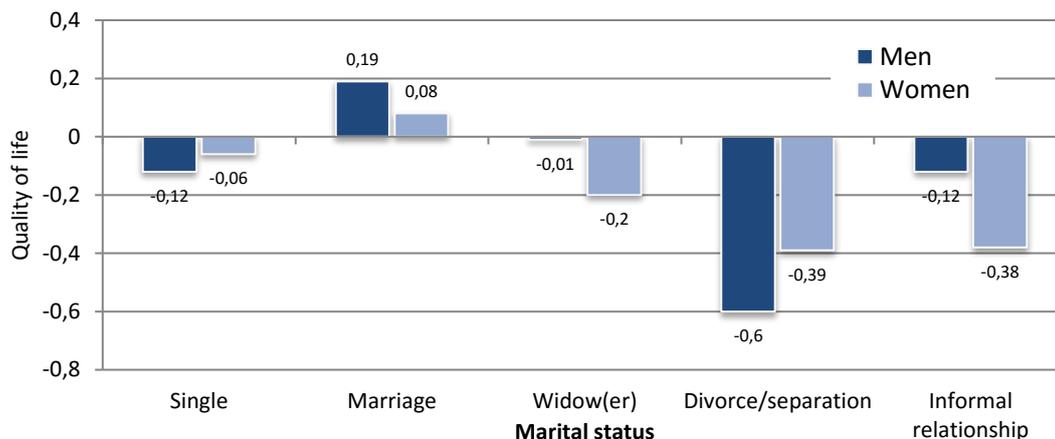


NOTES: main effect of status  $F(8,16013)=140,147, p<0,000, \eta^2=0,065$ ; main effect of gender  $F(1,16013)=7,797, p<0,01, \eta^2=0,000$ ; effect of interaction between gender and status  $F(8,16013)=43,493, p<0,000, \eta^2=0,021$ .

Figure 9.2.12. General indicator of quality of life depending on the socio-professional status and gender with control of age and education

Gender and educational level, with age control, also plays a significant role in explaining the difference in the quality of life of groups defined by marital status (Figures 9.2.13. and 9.2.14.). Widowers and men living in

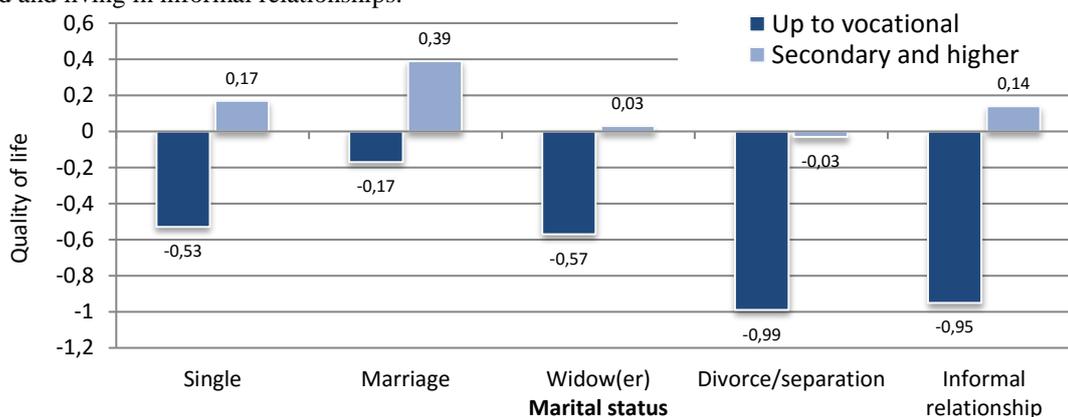
separation feel definitely better and husbands slightly better than widows, women living in separation and wives respectively though divorce and unmarried status more affects men's quality of life.



NOTES: main effect of marital status  $F(4, 16007)=127,171, p<0,000, \eta^2= 0,031$ ; main effect of gender. Effect of interaction between marital status and gender  $F(4, 16007)=12,997, p<0,000, \eta^2=0,003$ .

Figure 9.2.13. General indicator of quality of life depending on marital status and gender with control of age and education

On the other hand, education nearly eliminates the differences in the quality of life that arise due to marital status (Figure 9.2.14.). Although being widowed and divorced and living in an informal relationship especially entails a significant decrease in the quality of life among persons with poorer education, a university diploma or even high school graduation relatively ensures that a high quality of life is retained also by those widowed, divorced and living in informal relationships.



NOTES: main effect of marital status  $F(4, 15989)=179,171, p<0,000, \eta^2= 0,043$ ; main effect of education  $F(1, 15989)=686,361, p<0,000, \eta^2= 0,041$ ; effect of interaction between marital status and education  $F(4, 15989)=15,797, p<0,000, \eta^2=0,004$

Figure 9.2.14. General indicator of the quality of life by marital status and level of education with control for age and gender

When all previous factors and additionally the class of place of residence and bringing up children are taken into account in one multiple regression equation, we will be able to control the mutual relationships between those factors and thus better estimate the role of each of them as predictor (and perhaps even as determinant) of the quality of life and its individual dimensions. We carried out such analyses both for the general indicator of the quality of life and for eight component indicators. The results are presented in Tables 9.2.15. – 9.2.23..

The level of education is the best predictor of the general quality of life, which is independent of other factors<sup>108</sup> with age the second-best (negative effect), unemployment (negative effect), living on social security (negative effect), marriage (positive effect) divorce and informal relationship (negative effect), and bringing up children (negative effect), work in the private sector (negative effect) and being an entrepreneur and work in the public sector (positive effect). What also matters is divorce (negative effect), being an entrepreneur (positive effect), employment in the public sector (positive effect) (Table 9.2.15.), being widowed (negative effect), being a pensioner (positive effect) and gender (the quality of life is somewhat worse for women).

<sup>108</sup> It must be borne in mind, however, that the level of education was one of the variables taken into account in the civilization level, a component of the quality of life.

Table 9.2.15. Multiple regression analysis for general quality of life

Predictor	Non-standardized indicators		Standardized indicator	t	Significance
	B	Standard error	Beta		
(Constant)	-.819	.057		-14.300	.000
Level of Education	.108	.002	.362	44.093	.000
Age	-.014	.001	-.257	-19.983	.000
Gender (1 M, 2 F)	-.048	.014	-.024	-3.490	.000
Class of place of residence (1 largest towns, 6 rural areas)	.026	.004	.045	6.141	.000
Pensioners	-.398	.034	-.101	-11.558	.000
Farmers	-.042	.036	-.009	-1.163	.245
Private sector workers	.055	.028	.018	1.945	.052
Public sector workers	-.035	.023	-.016	-1.539	.124
Retirees	.171	.032	.070	5.421	.000
Entrepreneurs	.253	.038	.052	6.693	.000
Children supported	.009	.007	.011	1.412	.158
Unemployed	-.492	.033	-.114	-14.841	.000
Married couples	.215	.020	.106	10.890	.000
Widowed	.002	.033	.001	.063	.949
Divorced	-.328	.035	-.071	-9.368	.000
Unmarried couples	-.119	.055	-.015	-2.175	.030
$R^2 = 0,29$					

Bringing up children is the most significant predictor of stress in life (increases stress) (9.2.16.), followed by employment in the private sector (increases stress) and employment in the public sector (reduces stress). More stress is also experienced by entrepreneurs, unemployed persons, married as well as divorced people and living in an informal relationship, the elderly. Less stress is experienced by residents of rural areas, retirees and widowed persons.

Table 9.2.16. Multiple regression analysis for life stress

Predictor	Non-standardized indicators		Standardized indicator	t	Significance
	B	Standard error	Beta		
(Constant)	-.528	.052		-10.188	.000
Level of Education	-.002	.002	-.006	-.828	.408
Age	.003	.001	.055	4.570	.000
Gender (1 M, 2 F)	.011	.013	.006	.881	.378
Class of place of residence (1 largest towns, 6 rural areas)	-.054	.004	-.096	-14.143	.000
Pensioners	.013	.032	.003	.391	.696
Farmers	.509	.033	.113	15.554	.000
Private sector workers	.449	.026	.151	17.304	.000
Public sector workers	.495	.021	.225	23.796	.000
Retirees	-.349	.029	-.142	-11.926	.000
Entrepreneurs	.589	.034	.125	17.287	.000
Children supported	.086	.006	.102	14.227	.000
Unemployed	.432	.031	.098	14.008	.000
Married couples	.522	.019	.258	28.221	.000
Widowed	.126	.031	.038	4.077	.000
Divorced	.371	.034	.076	10.943	.000
Unmarried couples	.348	.052	.042	6.635	.000
$R^2 = 0,20$					

Age is the best predictor of psychological well-being (negative effect), followed by education (positive effect), marriage (positive effect), unemployment (negative effect) and divorce (negative effect) (Table 9.2.17.). Also living on social security (negative effect), being an entrepreneur (positive effect), a pensioner or a hired employee (positive effect) is significant. Bringing up children and being a woman is a moderately negative predictor of psychological well-being. These predictors explain over one fifth of all variation in psychological well-being in the sample.

Table 9.2.17. Multiple regression analysis for psychological well-being

Predictor	Non-standardized indicators		Standardized indicator	t	Significance
	B	Standard error	Beta		
(Constant)	.188	.052		3.618	.000
Level of Education	.046	.002	.155	20.373	.000
Age	-.020	.001	-.370	-30.586	.000
Gender (1 M, 2 F)	-.056	.013	-.028	-4.340	.000
Class of place of residence (1 largest towns, 6 rural areas)	.012	.004	.022	3.246	.001
Pensioners	-.204	.032	-.051	-6.366	.000
Farmers	.035	.033	.008	1.074	.283
Private sector workers	.065	.026	.022	2.510	.012
Public sector workers	.092	.021	.042	4.454	.000
Retirees	.191	.029	.078	6.537	.000
Entrepreneurs	.186	.034	.040	5.471	.000
Children supported	.025	.006	.030	4.129	.000
Unemployed	-.458	.031	-.104	-14.860	.000
Married couples	.292	.019	.144	15.680	.000
Widowed	-.084	.031	-.025	-2.698	.007
Divorced	-.402	.033	-.084	-12.015	.000
Unmarried couples	.085	.052	.010	1.631	.103
$R^2 = 0,25$					

Independently of all other factors, physical well-being is worse among the elderly, pensioners, women, retirees and those with poorer education (Table 9.2.18.). On the other hand, positive predictors are: being a farmer, living in a rural area or small town, being an employee (irrespective of the sector), an entrepreneur. These predictors explain nearly 30% of differences in physical well-being.

Table 9.2.18. Multiple regression analysis for physical well-being

Predictor	Non-standardized indicators		Standardized indicator	t	Significance
	B	Standard error	Beta		
(Constant)	.648	.049		13.329	.000
Level of Education	.020	.002	.065	9.137	.000
Age	-.020	.001	-.359	-31.505	.000
Gender (1 M, 2 F)	-.077	.012	-.038	-6.367	.000
Class of place of residence (1 largest towns, 6 rural areas)	.027	.004	.047	7.395	.000
Pensioners	-1.046	.030	-.258	-34.573	.000
Farmers	.146	.031	.033	4.776	.000
Private sector workers	.169	.024	.057	6.955	.000
Public sector workers	.153	.019	.069	7.869	.000
Retirees	-.066	.027	-.027	-2.416	.016
Entrepreneurs	.159	.032	.033	4.932	.000
Children supported	.014	.006	.016	2.450	.014
Unemployed	.000	.029	.000	.009	.993
Married couples	.013	.017	.006	.728	.466
Widowed	.113	.029	.034	3.882	.000
Divorced	-.139	.032	-.029	-4.374	.000
Unmarried couples	-.029	.050	-.004	-.594	.552
$R^2 = 0,30$					

The level of social capital is determined first and foremost by the level of education (Table 9.2.19.). The paradox however is that despite the fast growth in the number of people with higher education, social capital in Poland is not growing (see section 6.3.). Slightly less significant but still fairly important are such factors as age (positive effect), gender (men score higher), class of place of residence (the smaller the town, the lower the level of social capital), being a farmer (positive effect), employment in the private sector (negative effect), employment in the public sector (positive effect), being an entrepreneur (positive effect), bringing up children (positive effect), unemployment (negative effect) and divorce (weak negative effect). Summed up, all these predictors explain only 12% of variation in the value of the standardized indicator of social capital.

Table 9.2.19. Multiple regression analysis for social capital

Predictor	Non-standardized indicators		Standardized indicator	t	Significance
	B	Standard error	Beta		
(Constant)	-1.378	.054		-25.295	.000
Level of Education	.094	.002	.314	39.450	.000
Age	.005	.001	.087	6.775	.000
Gender (1 M, 2 F)	-.094	.014	-.047	-6.972	.000
Class of place of residence (1 largest towns, 6 rural areas)	.006	.004	.011	1.588	.112
Pensioners	-.084	.034	-.021	-2.475	.013
Farmers	.168	.034	.037	4.901	.000
Private sector workers	.197	.027	.066	7.206	.000
Public sector workers	-.110	.022	-.050	-5.039	.000
Retirees	.017	.031	.007	.565	.572
Entrepreneurs	.119	.036	.025	3.302	.001
Children supported	.021	.006	.025	3.265	.001
Unemployed	-.152	.032	-.035	-4.722	.000
Married couples	.134	.019	.067	6.908	.000
Widowed	.029	.033	.009	.904	.366
Divorced	.039	.036	.008	1.094	.274
Unmarried couples	-.130	.055	-.016	-2.347	.019

$R^2 = 0,12$

The incidence of pathology diminishes with age and education, but gender is its strongest predictor: the pathology indicator is much higher among men than among women (Table 9.2.20.). The larger the place of residence, the more pathologies there are. Unemployment, divorce and bringing up children, life in an informal relationship increase pathology while marriage, employment in the private and public sector diminish it. Only 6% of variation in that indicator of the quality of life is explained by all the predictors.

Table 9.2.20. Multiple regression analysis for pathology

Predictor	Non-standardized indicators		Standardized indicator	t	Significance
	B	Standard error	Beta		
(Constant)	1.039	.056		18.652	.000
Level of Education	-.013	.002	-.042	-5.145	.000
Age	-.003	.001	-.059	-4.496	.000
Gender (1 M, 2 F)	-.289	.014	-.144	-20.880	.000
Class of place of residence (1 largest towns, 6 rural areas)	-.049	.004	-.086	-11.768	.000
Pensioners	.055	.035	.014	1.593	.111
Farmers	-.022	.035	-.005	-.613	.540
Private sector workers	.009	.028	.003	.313	.754
Public sector workers	.083	.022	.037	3.705	.000
Retirees	-.130	.031	-.053	-4.134	.000
Entrepreneurs	.136	.037	.029	3.694	.000
Children supported	-.035	.006	-.042	-5.440	.000
Unemployed	.287	.033	.065	8.692	.000
Married couples	-.115	.020	-.057	-5.782	.000
Widowed	-.115	.033	-.034	-3.454	.001
Divorced	.209	.036	.043	5.738	.000
Unmarried couples	.178	.056	.021	3.149	.002

$R^2 = 0,06$

The greatest proportion of variation in material well-being is explained by educational level (Table 9.2.21.). Education remains the most reliable guarantor of affluence (see section 5.5.3.). People in rural areas continue to be worse-off than residents of towns, while inhabitants of small towns are worse-off than those who live in the large towns. Also marriage, as a community which accumulates material goods, is a strong predictor. It is not surprising that entrepreneurs are significantly better-off than others though also employees, both in the public and in the private sector, turn out to be better-off especially when compared to unemployed persons. Bringing up children is costly and thus diminishes the family's material well-being. Also divorce negatively affects well-being and so does being pensioner. On the other hand, widowers and widows are better-off; also men fare better, as

already discussed in the chapter on discrimination (8.3.). Even though living in a rural area entails a lower average material standard, this does not concern farmers; these do not depart from the national average in terms of material well-being. This does not mean that they do not obtain lower incomes, yet they may own more goods, which to some extent compensates for lower income. The predictors included in the regression equation explain a total of nearly 26% of variation in material well-being.

Table 9.2.21. Multiple regression analysis for material well-being

Predictor	Non-standardized indicators		Standardized indicators	t	Significance
	B	Standard error	Beta		
(Constant)	-.952	.052		-18.349	.000
Level of Education	.095	.002	.317	41.873	.000
Age	-.004	.001	-.078	-6.389	.000
Gender (1 M, 2 F)	-.040	.013	-.020	-3.073	.002
Class of place of residence (1 largest towns, 6 rural areas)	-.036	.004	-.063	-9.355	.000
Pensioners	-.118	.032	-.030	-3.705	.000
Farmers	.022	.033	.005	.668	.504
Private sector workers	.150	.026	.050	5.753	.000
Public sector workers	.092	.021	.041	4.401	.000
Retirees	.049	.029	.020	1.680	.093
Entrepreneurs	.717	.035	.146	20.424	.000
Children supported	-.021	.006	-.025	-3.515	.000
Unemployed	-.478	.031	-.110	-15.654	.000
Married couples	.300	.019	.149	16.132	.000
Widowed	-.059	.031	-.018	-1.928	.054
Divorced	-.223	.033	-.047	-6.695	.000
Unmarried couples	.068	.052	.008	1.315	.188
$R^2 = 0,25$					

Marriage and young age ensure the greatest social support (Table 9.2.22.). Divorce negatively affects social well-being and so does bringing up children and unemployment. Retirees and men enjoy greater social support than others. Also educational level is favourable for social well-being. In general, however only 3% of variation in the value of that indicator of the quality of life is explained, which is the lowest of all proportions.

Table 9.2.22. Multiple regression analysis for social well-being

Predictor	Non-standardized indicators		Standardized indicators	t	Significance
	B	Standard error	Beta		
(Constant)	-.180	.057		-3.183	.001
Level of Education	.024	.002	.079	9.547	.000
Age	-.005	.001	-.083	-6.214	.000
Gender (1 M, 2 F)	-.083	.014	-.042	-5.895	.000
Class of place of residence (1 largest towns, 6 rural areas)	.017	.004	.031	4.144	.000
Pensioners	.013	.035	.003	.376	.707
Farmers	-.019	.036	-.004	-.526	.599
Private sector workers	-.024	.028	-.008	-.863	.388
Public sector workers	-.002	.023	-.001	-.076	.940
Retirees	.168	.032	.068	5.248	.000
Entrepreneurs	.136	.037	.029	3.650	.000
Children supported	.026	.007	.031	3.906	.000
Unemployed	-.191	.034	-.044	-5.680	.000
Married couples	.214	.020	.106	10.543	.000
Widowed	-.138	.034	-.041	-4.065	.000
Divorced	-.328	.037	-.068	-8.861	.000
Unmarried couples	-.042	.057	-.005	-.734	.463
$R^2 = 0,05$					

In the regression analysis of civilisation level (Table 9.2.23.), education was removed from the list of predictors as it was already one of the components of that indicator. This gives the role of the strongest predictor to age, which strongly negatively correlates with the level of education. Class of place of residence, and also employment, especially in the public sector, is also very important. Positive influence is exerted by being an

entrepreneur or pensioner (obviously, after excluding the age effect), being married and bringing up children; a negative effect is characteristic of unemployment, living on social security and being a widow(er). Civilisation level is very strongly differentiated by the size of place of residence: the smaller it is, the lower the civilisation level. Overall, the predictors included in the regression equation explain nearly half of the variance of the civilisation level indicator.

Table 9.2.23. Multiple regression analysis for the civilisation level

Predictor	Non-standardized indicators		Standardized indicators	t	Significance
	B	Standard error	Beta		
(Constant)	1.788	.030		60.421	.000
Age	-.034	.000	-.611	-68.107	.000
Gender (1 M, 2 F)	-.063	.010	-.031	-6.332	.000
Class of place of residence (1 largest towns, 6 rural areas)	-.123	.003	-.217	-43.257	.000
Pensioners	-.088	.025	-.022	-3.525	.000
Farmers	.052	.025	.012	2.080	.038
Private sector workers	.670	.019	.227	35.068	.000
Public sector workers	.316	.016	.144	19.614	.000
Retirees	.144	.022	.059	6.419	.000
Entrepreneurs	.714	.026	.153	27.514	.000
Children supported	-.017	.005	-.019	-3.560	.000
Unemployed	-.046	.024	-.011	-1.931	.053
Married couples	.355	.014	.175	24.927	.000
Widowed	.010	.024	.003	.434	.664
Divorced	.187	.026	.039	7.217	.000
Unmarried couples	.114	.040	.014	2.833	.005

$R^2 = 0,52$

The criteria of the quality of life adopted here are not fully objective but also a good life is also simply a happy life not just what meets some objective standards (of affluence, health, respect, etc.) and it remains an open question what could measure the truth in this respect. Researchers from diverse fields of science have debated on that topic for years (see Czapiński, 2002b, 2004b; Lewicka, 2005), which in the last decade gave rise to the development of a new branch of study called positive psychology.

### 9.3. Is Polish society becoming increasingly stratified?

In the opinion of many economists, economic growth of a relatively poor country should entail its greater socio-economic stratification. Indeed, throughout the period when *Social Diagnosis* has been carried out, the proportion of income of the richest 20% of households to that of the poorest 20% increased until 2009 (Table 9.3.1.). It is worth noting that the growing stratification resulted first and foremost from the higher growth rate of the highest incomes (Figure 9.3.1.). The value of the 9th decile of household income per equivalent unit in terms of constant prices increased by 45.6% between 2000 and 2009, which is much more than the average for entire samples (38.9%), while the value of the 1st decile increased by 27.6% over that period. However, over the following two years the increase in 1st decile real income was greater than the growth of the 9th decile for the first time since the beginning of the survey (8% and 4% respectively) and thus the proportion of the 9th to the 1st decile diminished (Table 9.3.1.). Between 2011 and 2013 there was a fall in real income both in the first and the ninth decile of a similar size. It can therefore be accepted that despite the economic crisis, income stratification remains at a lower level than before the crisis. In the last two years, there has been a further decrease of income differences. In 2015 there were the lowest than ever during the entire period of studies.

Table 9.3.1. Household net income variation in entire samples between 2003-2015

Year of the study	Ratio of the 4th to the 1st quintile of household income	Ratio of the 9th to the 1st decile of household income
2003	2.33	3.94
2005	2.36	3.98
2007	2.41	4.15
2009	2.48	4.10
2011	2.46	3.96
2013	2.43	4.09
2015	2.28	3.79
Difference between:		
2015 and 2003	-0.05	-0.19
2015 and 2013	-0.15	-0.30

Today the cumulated percentage difference of the equivalent income of 10 poorest households is almost the same as in case of the income of 10% of the richest households (Figure 9.3.1.).

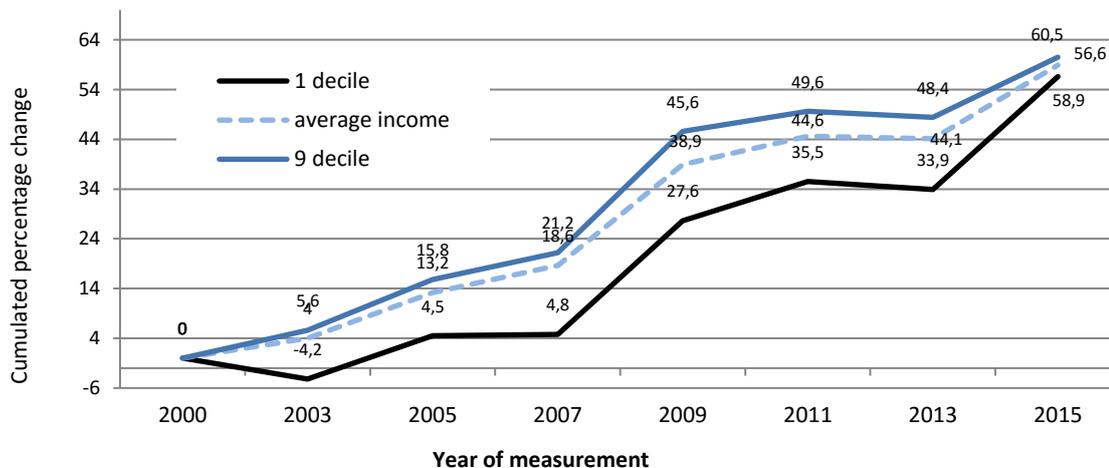
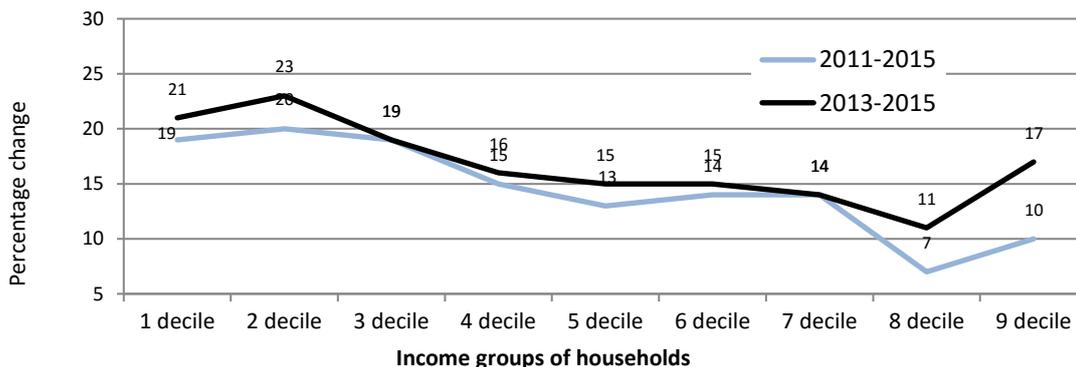


Figure 9.3.1. Cumulative percentage change for middle, 1st and 9th decile of household income per equivalent unit in the previous month in terms of prices from 2000 between 2000-2015

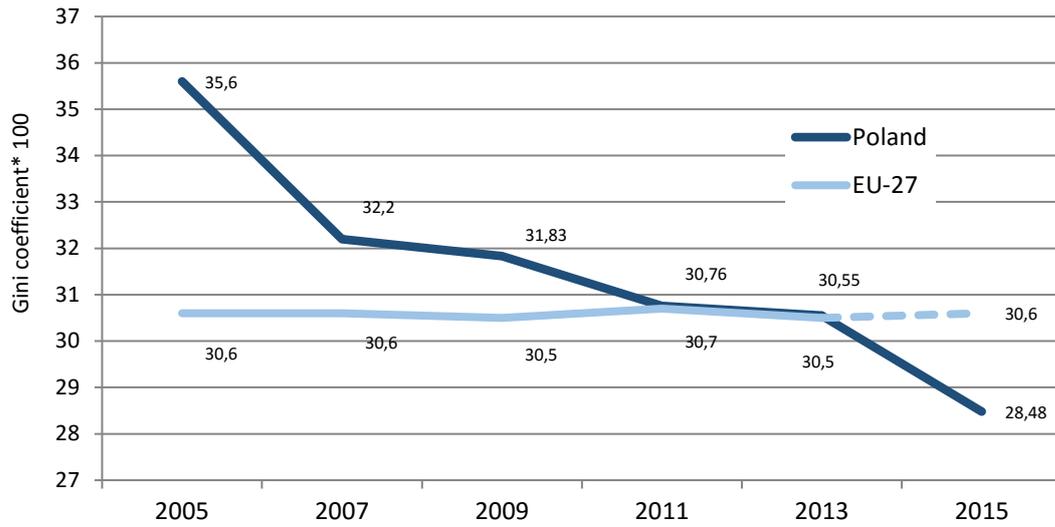
Thus, Poles have not been getting richer at the same pace. This, however, does not mean that the poor have had fewer opportunities for economic advancement than the rich. Quite on the contrary, while the income scale increased since 2013, poor households were catching up on the richer ones. The income of the poorest 10% of households grew at a much faster pace over the past years than the income of the richest 10% of households (Figure 9.3.2.)<sup>109</sup>.



Figures 9.3.2. Percentage change in household income per equivalent unit in terms of prices for 2011 in 2011-2015 and 2013-2015 for household group panel samples by income deciles

What can be a proof of economic stratification is also a decrease of the Gini coefficient from 0.356 in 2005 to 0.285 in 2015. Poland was then one of a few EU countries in which there was such a dynamic change of economic stratification (Figure 9.3.3.). It resulted in Poland moving down in the rank of several countries in the context of income differences (Figure 9.3.4.). Currently, the economic stratification in Poland is just a little bit greater than in Scandinavian countries.

<sup>109</sup>). The objection that this is an instance of the base effect (an increase in nominal income by X yields a greater percentage growth when the initial level is low than when it is high) may be countered by stating that irrespective of the base effect this means that income differences between the rich and the poor have been diminishing rather than growing. Moreover, base effect does not explain why in the last four and two years the smallest percentage increase in income did not occur in the richest group (eight decile) and the highest did not occur in the poorest ones (second decile).



Source: Eurostat and Social Diagnosis

Figure 9.3.3. Gini coefficient \* 100 between 2005-2015 in Poland and 27 countries of the European union.

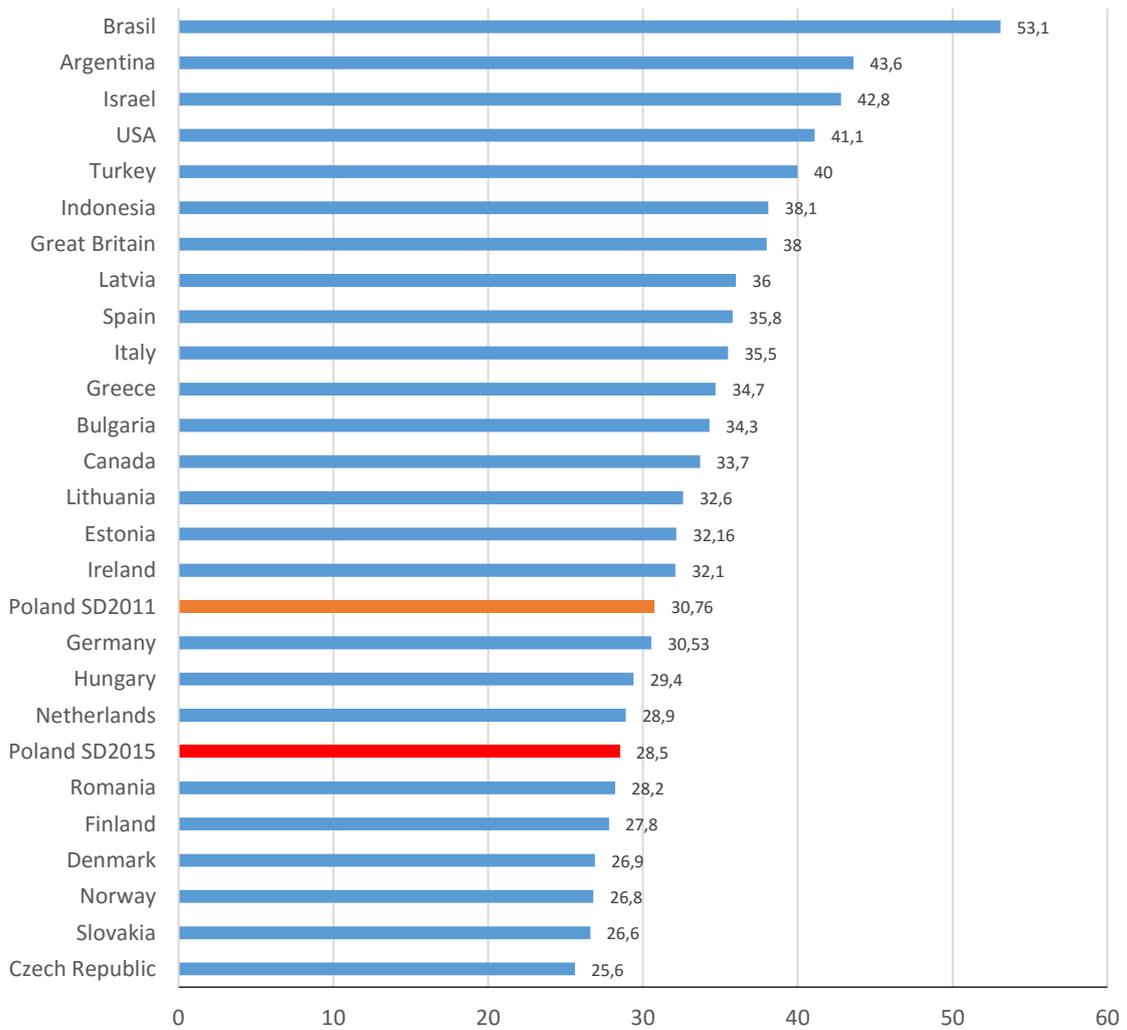


Figure 9.3.4. Gini coefficient \* 100 in chosen countries in a year which is the closest to 2015 (usually 2011-2012) according to the World Bank and Social Diagnosis from 2011 and 2015.

When it comes to the net income, we can observe a systematic decrease of the Gini coefficient since 2009 (Figure 9.3.5.).

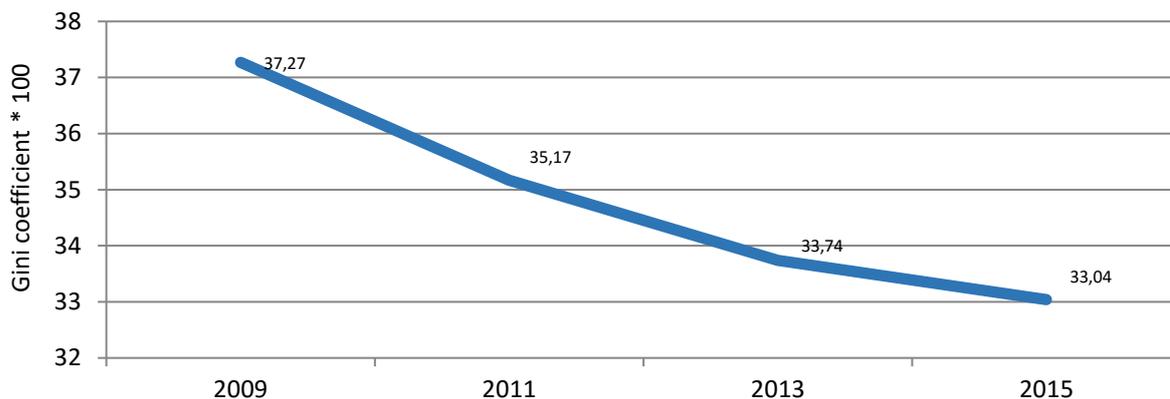
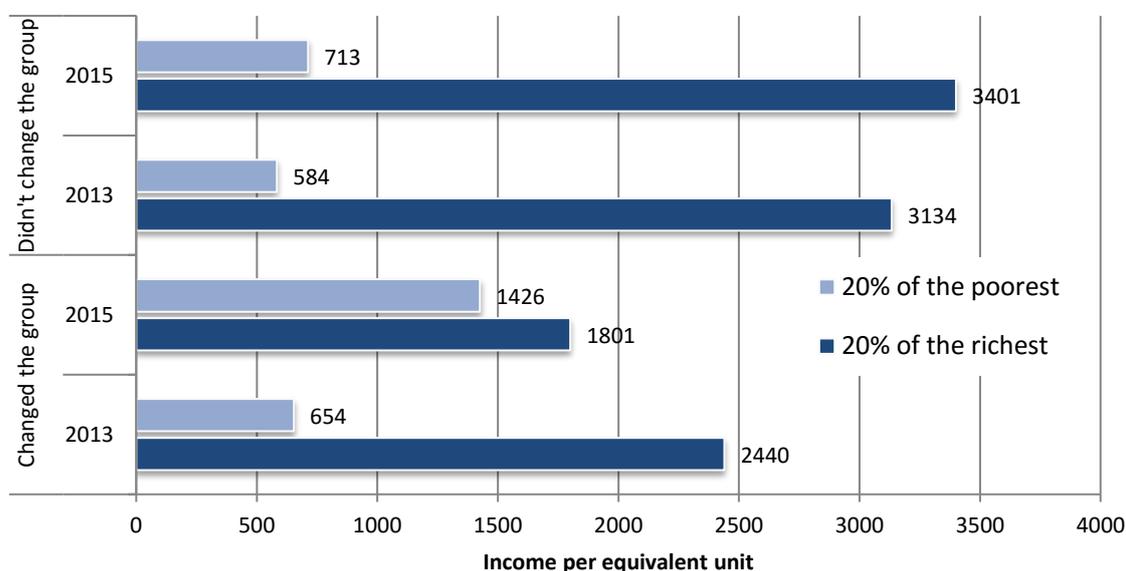


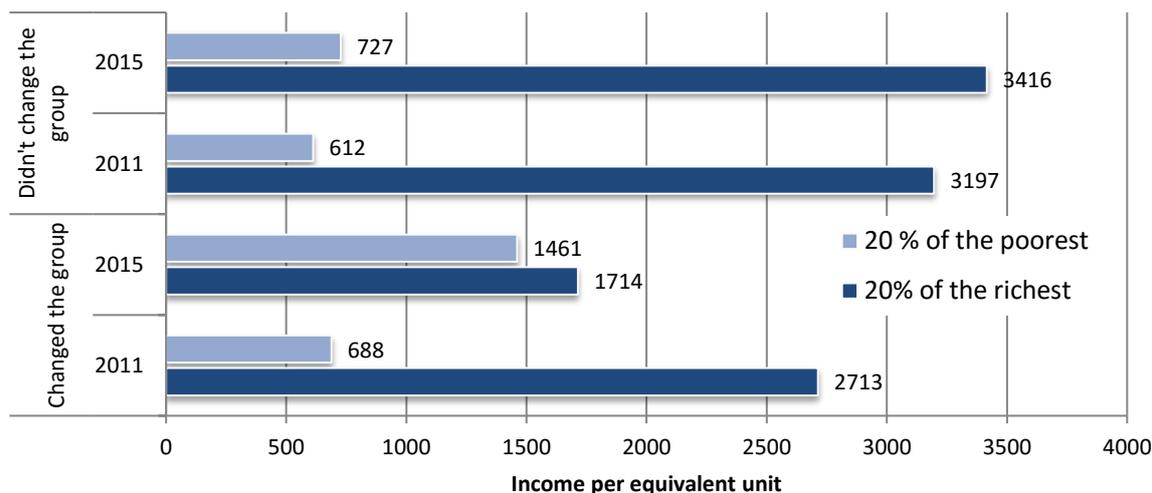
Figure 9.3.5. The Gini coefficient for personal revenues in years 2009-2015

The statement that Polish society is increasingly stratified in economic terms is proved false by the symmetric, two-directional mobility of households on the income axis. Only 52.5% of households from the group of the 20% who were the poorest in 2013 remained in that group after two years and nearly exactly the same proportion (53.5%) from the group of the richest 20% remained in that group in 2015. Thus, 47.5% of the poorest moved to higher income groups (a majority of 15.8% only moved over the second quintile) and 46.5% of the richest moved to lower income groups (a majority of 11.6% moved below the fourth quintile). The economic distance between the poorest and the richest households that remained in their income groups basically did not change over four and two years, while in the case of households that did change position in terms of income, the distance diminished almost 5-fold over two years and over 8-fold over the past four years (Figures 9.3.6. and 9.3.7.). In a longer period of time, the revenues of about 1/3 of households become more equal and they change the group between the 20% of the richest and 20% of the poorest households.



NOTES: main effect of changing group  $F(1, 3175)=174,757, p<0,000, \eta^2= 0,052$ ; effect of date of measurement  $F(1, 3175)=67,998, p<0,000, \eta^2= 0,021$ ; interaction effect of changing group, the initial group and date of measurement  $F(1, 3175)=578,894, p<0,000, \eta^2= 0,154$ .

Figure 9.3.6. Household income per equivalent unit in 2013 and 2015 in terms of prices from 2011 in the poorest and richest 20% households by equivalent per capita income quintiles in 2013, which remained or did not remain in the same quintile groups in the 2015 panel sample



NOTE: main effect of changing group  $F(1, 2438)=109,581$ ,  $p<0,000$ ,  $\eta^2= 0,043$ ; effect of date of measurement  $F(1, 2438) <2$ , n.s.; effect of changing group, the initial group and date of measurement interaction  $F(1, 2438)=477,024$ ,  $p<0,000$ ,  $\eta^2= 0,164$ .

Figure 9.3.7. Income per equivalent unit in 2011 and 2015 in terms of prices from 2011 in the poorest and richest 20% households by equivalent per capita income quintiles in 2011, which remained or did not remain in the same quintile groups in the 2015 panel sample

One may add that the difference between the groups on the extremes in terms of the standardized indicator of the quality of life was nearly the same in 2015 as two and four years before (1.46 towards 1.42 and 1.42 of standard deviation) and between 2007 and 2015 the difference only rose by 0.14 of standard deviation (Table 9.2.5.). This suggests that the distance between the social groups with the highest and the lowest quality of life is not increasing. The Poles are improving their quality of life together rather than at each other's expense.

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## **ANNEXES**

## ANNEX 1. QUESTIONNAIRES AND INSTRUCTIONS FOR INTERVIEWERS

### 1.1. Household questionnaire

Subsequent number of the questionnaire in the Voivodship

Fixed household number (for previously studied households)

**SOCIAL DIAGNOSIS 2015**  
**An independent survey of the conditions and quality of life in Poland**  
**COUNCIL FOR SOCIAL MONITORING**  
 01-030 Warsaw, ul. Pawia 55  
 tel. (22) 536-54-16, 602290367

#### PART I

#### A. HOUSEHOLD CHARACTERISTICS

0. Household status in the survey

Voivodship    powiat    gmina

1. Territorial symbol

2. Address (street, house no., flat no., postcode and town/city)

.....  
 .....

area code    landline    mobile (if there is no landline phone)

2b. telephone no.

3. Symbol of the place of residence category

4. Household identification number

5. Number of families in the household

6. Symbol of the source of income for the household

7. Number of all persons in the household

8. Number of all persons in the household aged at least 15 as of 1 March

#### B. INFORMATION ON THE INTERVIEW CONDUCTED

1. 1. Course of the visits to the household's dwelling

Visit number	Date of the visit day/month	Time of the visit	Duration of the visit in minutes	Notes
1				
2				
3				

**2. The interview in the household was:**

1.  conducted
2.  not conducted

If the interview was not conducted (answer no. 2), go on to provide reasons (point 3). If the interview was conducted, fill in the collective information on the individual interviews (point 4).

**3. Reasons for not conducting the interview**

Choose one of the options given below and write its number in the boxes

Although the household was contacted, the interview was not conducted because

1. the household is unable to take part in the survey (old age, illness, alcohol intoxication)
2. the household members are foreigners (beyond the scope of the survey)
3. the household initially refused to take part in the survey (it is possible it will be willing to take part in the survey in the coming years)
4. the household definitely refused to take part in the survey now or in the future It was not possible to contact the household (although it was localised) because:
5. all household members were temporarily absent due to their stay abroad
6. all household members were temporarily absent due to a holiday trip
7. all household members were temporarily absent due to other or unknown reasons
8. no one was present at home.

The household could not be localised because:

9. the address provided on the list could not be localised (e.g. the address does not exist, the dwelling was unoccupied, the dwelling had been liquidated)
10. the household changed the place of residence and the new address could not be established
11. the interview was not conducted due to other reasons (e.g. all persons from the household moved to a multi-occupancy accommodation facility).

**4. Collective information on the individual interviews** (all household members aged at least 16 as of 1 March 2015 are to complete an individual interview)

- 4.1. Number of persons in the household to complete an individual interview
- 4.2. Number of conducted individual interviews
- 4.3. Number of individual questionnaires recognised as not filled in accordance with the instructions

**5. Does the household consent to take part in the survey in the subsequent years?**

(Choose one of the options given below and mark the appropriate box)

- 1  YES    2  NO    3  DOES NOT KNOW YET

I confirm that the information presented in the questionnaire was collected in accordance with the procedure under the survey.

day	month	year				Name of the interviewer
			1	5		
Signature of the interviewer						Name of the person checking the form

**C. HOUSEHOLD COMPOSITION**

1. THE PERSON'S REFERENCE NUMBER <sup>1</sup>		2. FIXED NUMBER <sup>2</sup>		3 NAME OF THE HOUSEHOLD MEMBER							
1											
2											
3											
4											
5											
6											
7											
8											
9 (additional sheet C)											
10 (additional sheet C)											
11 (additional sheet C)											
12 (additional sheet C)											
1	The person's reference number			1	2	3	4	5	6	7	8
4	Relationship to the household head										
5	Family number										
6	Relationship to the family head										
7	Date of birth	day									
8		month									
9		year (two last digits)									
10	Gender 1 - man, 2 - woman										
11	Marital status if unmarried —* line 16										
12	Date of current marriage	month									
13		year (two last digits)									
14	Date of the breakdown of last marriage (divorce, death of the spouse)	month									
15		year (two last digits)									
16	Educational attainment (if 99 —* line 19)										
17	Years of education completed										
18	Field of study										

<sup>1</sup> For previously surveyed households the same as in the address list (column L), subsequent numbers for persons not listed

<sup>2</sup> Only for previously tested households; the number from column K in the address list; an empty field for those not listed

1	Personal reference number	1	2	3	4	5	6	7	8
19	Educational status (5,8 → line 22)								
20	Type of education service								
21									
22	Driving licence 1 YES, 2 NO; 8 - not applicable								
23	Command of foreign languages 1. active 2. passive 3. none	English							
24		German							
25		French							
26		Russian							
27		Spanish							
28		other							
29	Does he/she have a mobile phone? (1 YES with keys, 2 YES with touchscreen, 3 more than one and at least one with a touchscreen, 4 NO mobile phone)								
30	Disability 1, 2, 3 → 31; other → 32								
31	Disability certificate?								
32	Source of income	main							
33		additional							
34	Reasons for temporary absence (for persons temporarily absent from the household)								
35	Being a household member or not								
36	Movement of persons in the household (only for households interviewed previously)	date of arrival	month						
37			year (two last digits)						
38		date of leaving	month						
39			year (two last digits)						
40		reason for arrival							
41		reason for leaving							
42	Result of the individual interview								

43. Reference number of the persons answering the questions on behalf of the household

**D. ECONOMIC ACTIVITY OF HOUSEHOLD MEMBERS AGED 15 AND ABOVE** (economic activity as defined in the Labour Force Survey (BAEL); **the person's reference number is the same as in part C**)

1	<b>Reference number of the person (the same as in part C)</b>						
2	During the last 7 days, has this person performed any paid work or helped without pay in the family business? <i>1 YES→4, 2 NO→3</i>						
3	During the last 7 days, has this person been an employee, a self-employed person or helped without pay in the family business but has temporarily not performed his/her work? <i>1 YES → 5; 2 NO → 8</i>						
4	How many hours has this person worked during the last 7 days?						
5	What is the type of work this person performs at his/her main job?						
6	Is this a full-time job? <i>1 YES → 8; 2 NO → 7</i>						
7	Why does this person work part-time?						
8	Is this person registered as an unemployed person in the Labour Office? <i>1 YES → 9, 2 NO → 10</i>						
9	Does this person receive unemployment benefits? <i>1 YES, 2 NO</i>						
10	During the last 4 weeks, has this person been seeking a job or a different job? <i>1 YES (currently unemployed) → 12; 2 YES (currently employed) or 5 NO (currently employed) → 15; 3 NO (already found a job) → 13; 4 NO (currently unemployed) → 11</i>						
11	Why is this person not seeking a job?						
12	Is this person ready to start a job this or next week? <i>1 YES, 2 NO</i>						
13	For how long has this person been unemployed? years <i>(applicable also to retirees and pensioners; in the case of persons who have never worked, enter 97 in the line "years" and go to line 22)</i>						
14	months						
15	Ownership structure of the institution being the main workplace of the person <i>(in the case of currently employed persons')</i>						
16	Ownership structure of the institution being the additional workplace of the person <i>(in the case of currently employed person )</i>						
17	Is the main workplace located in the city/town of residence? <i>(in the case of currently employed persons) 1 YES, 2 NO</i>						
18	Current occupation						
19	Occupation at the last place of work <i>(in the case of currently unemployed persons who worked in the past)</i>						
20	During the last 2 years, how many times has this person been registered in the Labour Office as an unemployed person?						
21	During the last 2 years, how long in total has this person been unemployed? <i>(in months)</i>						

1	Reference number of the person (the same as in part C)						
22	During the last 2 years, has this person participated in any activity related with gaining new professional qualifications or other skills? <i>1 YES, 2 NO - go to line 26</i>						
23	Specify the type ( <i>up to three types</i> ) of educational activity						
24							
25							
26	Did this person work abroad in the period 2013-2015? <i>1 YES, 2 NO</i>						
27	Did this person study abroad in the period 2013-2015? <i>1 YES, 2 NO (if the answer "NO" is given to questions 26 and 27 — go to part E)</i>						
28	How many times did this person go abroad to work or study there in the period 2013-2015?						
29	In which countries did this person work or study? ( <i>if in more than two, write those two in which the person spent most time</i> )						
30							
31	Provide the total time of working or studying abroad in the period 2013-2015 (in months).	Time of work					
32		Time of studying					
33	If this person has returned after staying abroad longer than 6 months in the period 2013-2015, then why? ( <i>if this condition is not met, do not enter anything</i> )						

## E. NUTRITION

**I would like to ask about meeting the nutritional needs in your household.**

1. Can your household afford to buy a sufficient amount of the following food items?

*Provide the answers for each of the following items separately, by crossing the appropriate box.*

1.1. vegetables and vegetable preserves	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO
1.2. fruit and fruit preserves	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO
1.3. meat (including poultry)	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO
1.4. meat and poultry products	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO
1.5. fish and fish products	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO
1.6. butter and other edible fats	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO
1.7. milk	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO
1.8. dairy products	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO
1.9. sugar	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO
1.10. confectionary (sweets, chocolate, etc.)	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO
1.11. stimulants (coffee, tea, alcohol, tobacco)	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO

2. In comparison with the situation two years ago, has the ability to meet the nutritional needs in your household:

*Choose one of the options given below by crossing the appropriate box*

1.  declined
2.  improved
3.  remained unchanged

3. What average part of your monthly income did you spent on food during the last 3 months?   %

*If the interviewed person is not able to give an exact number, please indicate one of the ranges below*

1.  less than 20%
2.  between 20% and 30%
3.  between 30% and 40%
4.  between 40% and 50%
5.  between 50% and 70%
6.  above 70%

## F. HOUSEHOLD MATERIAL WEALTH

**NOW, I WOULD LIKE TO ASK YOU WHETHER YOU POSSESS CERTAIN GOODS AND/OR SAVINGS AND WHETHER YOU HAVE TAKEN OUT ANY BANKING SERVICES, CREDITS OR LOANS.**

1. Does your household use services of any bank? 1 . YES 2 .NO

*If "yes" please go to question 4.*

2. Why does the household **not use** the services of a bank? Please show CARD no. 1 and request the choice of two answer variants and crossing the appropriate square

- 2.1.  lack of trust in banks
- 2.2.  too far to go to nearest bank or cash machine
- 2.3.  lack of regular income/savings
- 2.4.  bank services are too expensive
- 2.5.  loan application rejected
- 2.6.  bank services are too complicated
- 2.7.  no need for bank services
- 2.8.  services of other financial institutions (SKOK, Provident etc) are sufficient
- 2.9.  lack of remote access to products/services (by internet, telephone)
- 2.10.  other reasons

3. Does your household intend to start using bank services this year? 1.  YES 2.  NO

4. Has anyone in your household given up cooperation with a bank (not a branch, but any bank) in the last year? 1.  YES 2.  NO

*If no resignations, please go to question 6.*

5. What was the bank? (you can indicate more than one answer))

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Alior Bank                   | 10. <input type="checkbox"/> Eurobank          |
| 2. <input type="checkbox"/> Bank Gospodarki Żywnościowej | 11. <input type="checkbox"/> Getin Bank        |
| 3. <input type="checkbox"/> Bank Millennium              | 12. <input type="checkbox"/> ING Bank Śląski   |
| 4. <input type="checkbox"/> Bank Pekao SA                | 13. <input type="checkbox"/> Kredyt Bank       |
| 5. <input type="checkbox"/> Bank Pocztowy                | 14. <input type="checkbox"/> mBank (Multibank) |
| 6. <input type="checkbox"/> Bank Spółdzielczy            | 15. <input type="checkbox"/> PKO Bank Polski   |
| 7. <input type="checkbox"/> Bank Zachodni WBK            | 16. <input type="checkbox"/> Polbank           |
| 8. <input type="checkbox"/> Citi Handlowy                | 17. <input type="checkbox"/> SKOK              |
| 9. <input type="checkbox"/> Credit Agricole              | 18. <input type="checkbox"/> other             |

6. Does your household have any savings in any of the forms below? 1.  YES 2.  NO

*Provide the answers for each of the following forms separately, by crossing the appropriate.*

- |  |                                |                               |
|--|--------------------------------|-------------------------------|
| 6.1. bank deposits in PLN  | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.2. bank deposits in foreign currencies                             | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.3. bonds   | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.4. investment funds  | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.5. Individual Pension Fund/ Pension Security                       | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.6. Employee Pension Fund   | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.7. securities listed on the stock exchange                         | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.8. shares and stocks in companies not listed on the stock exchange | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.9. investments in property   | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.10. investments in material goods other than real property         | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.11. cash   | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.12. insurance policy   | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.13. long-term savings programmes                                   | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.14. savings account  | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.15. personal current account                                       | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.16. other forms  | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |

*If all answers are NO, go to question 9, if even one of them is YES, go to question. 7.*

7. What is the approximate total amount of your household savings?

Show CARD 2, ask to choose one of the options and cross the appropriate box.

1  up to the equivalent of the household's monthly income

2  above monthly income - up to the equivalent of the household's 3-months' income

3  above 3-months' income - up to the equivalent of the household's 6-months' income

4  above 6-months' income - up to the equivalent of the household's yearly income

5  above the equivalent of the household's yearly to 3-year income

6  over 3-year household income

7  it is hard to say [NOT TO BE READ]

8. What is the purpose of your household savings?

Provide the answers for each of the following purposes separately, by crossing the appropriate box.

8.1. reserves for everyday consumer needs (e.g. food, clothes) 1  YES 2  NO

8.2. regular fees (e.g. home payments) 1  YES 2  NO

8.3. purchase of consumer durables 1  YES 2  NO

8.4. purchase of a house or an apartment, payments to the housing cooperative 1  YES 2  NO

8.5. renovation of the house or apartment 1  YES 2  NO

8.6. medical treatment 1  YES 2  NO

8.7. medical rehabilitation 1  YES 2  NO

8.8. leisure 1  YES 2  NO

8.9. reserves for unexpected events 1  YES 2  NO

8.10. securing the children's future 1  YES 2  NO

8.11. security for the old age 1  YES 2  NO

8.12. to develop one's own business 1  YES 2  NO

8.13. other purposes 1  YES 2  NO

8.14. no special purpose 1  YES 2  NO

9. Does your household have any loans or credits to repay? 1  YES 2  NO

*If the household has loans or credits to repay, go to question 10, if not - go to question 18*

10. Where did your household take out the loans or credits?

Provide the answers for each of the following sources of loans or credits separately, by crossing the appropriate box.

10.1. in banks 1  YES 2  NO

10.2. SKOK 1  YES 2  NO

10.3. from credit agencies (Żagiel) offering instalment plans at shops, 1  YES 2  NO

10.4. other companies providing loans (Provident, SMS loans, etc.) 1  YES 2  NO

10.5. from private persons or in a shop 1  YES 2  NO

11. Does your household has to pay a mortgage loan for purchase of a real estate? 1  YES 2  NO

*If the household has to pay a loan, go to question 12, if it doesn't - go to question 14.*

12. In which currency did you take out the mortgage loan? (please indicate all the currencies in which you have loans)

1.  in zlotys

2.  in euro

3.  in Swiss francs

4.  in another currency

13. What part of the price of the real estate was own contribution (%)?   %

14. What is the total amount of your household's debt (value of all loans, debts and borrowings) outstanding?

Show CARD no. 2, ask to choose one of the options and cross the appropriate box?

1  up to the amount of the household's monthly income

2  above monthly income - up to the equivalent of the household's 3-months' income

3  above 3-months' income - up to the equivalent of the household's 6-months' income

4  above 6-months' income - up to the equivalent of the household's yearly income

5  above the equivalent of the household's yearly - up to 3-year income

6  over 3-years household income

7  it is hard to say [DO NOT READ}

15. How much of your average monthly income have you devoted to servicing your borrowings in the last 3 months?

1.  less than 10%

2.  between 10% and 20%

3.  between 20% and 30%

4.  between 30% and 40%

5.  between 40% and 50%

6.  over 50%

16. How long do you have left before you repay your current borrowings?

1.  less than one year

2.  at least one year (please fill in the number of years)

17. What was the purpose of the loans or credits taken out by your household?

*Provide the answers for each of the following purposes separately, by crossing the appropriate box.*

17.1. everyday consumer needs (e.g. food, clothes, footwear) 1  YES 2  NO

17.2. regular payments (e.g. home payments) 1  YES 2  NO

17.3. purchase of consumer durables 1  YES 2  NO

17.4. purchase of a house or an apartment, payments to the housing cooperative 1  YES 2  NO

17.5. renovation of the house or apartment 1  YES 2  NO

17.6. medical treatment 1  YES 2  NO

17.7. purchase or lease of the tools necessary for work (machines, lease of a facility, etc.) 1  YES 2  NO

17.8. leisure 1  YES 2  NO

17.9. purchase of securities 1  YES 2  NO

17.10. repayment of earlier debts 1  YES 2  NO

17.11. developing own business 1  YES 2  NO

17.12. own education 1  YES 2  NO

17.13. children's education 1  YES 2  NO

17.14. children's future 1  YES 2  NO

17.15. other purposes 1  YES 2  NO

18. Has your household's material situation, in the last two years,

1  worsened

2  improved

3  remained unchanged

19. Does your household or any of its members possess the following goods? It does not matter whether such goods are owned, leased or made available in any other manner (provide the answers in the column "Does the household possess?"). If the household does not possess a specific item, please specify (provide the answer in the column "If not, is it due to financial reasons?") whether this is due to financial reasons (answer "YES") or any other reasons, for example such item is redundant (answer "NO"). In the case of three lines (desktop computer, portable computer, car), enter the number in the column "How many items". Responses should be provided for each of the items listed below.

	Does the household possess...?		If not, is it due to financial reasons?		How many items?
	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.1. automatic washing machine	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.2. dishwasher	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.3. microwave oven	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.4. LCD/plasma TV set	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.5. paid satellite or cable TV	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.6. DVD player	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.7. home cinema set	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.8. summer house	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.9. desktop computer	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.10. portable computer (laptop, notebook)	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.11 iPad or another tablet	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.12. passenger car (also semi-truck)	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.13. e-book reader	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.14. Internet access from the home desktop computer, laptop or mobile phone	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.15. landline phone	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.16. motorboat, sailboat	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.17. garden plot	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.18. own flat	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.19. own house	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	
19.20. other property	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	1 <input type="checkbox"/> YES	2 <input type="checkbox"/> NO	

## G. HOUSING CONDITIONS

Now I would like to ask you about your housing conditions.

1. Does your household use the dwelling independently? 1  YES    2  NO
  2. What is the total useable floor area of the dwelling your household lives in, in full square metres    m<sup>2</sup>
  3. Do you have an insurance for the dwelling? 1  YES    2  NO
  4. I would also like to ask you about the equipment at your dwelling. Is your dwelling equipped with:  
Provide the answers for each of the following installations and devices separately, by crossing the appropriate box.
- |  |                                |                               |
|--|--------------------------------|-------------------------------|
| 4.1. water supply                        | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 4.2. toilet flushed with running water   | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 4.3. bathroom with a bathtub or a shower | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 4.4. hot running water                   | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |

4.5. gas supply  YES  NO

4.6. gas from a cylinder  YES  NO

5. How is your dwelling heated?

*Choose one of the options given below by crossing the appropriate box.*

1  collective central heating

2  individual central heating (using gas, coal, coke, electricity, other fuel)

3  fuel-fired furnaces (using coal, wood, sawdust, etc.)

4  other

6. Does your household currently have any overdue:

*Provide the answers for each of the following payments/bills, by crossing the appropriate box.*

Options: 1 - yes, for 1 month;

2 - yes, for 2 months;

3 - yes, for 3 months;

4 - yes, for 4-6 months;

5 - yes, for 7-12 months;

6 - yes, for more than 12 months;

7 - no;

8 - not applicable.

6.1. payments for the dwelling (rent)  1  2  3  4  5  6  7  8

6.2. gas or electricity bills  1  2  3  4  5  6  7  8

6.3. repayment of the home loan  1  2  3  4  5  6  7  8

6.4. repayment of other loan  1  2  3  4  5  6  7  8

7. In comparison with the situation two years ago, have the housing conditions of your household:

*Choose one of the options given below by crossing the appropriate box..*

1  improved

2  deteriorated

3  remained unchanged

## H. EDUCATION

**Now I would like to ask you about the education of your children.**

NOTE: QUESTIONS 1-5 CONCERN ONLY THE HOUSEHOLDS WITH OFFSPRING AGED UP TO 26

1. Child's number*	1.1....	2.1..	3.1...	4.1....	5.1.
2. Level of education	1.2 <input type="checkbox"/>	2.2 <input type="checkbox"/>	3.2 <input type="checkbox"/>	4.2 <input type="checkbox"/>	5.2 <input type="checkbox"/>
3. Internet use	1.3 <input type="checkbox"/>	2.3 <input type="checkbox"/>	3.3 <input type="checkbox"/>	4.3 <input type="checkbox"/>	5.3 <input type="checkbox"/>

\* The child's number is the same as the reference number assigned to this person in part C, line 1

2. What level of education would you like your children to attain?

*(For each child choose one of the levels of education given below, by entering the appropriate number in the box in the line "level of education")*

**level of education:**

1.  basic vocational school

2.  profiled secondary school

3.  technical or vocational secondary school

4.  higher education (Bachelor's degree)

5.  higher education (Master's degree)

3. Does your child use the computer and Internet at home?

(For each child choose one of the levels of education given below, by entering the appropriate number in the box in the line "internet use").

- 1 Yes, but only under supervision of other household members  
 2 Yes, he/she uses them on his/her own  
 3 No, he/she doesn't

**ONLY FOR HOUSEHOLDS WITH A CHILD USING INTERNET**

4. Do you maintain any rules for the use of the Internet by child? e.g. restrictions of :

- 4.1. time spent on-line                    1  YES    2  NO  
 4.2. allowed web pages                    1  YES    2  NO  
 4.3. sharing private data                1  YES    2  NO  
 4.4. seeing people met on-line        1  YES    2  NO

5 Do you use any parental control tools (special software or filters available in the browser)?

- 1  YES    2  NO

**NOTE: QUESTIONS 6 and 7 CONCERN ONLY THE HOUSEHOLDS WITH CHILDREN AT SCHOOL AGE (above the reception class)**

6. During the current school year, have you - due to financial reasons - had to:

*Provide the answers for each of the following decisions separately, by crossing the appropriate box.*

- |  |                                |                               |
|--|--------------------------------|-------------------------------|
| 6.1.. decide not to enrol the child on extra-curricular classes? | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.2. limit or suspend the payment of school fees?                | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.3. stop paying for the child's meals at school?                | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.4. withdraw the child from any private lessons?                | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.5. change the school for one with lower or no fees?            | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |
| 6.6. introduce other restrictions?                               | 1 <input type="checkbox"/> YES | 2 <input type="checkbox"/> NO |

7. In comparison with the situation two years ago, has your household's ability to meet the needs connected with the education of your children:

*Choose one of the options given below by crossing the appropriate box.*

- 1  declined  
 2  improved  
 3  remained unchanged

**I. SOCIAL ASSISTANCE**

**Now I would like to ask you about any assistance your household receives.**

1. Does your household receive any external assistance:    1.  YES    2.  NO

*If the household receives assistance, go to question 2, if not - go to Section J "Culture and Leisure"*

2. What is the form of assistance your household receives?

*Provide the answers for each of the following forms of assistance separately, by crossing the appropriate box*

- 2.1. financial                                1  YES    2  NO  
 2.2. in the form of goods                1  YES    2  NO  
 2.3. in the form of services              1  YES    2  NO *if NO, please go to part J*  
 3. Is it support for caring for an adult?    1  YES    2  NO

**J. CULTURE AND LEISURE**

**Now I would like to ask you about the matters connected with culture and leisure.**

1. In the last year, has any of the members of your household been unable to afford:  
(The answer NOT APPLICABLE means lack of the given need)

- |  |   |
|--|---|
| 1.1. cinema  | 1. <input type="checkbox"/> YES 2. <input type="checkbox"/> NO 3. <input type="checkbox"/> NOT APPLICABLE |
| 1.2. theatre, opera, operetta, philharmonic concert, other concert | 1. <input type="checkbox"/> YES 2. <input type="checkbox"/> NO 3. <input type="checkbox"/> NOT APPLICABLE |
| 1.3. museum or exhibition  | 1. <input type="checkbox"/> YES 2. <input type="checkbox"/> NO 3. <input type="checkbox"/> NOT APPLICABLE |
| 1.4. purchase of a book  | 1. <input type="checkbox"/> YES 2. <input type="checkbox"/> NO 3. <input type="checkbox"/> NOT APPLICABLE |
| 1.5. purchase of press (daily newspapers, weeklies, monthlies)     | 1. <input type="checkbox"/> YES 2. <input type="checkbox"/> NO 3. <input type="checkbox"/> NOT APPLICABLE |

2 How many books (approximately) are there at your home (excluding school books and manuals; also in the electronic version)?

- 1  none  
 2  up to 25 volumes  
 3  26 - 50 volumes  
 4  51 - 100 volumes  
 5  101 - 500 volumes  
 6  more than 500 volumes

3. If, in question 2, the answer was different than 1: Have you purchased any books in the last year other than school text-books or instruction (paper or electronic version)

- 1  YES, how many .....
- 2  NO

4. In comparison with the situation two years ago, has your household's ability to meet the needs connected with culture:

(Choose one of the options given below by crossing the appropriate box.)

- 1  declined  
 2  improved  
 3  remained unchanged

5. In the last year, have you (any adult or child) been unable to afford: (The answer NOT APPLICABLE means lack of the given need)

- |   |  |
|---|--|
| 5.1. summer camp or other group trips for (minor) children    | 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO, the children have participated 3 <input type="checkbox"/> NOT APPLICABLE |
| 5.2. holiday leave, trips for adults                          | 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO, the adults have participated 3 <input type="checkbox"/> NOT APPLICABLE   |
| 5.3. the adults have participated (adults and minor children) | 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO, the family have participated 3 <input type="checkbox"/> NOT APPLICABLE   |

6. In comparison with the situation two years ago, has your household's ability to meet the needs connected with leisure:

(Choose one of the options given below by crossing the appropriate box.)

- 1  declined  
 2  improved  
 3  remained unchanged

**K. HEALTHCARE****Now I would like to ask you about the matters connected with health.**

1. In the last year, has any member of your household used the services of:

1.1. healthcare units providing services financed by the NFZ (National Health Fund)

1.  YES 2.  NO

1.2. healthcare units providing services paid for by the patient

1.  YES 2.  NO

1.3. healthcare units providing services paid for by the employer (under a medical services plan or health insurance)

1.  YES 2.  NO

2. In the last year, has any member of your household been hospitalised (for reasons other than pregnancy):

1.  YES, reference number of the person(s) from part C

2.  NO

*If the answers to both question 1 and 2 are NO, go to question 4*

3. During the last 3 months, how much in total (in PLN) has the household spent on:

3.1. medical treatment or various medical tests in the clinics where the services were officially paid for (including

also non-standard services provided by dentists and orthodontists, orthopaedic equipment)     PLN

3.2. informal payments, meant to secure a better or quicker care      PLN

3.3. gifts being tokens of real gratitude for the received care      PLN

3.4. fees in a public hospital (e.g. gifts, fees for the night care, anaesthesia, purchase of medicines in the pharmacy for an in-patient, etc.)      PLN

4. Please state the total amount of expenditures incurred in the last 3 months on medicines and other pharmaceutical items connected with any illness in your household:      PLN

5. In the last year, has your household experienced any of the following situations:

*Provide the answers for each of the following situations separately, by crossing the appropriate box.*

5.1. there was not enough money to buy a prescribed or recommended medicine

1  YES 2  NO 3  NO SUCH NEED OCCURRED

5.2. you were not able to afford to treat your teeth

1  YES 2  NO 3  NO SUCH NEED OCCURRED

5.3. you were not able to afford dental prostheses

1  YES 2  NO 3  NO SUCH NEED OCCURRED

5.4. you were not able to afford to visit a doctor

1  YES 2  NO 3  NO SUCH NEED OCCURRED

5.5. you were not able to afford medical tests (such as laboratory tests, X-ray examination, ECG)

1  YES 2  NO 3  NO SUCH NEED OCCURRED

5.6. you were not able to afford to undergo a rehabilitation treatment

1  YES 2  NO 3  NO SUCH NEED OCCURRED

5.7. you were not able to afford a stay at a sanatorium

1  YES 2  NO 3  NO SUCH NEED OCCURRED

5.8. you were not able to afford hospital treatment

1  YES 2  NO 3  NO SUCH NEED OCCURRED

6. If an additional health insurance policy guaranteed an improved access to medical services and their higher quality, would your household be willing to buy such an insurance policy?

- 1  NO  
 2  YES, up to PLN 100 monthly  
 3  YES, up to PLN 300 monthly  
 4  YES, above PLN 300 monthly

7. In comparison with the situation two years ago, has the ability of your household to meet the health needs:

*Choose one of the options given below by crossing the appropriate box..*

- 1  declined  
 2  improved  
 3  remained unchanged

#### L. INCOME SITUATION AND INCOME MANAGEMENT

**Now I would like to ask you about your household's financial situation and income. Please take into account the income earned by all persons from your household (from any source), which to any extent is added to the common budget.**

1. What was the net income (in PLN) of your household last month?

in the case of refusal to answer, please specify the range   (*show CARD 3*)

2. What was the average monthly net income (in PLN) of your household in 2014      in the case of refusal to answer, please specify the range   (*show CARD 3*)

3. Is your household able to make ends meet with the current net income (cash in hand)?

*Choose one of the options given below by crossing the appropriate box.*

- 1  with great difficulty  
 2  with difficulty  
 3  with some difficulty  
 4  rather easily  
 5  easily

4. Jaki What is the lowest monthly net income (in PLN) needed to make ends meet for your household?

zł

5. Which of the following statements characterises best the income management in your household?  
*Show CARD 4, ask to choose one of the options and cross the appropriate box.*

- 1  we can afford everything and make savings for the future  
 2  we can afford everything without any particular problems but we do not make savings for the future  
 3  we live thriftily and thus can afford everything  
 4  we live very thriftily in order to save money for important purchases  
 5  we can afford only the cheapest food, clothes and rent, and (if the household is in debt) – for the loan repayment  
 6  we can afford the cheapest food, clothes and rent but we have no money to repay the loan  
 7  we can afford the cheapest food and clothes but we have no money to pay the rent  
 8  we can afford the cheapest food but we have no money to buy clothes  
 9  we cannot afford even the cheapest food

6. In comparison with the situation two years ago, has the income situation of your household:

*Choose one of the options given below by crossing the appropriate box.*

- 1  worsened  
 2  improved  
 3  remained unchanged

7. Does the regular income of your household allow you to meet the everyday needs? 1.  YES 2.  NO

*If the regular income of the household doesn't allow to meet the everyday needs, go to question 8, if it does – go to part M.*

8. What does your household do to meet the everyday needs ?

*Provide the answers for each of the following solutions, by crossing the appropriate box.*

8.1. uses the savings	1. <input type="checkbox"/> YES	2. <input type="checkbox"/> NO
8.2. sells or pawns its property (material goods)	1. <input type="checkbox"/> YES	2. <input type="checkbox"/> NO
8.3. limits the everyday needs	1. <input type="checkbox"/> YES	2. <input type="checkbox"/> NO
8.4 takes out loans and credits	1. <input type="checkbox"/> YES	2. <input type="checkbox"/> NO
8.5. uses the assistance of relatives	1. <input type="checkbox"/> YES	2. <input type="checkbox"/> NO
8.6. uses the assistance of the Church/Caritas	1. <input type="checkbox"/> YES	2. <input type="checkbox"/> NO
8.7. applies for social assistance	1. <input type="checkbox"/> YES	2. <input type="checkbox"/> NO
8.8. a household member takes up an additional job	1. <input type="checkbox"/> YES	2. <input type="checkbox"/> NO
8.9. other actions	1. <input type="checkbox"/> YES	2. <input type="checkbox"/> NO
8.10. does not take any actions	1. <input type="checkbox"/> YES	2. <input type="checkbox"/> NO

#### **M. COMPUTER AND INTERNET**

**Now I would like to ask you about the matters connected with the Internet.**

*Questions 1 and 2 are asked to the households with a computer and Internet access (answer "YES" to question F. 19.14)*

1. How do the members of your household connect to the Internet at home? (*Show CARD 5, more than one answer may be checked, by crossing the appropriate boxes.*)

- 1.1.  permanent connection via a landline phone operator  
 1.2.  permanent connection through a cable TV provider  
 1.3.  other types of permanent connection, such as a local area network, local provider or shared connection in the neighbourhood  
 1.4.  permanent connection through a mobile network.:e.g. mobile Internet, LTE, Orange Free etc.  
 1.5.  access through a mobile phone (modem in the mobile phone)  
 1.6.  other

2. If there is a permanent connection in the household, what is its speed? (*Mb/s read as megabits per second. If the speed varies depending on the time of day, ask about the maximum speed stated in the contract with the provider.*)

- 1  up to 1Mb/s      5  30 Mb/s to 59 Mb/s  
 2  2 to 6 Mb/s      6  60Mb/s to 99 Mb/s  
 3  7 to 10 Mb/s      7  over 99 Mb/s  
 4  11 to 29 Mb/s      8  it is hard to say

Question 3 is asked to the households without Internet access (answer "NO" to question F.19.14.)

3. Why is there no Internet access in your household? Show CARD 6, up to 3 answers may be checked, by crossing the appropriate boxes.

1.  no appropriate equipment
2.  no technical possibility of using a permanent Internet connection
3.  sufficient possibility of using the Internet elsewhere
4.  we do not need the Internet
5.  there is nothing interesting on the Internet
6.  privacy and security reasons
7.  the Internet may be harmful, it may deprave children and consume time
8.  the costs of access are too high
9.  no appropriate skills to use the Internet
10.  other reasons
11.  we plan to set up the access this year

#### N. ORIGIN

Is there someone in your household who was living or whose parents or grandparents were living in the former Polish Eastern Borderlands before World War II?

*(former Eastern Borderlands are areas to the East from the current border of Poland, which belonged to the Republic of Poland before World War II or were outside of Poland but large groups of Polish people were residing at them, and which currently belong to Ukraine, Belarus and Lithuania)*

1  YES      2  NO

if YES, please indicate the name of the nearest city in which the person/persons lived

*(if the person does not remember, ask her/him for the former name of the Voivodship showing CARD 7 or for the name of the country to which the former place of residence belongs to)*

.....

THANK YOU FOR YOUR TIME

## 1.2. Individual questionnaire

Subsequent number of the questionnaire in the Voivodship

**fixed personal number** (only for previously studied respondents, to be copied from PART I/C)

### COUNCIL FOR SOCIAL MONITORING

tel. (22) 536-54-16, 602290367

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### SOCIAL DIAGNOSIS 2015

*An independent survey of the conditions and quality of life in Poland*

#### PART II, individual survey

MALE

1

Identification number of the household (as in Part I/A)

**Reference number of the person** (to be copied from Part I/C)

**Name** (to be copied from Part I/C)

People differ between each other. They live in various conditions, they react to everyday events in a different manner, and they have varied ways to deal with what life brings.

This questionnaire concerns your personal perception of your own life. The majority of questions should be interesting for you, some of them may seem boring and tiresome but many will be easy to answer – after all it is your life they concern; although some of them may prove to be difficult as well. Please answer them the best way you can.

Sometimes you may have the impression that certain topics reappear and the same questions are asked, only in a changed manner. And you will be right. We are searching for the best way to ask questions. Do not be surprised if we jump from topic to topic – the questions in the sets have been listed randomly.

You may be sure your answers will remain confidential. All answers will be used only for scientific purposes as part of collective statistical analyses.

In the case of some questions various possible answers may be given to choose from. Please mark the one which describes your situation best. In some cases more than one answer can be checked. If the question has no ready answers to choose from, please enter the appropriate information in the indicated space.

We kindly ask you to fill in this questionnaire on your own, without any help from other family members. We would like to learn about your individual assessments and feelings and not the opinions discussed with other persons. If you have any problems with answering any of the questions, please ask the interviewer for help..

**INSTRUCTION**

In the questions where one or more answers may be selected please mark your choice by crossing the appropriate box, in the following manner: .

In the questions where your assessment should be given, please enter the digit matching your assessment in the box. If the scale of assessment for such questions looks as the one below

1	2	3	4	5	6	7
Completely not important						Very important

The intermediate numbers (2, 3, 4, 5, 6) mean that the lower the number, the less important a given issue is (2 is less important than 3) and the greater the number, the more important the issue is (6 more important than 5).

In questions which a numerical value should be provided, please put it in the correct squares, making sure that the last digit is in the last square, for example: if a number of friends is 12, then 

1	2
---	---

 and if it is 5, then 

	5
--	---

1. Your **date of birth**
       

Day      Month      Year

2. Co uważa Pan za **najważniejszy warunek udanego, szczęśliwego życia** (PROSZĘ NAJPIERW PRZECZYTAĆ WSZYSTKIE I WYBRAĆ NAJWYŻEJ TRZY WARTOŚCI, przekreślając przy nich kwadraty):

- 1  MONEY  
 2  CHILDREN  
 3  SUCCESSFUL MARRIAGE  
 4  WORK  
 5  FRIENDS  
 6  PROVIDENCE, GOD  
 7  CHEERFULNESS, OPTIMISM  
 8  HONESTY  
 9  KINDNESS AND BEING RESPECTED  
 10  FREEDOM  
 11  GOOD HEALTH  
 12  EDUCATION  
 13  STRONG PERSONALITY  
 14  OTHER

3. How do you perceive your entire life? Could you say it was...

(please cross the appropriate box) ?

- 1  DELIGHTFUL  
 2  PLEASING  
 3  MOSTLY SATISFYING  
 4  NEITHER GOOD NOR BAD  
 5  MOSTLY DISSATISFYING  
 6  UNHAPPY  
 7  TERRIBLE

**In the recent months:** ("NOT APPLICABLE" means unmarried)

4. Your wife's expectations towards you have been so high you have not been able to meet them

- 1  OFTEN    2  ONCE OR TWICE    3  NEVER    4  NOT APPLICABLE

5. Your wife has spent your shared money in a careless manner

- 1  OFTEN    2  ONCE OR TWICE    3  NEVER    4  NOT APPLICABLE

6. Your wife's problems have worried you and made your life harder

- 1  OFTEN    2  ONCE OR TWICE    3  NEVER    4  NOT APPLICABLE

**In the recent months:** ("NOT APPLICABLE" means no financially dependent children)

7. You have had to listen to some complaints concerning your child/children (e.g. at school, from neighbours or other parents)

- 1  OFTEN    2  ONCE OR TWICE    3  NEVER    4  NOT APPLICABLE

8. You have incurred some financial costs as a result of your child/children's behaviour

- 1  OFTEN    2  ONCE OR TWICE    3  NEVER    4  NOT APPLICABLE

9. Your child/children has/have disregarded you and rejected your help and advice and instructions

- 1  OFTEN    2  ONCE OR TWICE    3  NEVER    4  NOT APPLICABLE

10. You have felt you are losing control over your child/children

- 1  OFTEN    2  ONCE OR TWICE    3  NEVER    4  NOT APPLICABLE

<b>In the last months:</b> (DOES NOT APPLY means a lack of elderly parents, parents-in-law, or relatives)
11. Did you feel responsible for ensuring the care and well-being of elderly parents and other relatives 1 <input type="checkbox"/> OFTEN    2 <input type="checkbox"/> ONCE OR TWICE    3 <input type="checkbox"/> NEVER    4 <input type="checkbox"/> NOT APPLICABLE
12. The state of health or mental state of an elderly parent or relative concerned you 1 <input type="checkbox"/> OFTEN    2 <input type="checkbox"/> ONCE OR TWICE    3 <input type="checkbox"/> NEVER    4 <input type="checkbox"/> NOT APPLICABLE

<b>In the recent months:</b>
13. You have felt your source of income is uncertain and unstable 1 <input type="checkbox"/> OFTEN    2 <input type="checkbox"/> ONCE OR TWICE    3 <input type="checkbox"/> NEVER    4 <input type="checkbox"/> NOT APPLICABLE (no income)
14. Your financial problems have worried you and made your life harder 1 <input type="checkbox"/> OFTEN    2 <input type="checkbox"/> ONCE OR TWICE    3 <input type="checkbox"/> NEVER

<b>In the recent months:</b> (“NOT APPLICABLE” means no paid job)
15. You have felt your work is too tiresome, dirty or dangerous 1 <input type="checkbox"/> OFTEN    2 <input type="checkbox"/> ONCE OR TWICE    3 <input type="checkbox"/> NEVER    4 <input type="checkbox"/> NOT APPLICABLE
16. You have felt overburdened with work duties which you have been unable to cope with 1 <input type="checkbox"/> OFTEN    2 <input type="checkbox"/> ONCE OR TWICE    3 <input type="checkbox"/> NEVER    4 <input type="checkbox"/> NOT APPLICABLE
17. You have been unfairly treated by others at work 1 <input type="checkbox"/> OFTEN    2 <input type="checkbox"/> ONCE OR TWICE    3 <input type="checkbox"/> NEVER    4 <input type="checkbox"/> NOT APPLICABLE

<b>In the recent months:</b>
18. You have felt that the place you live in is too crowded, for instance, that there are too many persons living in your apartment, the neighbouring apartments or in the entire building 1 <input type="checkbox"/> OFTEN    2 <input type="checkbox"/> ONCE OR TWICE    3 <input type="checkbox"/> NEVER
19. You have feared because of crime, drug addiction and hooliganism in your district, housing estate or neighbourhood 1 <input type="checkbox"/> OFTEN    2 <input type="checkbox"/> ONCE OR TWICE    3 <input type="checkbox"/> NEVER
20. The problems connected with your neighbours or other persons in the neighbourhood have poisoned your life 1 <input type="checkbox"/> OFTEN    2 <input type="checkbox"/> ONCE OR TWICE    3 <input type="checkbox"/> NEVER
21. You have been annoyed with the decisions and actions taken by the local authorities 1 <input type="checkbox"/> OFTEN    2 <input type="checkbox"/> ONCE OR TWICE    3 <input type="checkbox"/> NEVER

<b>In the recent months:</b>
22. You have suffered from ailments, such as bones aching or shortness of breath, etc., which has made it difficult for you to leave home, climb the stairs, etc. 1 <input type="checkbox"/> OFTEN    2 <input type="checkbox"/> ONCE OR TWICE    3 <input type="checkbox"/> NEVER
23. Your health problems have made it difficult for you to perform everyday activities or to take part in other activities 1 <input type="checkbox"/> OFTEN    2 <input type="checkbox"/> ONCE OR TWICE    3 <input type="checkbox"/> NEVER

<b>In the recent months:</b>	
24. You have dealt with some administrative matter	1 <input type="checkbox"/> YES      2 <input type="checkbox"/> NO (in NO, please go to question 28)
25. You have been unable to deal with an administrative matter in an efficient, quick and easy manner	1 <input type="checkbox"/> OFTEN      2 <input type="checkbox"/> ONCE OR TWICE      3 <input type="checkbox"/> NEVER
26. You have had to use connections or other ways to deal with some formal matter	1 <input type="checkbox"/> OFTEN      2 <input type="checkbox"/> ONCE OR TWICE      3 <input type="checkbox"/> NEVER
27. You have felt entirely helpless and humiliated while dealing with some formal matter	1 <input type="checkbox"/> OFTEN      2 <input type="checkbox"/> ONCE OR TWICE      3 <input type="checkbox"/> NEVER

28 <b>Did you vote in the last self-government elections in 2014?</b>
1 <input type="checkbox"/> YES      2 <input type="checkbox"/> NO      3 <input type="checkbox"/> I was under 18 years of age

29. <b>What, in your opinion, is more important in life?</b>
1. <input type="checkbox"/> fun, well-being, lack of stress, 2. <input type="checkbox"/> sense of purpose, achieving important goals despite difficulties, pain and sacrifice

<b>In the last year, have you...?</b>	
30. started a better paid or an additional job	1 <input type="checkbox"/> YES      2 <input type="checkbox"/> NO
31. invested any money in production, trade or services	1 <input type="checkbox"/> YES      2 <input type="checkbox"/> NO
32. earned money in connection with the stocks, bonds or participation units in some fund	1 <input type="checkbox"/> YES      2 <input type="checkbox"/> NO
33. gained new qualifications or skills in order to have a chance of higher salary	1 <input type="checkbox"/> YES      2 <input type="checkbox"/> NO

34. Considering all, <b>how would you assess your current life</b> - would you say you are
1 <input type="checkbox"/> VERY HAPPY 2 <input type="checkbox"/> RATHER HAPPY 3 <input type="checkbox"/> RATHER UNHAPPY 4 <input type="checkbox"/> UNHAPPY

35. <b>In the last year, have you used the services of healthcare units?</b>
35.1. financed by the NFZ (National Health Fund)      1 <input type="checkbox"/> YES      2 <input type="checkbox"/> NO
35.2. paid for from your own pocket      1 <input type="checkbox"/> YES      2 <input type="checkbox"/> NO
35.3. paid for by the employer (under a medical services plan or health insurance)      1 <input type="checkbox"/> YES      2 <input type="checkbox"/> NO

36. <b>In recent months, how often have you been so depressed you have thought about suicide?</b>
1 <input type="checkbox"/> VERY OFTEN 2 <input type="checkbox"/> RATHER OFTEN 3 <input type="checkbox"/> RARELY 4 <input type="checkbox"/> NEVER

37. <b>Do you feel loved and trusted?</b> 1 <input type="checkbox"/> YES      2 <input type="checkbox"/> NO
---

38. <b>On average, how often in a month do you take part in a church service or other religious meetings?</b>
(if less often than once in a month, please enter 0) <input type="text"/> <input type="text"/> times a month

39. How many persons do you consider to be your friends?

40. At present, how strong is your willingness to live? (please cross the appropriate box on the scale below)

1 2 3 4 5 6 7 8 9 10

I do not want to live  
at all

I want to live  
very much

41. Do you feel lonely, though you would prefer not to? 1  YES 2  NO

42. In your opinion, were the reforms in Poland after 1989 in general successful or unsuccessful?

- 1  successful  
2  unsuccessful  
3  it is hard to say

43. Do you smoke? 1  YES 2  NO

44. — if YES, how many cigarettes a day do you smoke on average?   cigarettes

45. — if NO, have you ever smoked? 1  YES 2  NO

46. During the last two years, have you been involved in any actions for the benefit of your local community (county, housing estate, town or neighbourhood)? 1  YES 2  NO

47. Please specify, how you usually react to problems or difficult situations in your life. (more than one answer may be checked, by crossing the appropriate boxes)

- 47.1.  I seek advice and help from others  
47.2.  I pull myself together and start to act  
47.3.  I drink alcohol  
47.4.  I console myself that it could have been worse or that other have worse problems  
47.5.  I give up, I do not know what to do  
47.6.  I take tranquilisers  
47.7.  I pray to God for help  
47.8.  I do other things that help me forget about my problems and put me in a better mood

48. Are you a member of any organisations, associations, parties, committees, councils, religious groups or clubs?

- 1  YES, one  
2  YES, two  
3  YES, three or more  
4  NO

49. if YES, have you ever fulfilled any roles in such organisations? 1  YES 2  NO

50 – if answer to question 48 is YES, then do you currently take active part in such organisations?

- 1  YES 2  NO

51 – if answer to question 50 is YES, then what kind of organisation is it? (please indicate all you take active part in)

- 51.1  sports club  
51.2  business, professional or agricultural organisation  
51.3  political party  
51.4  charity organisation, acting to protect the weak or to defend human rights, etc.  
51.5  trade union  
51.6  union or interest club (anglers', stamp-collectors', motorists', etc.)  
51.7  residents' association  
51.8  parents' association  
51.9  environmental protection, animal rights organisation, etc.  
51.10  social club - youth, elderly, women, common interest

- 51.11  church or religious organisation  
 51.12  educational organisation (e.g Third Age University, book club, etc.)  
 51.13  elected local authority (e.g local or regional council)  
 51.14  other, not mentioned above

52. **How tall are you?**    centimetres

53. **How much do you weigh?**    kilograms

**54. In the boxes separated with horizontal lines below (N, O, P, etc.) there are various categories of feelings and behaviours. Read the four statements in each point carefully and then choose one that describes best your feelings and beliefs during the last month.**

Please mark your choice by crossing the appropriate box (next to 0, 1, 2 or 3).

- N.  0. I think that I don't look worse than I used to.  
 1. I am worried because I look old or unattractive.  
 2. I feel that I look worse than I used to.  
 3. I am sure that I look terrible.

- O.  0. I have as much energy as ever to work.  
 1. I find it hard to get to doing anything at all.  
 2. It is extremely hard for me to get to doing anything at all.  
 3. I'm not able to do anything.

- P.  0. I sleep at least as well as I used to.  
 1. I do not sleep as well as I used to.  
 2. In the morning, I wake up 1-2 hours earlier and find it difficult to fall asleep again.  
 3. I wake up several hours too early and I can't get back to sleep.

- Q.  0. I am no more tired or fatigued than usual.  
 1. I get tired or fatigued more easily than usual.  
 2. Almost everything I do makes me tired.  
 3. I am too tired to do anything.

- R.  0. I have not experienced any change in my appetite.  
 1. My appetite is somewhat less than it used to.  
 2. My appetite is much less than before.  
 3. I have no appetite at all.

- T.  0. I am not worried about my health any more than I used to be.  
 1. I am worried about such ailments as: stomach pains, upset stomach, or constipation.  
 2. I am very worried about my health; I think about it constantly.  
 3. My health condition is so worrying that I cannot think of anything else.

- U.  0. I have not noticed any recent change in my interest in sex.  
 1. I am less interested in sex than I used to be.  
 2. I am much less interested in sex now.  
 3. I have lost interest in sex completely.

**55. Have you attended any public meeting in the last year (but not at your workplace)?** 1  YES 2  NO

56. Does your diet exclude meat and meat products?

1  YES 2  NO

57. **Below you will find several statements. Please specify to what extent these statements match your beliefs and attitudes.** Provide your opinions by entering the selected digit in the appropriate box.

The specific digits mean:

- 1 - DEFINITELY YES
- 2 - YES
- 3 - RATHER YES
- 4 - NEITHER YES NOR NOT
- 5 - RATHER NOT
- 6 - NO
- 7 - DEFINITELY NOT

- 57.1.  I admire people who have expensive houses, cars and clothes
- 57.2.  Despite some painful experiences, my life has sense and a great value
- 57.3.  The most important thing in life is to have a lot of fun.
- 57.4.  The measure of a successful life is the possession of various material goods
- 57.5.  I like buying things that have no practical purpose.
- 57.6.  Shopping itself gives me a lot of joy.
- 57.7.  People try to help others above all
- 57.8.  Homosexuals should be allowed to live according to their beliefs
- 57.9.  A true patriot should not speak ill of Poland and the Polish people
- 57.10.  Foreigners have too much to say in our country.
- 57.11.  Some people are worth more than others
- 57.12.  I would like to look good and attractive
- 57.13.  Some groups of persons are not worthy of respect
- 57.14.  We should seek to make the income of all persons more or less equal
- 57.15.  You cannot raise children well without corporal punishment..
- 57.16.  Every man is the architect of his own fortune.
- 57.17.  Fathers should take advantage of parental leave more often and take care of their children.
- 57.18.  Capital punishment should be reinstated in Poland.
- 57.19.  I have a lot of energy.
- 57.20.  Common-law relationship should be legalised in Poland.

58. Generally, do you believe that you can trust most people, or do you think you can never be too careful?

- 1  you can trust most people
- 2  you can never be too careful
- 3  it is difficult to say

59. Have you in the last year done any voluntary work for people outside the family or for a social organisation?

1  YES, OFTEN 2  YES, RARELY 3  NO

60. Considering all, do you think the last year was a good one for you? 1  YES 2  NO

61. On what or on who would depend, in your opinion, the last year being either a success or a failure? (you can indicate more than one answer)

- 61.1.  authorities  
 61.2.  myself  
 61.3.  other people  
 61.4.  fate (providence)

**62. Below you will find a list of some ailments. Please specify whether you suffered from them LAST MONTH.**

If you did not suffer from a particular ailment last month, please cross the box in the column "I did not". If you suffered from a particular ailment for less than half of the month, cross the box in the middle column. If you suffered from a particular ailment for at least half of the month, please cross the box in the last column.

<b>IN THE PAST MONTH:</b>	<b>I did not suffer</b>	<b>I suffered for less than 15 days</b>	<b>I suffered at least for half a month</b>
62.1. strong headaches	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.2. stomach pains or flatulence	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.3. pain or tension in the neck or arm muscles	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.4. chest or heart pains	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.5. dry mouth or throat	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.6. attacks of excessive sweating	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.7. shortness of breath	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.8. pains throughout the whole body	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.9. accelerated heartbeat (palpitation)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.10. shivers or convulsions	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.11. pressure on the bladder and more frequent urinating	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.12. a feeling tiredness not associated with work	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.13. constipation	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.14. nosebleeds	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
62.15. sudden changes of blood pressure	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>

63. **Please assess the specific areas of your life** and state to what extent you are satisfied with them. Please give your answers by crossing the box next to the appropriate digit for the given area of life. The specific digits mean:

- 1 - VERY SATISFIED
- 2 - SATISFIED
- 3 - RATHER SATISFIED
- 4 - RATHER NOT SATISFIED
- 5 - NOT SATISFIED
- 6 - VERY NOT SATISFIED
- 7 - not applicable

**To what extent are you satisfied with:**

63.1. your relations with your close family members	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.2. the financial situation of your family	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.3. your relations with friends (a group of friends)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.4. your health condition	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.5. your life achievements	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.6. the situation in the country	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.7. your housing conditions	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.8. the town/city you live in	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.9. your future prospects	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.10. your sex life	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.11. your education	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.12. the manner in which you spend your free time	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.13. your work	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.14. children	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.15. marriage	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.16. safety in your town/city of residence	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.17. health care	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.18. local public transport	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.19. your last holiday travels	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>
63.20. recreational areas in the place of your residence	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>

64. **Which of the following statements on democracy do you agree the most with?**

- 1  democracy is a superior form of governance
- 2  sometimes non-democratic rule is better than democracy
- 3  for people like me it does not really matter whether the government is democratic or not
- 4  democracy is a bad form of government
- 5  it is hard to say

65. During the last three months, your own (personal) **monthly** net income (less taxes) has on average amounted to:

PLN

66. What **monthly** net income (less taxes) do you expect to receive in two years?      PLN

67. Below you will find a list of various behaviours. Some of them may concern you directly, others may concern only other people. Please specify your attitude towards the behaviours listed below.

Mark the answers by entering the appropriate number (1-5) into the boxes next to each example. The specific digits mean:

- 1 - I DO NOT CARE AT ALL  
 2 - I CARE LITTLE ABOUT IT  
 3 - I CARE ABOUT IT TO SOME EXTENT  
 4 - I CARE ABOUT IT VERY MUCH  
 5 - IT IS HARD TO SAY

**How much do you care if:**

- 67.1.  someone pays lower taxes than he/she should
- 67.2.  someone avoids paying the fares for the public transport (e.g. buses, trains)
- 67.3.  someone unjustly draws unemployment benefit
- 67.4.  someone unjustly receives disability benefits (on the grounds of being unable to work)
- 67.5.  someone files an insurance claim under false pretences

68. We would like to know **how many persons you contact with regularly for social and personal reasons (at least several times a year)**. Please give the approximate number of such persons:

- 68.1. among close family members
- 68.2. among friends
- 68.3. among acquaintances (work/school colleagues, neighbours and others)

69. Among the acquaintances and friends you contact for social reasons, are there any people who:

- |   |                                 |                                |
|---|---------------------------------|--------------------------------|
| 69.1. are significantly older or younger than you are?          | 1. <input type="checkbox"/> YES | 2. <input type="checkbox"/> NO |
| 69.2. have other political views than yours?                    | 1. <input type="checkbox"/> YES | 2. <input type="checkbox"/> NO |
| 69.3. are significantly poorer or richer than you are?          | 1. <input type="checkbox"/> YES | 2. <input type="checkbox"/> NO |
| 69.4. prefer different music, literature, pastimes than you do? | 1. <input type="checkbox"/> YES | 2. <input type="checkbox"/> NO |
| 69.5. prefer different cuisine than you do?                     | 1. <input type="checkbox"/> YES | 2. <input type="checkbox"/> NO |

70. In the last week, how much time on average have you spent daily watching TV?

- 1  I do not watch TV  
 2  less than an hour  
 3  one to two hours  
 4  two to three hours  
 5  three to four hours  
 6  more than four hours

<b>71. In the last month, how many times have you gone to:</b>	
70.1. cinema, theatre, concert	<input type="checkbox"/> <input type="checkbox"/>
70.2. restaurant, cafe, pub	<input type="checkbox"/> <input type="checkbox"/>
70.3. meeting with friends	<input type="checkbox"/> <input type="checkbox"/>

<b>IN THE LAST YEAR, have you:</b>	
72. visited a psychologist (psychiatrist)	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
73. drunk too much alcohol	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
74. tried drugs/designer drugs	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
75. . lost a close person	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
76. been unable to find a job after graduation	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO 3 <input type="checkbox"/> NOT APPLICABLE
77. been moved to a lower position at work	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO 3 <input type="checkbox"/> NOT APPLICABLE
78. been omitted for promotions at work	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO 3 <input type="checkbox"/> NOT APPLICABLE
79. been promoted at work	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO 3 <input type="checkbox"/> NOT APPLICABLE
80. had serious problems with your superior	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO 3 <input type="checkbox"/> NOT APPLICABLE
81. started your own business	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
82. lost a lot of money doing business	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO 3 <input type="checkbox"/> .NOT APPLICABLE
83. been robbed	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
84. been mugged and beaten	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
85. had your home or car broken into	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
86. been charged with a criminal offence punishable with imprisonment or fine	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
87. been detained by the police	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
88. been accused in a civil court case	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
89. caused a traffic collision or accident	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
90. had a close acquaintance of yours arrested or braking the law	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
91. been discriminated (humiliated) against on the basis of your nationality, appearance, beliefs or other reasons	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
92. had your apartment (house) seriously damaged	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
93. had your apartment (house) renovated	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO
94. had problems with the owner or administrator of the building you live in (lived in)	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO 3 <input type="checkbox"/> NOT APPLICABLE
95. been seriously ill	1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO

**96. Do you plan to go abroad within the next two years, in order to work?**

- 1  YES, to a European Union country - state which one .....
- 2  YES, to a country outside the European Union - state which one.....
- 3  NO

**97. – if the answer to question 96 is YES, then what is the main reason for your wish to travel?**  
(please read all reasons carefully and indicate no more than three of the most important in your opinion)

- 97.1.  I've lost all hope in finding any kind of work in this country
- 97.2.  I've lost hope in finding the right work for my qualifications in this country
- 97.3.  I'm counting on much higher earnings than at home
- 97.4.  I've got no opportunity for professional development at home
- 97.5.  I'm fed up with the general atmosphere at home
- 97.6.  In Poland, everything depends on who you know and not on what you can do
- 97.7.  I'm expecting better social benefits in another country (for child, unemployed etc.)
- 97.8.  It'll be easier to become independent abroad
- 97.9.  I'd like to join my family/partner living abroad
- 97.10.  People abroad are much more friendly and helpful
- 97.11.  It's easier to set up and expand business abroad
- 97.12.  My employer is sending me abroad
- 97.13.  I want to challenge myself
- 97.14.  I want to earn some money to set up my own business at home
- 97.15.  I want to earn some money for my needs at home (support the family/pay off a loan/build a house/flat/buy land/equipment, etc.)
- 97.16.  other reason.

**98. When should Poland join the eurozone (euro area) in your opinion?**

- 1  as soon as possible
- 2  as soon as the situation in the eurozone improves
- 3  never
- 4  it is hard to say

**99. Do you use a computer?** 1  YES 2  NO**100. Do you use the Internet?** 1  YES 2  NO**101. Which political party is the closest to your views? (leader's name in brackets)**

- 1  Platforma Obywatelska (Ewa Kopacz)
- 2  Prawo i Sprawiedliwość (Jarosław Kaczyński)
- 3  Polskie Stronnictwo Ludowe (Janusz Piechociński)
- 4  Sojusz Lewicy Demokratycznej (Leszek Miller)
- 5  Twój Ruch (Janusz Palikot)
- 6  Other
- 7  None
- 8  It is hard to say

102. Do you use services of a bank? 1  YES 2  NO

103. - if YES, which services?

1.  account
2.  debit card
3.  savings account
4.  credit card
5.  overdraft
6.  electronic/online banking
7.  ban loan/cash loan
8.  mortgage
9.  deposit

104. - if you use bank services, which bank is your main bank (used for transfer of salary, pension, used most often, account, etc.)?

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Alior Bank                   | 10. <input type="checkbox"/> Eurobank          |
| 2. <input type="checkbox"/> Bank Gospodarki Żywnościowej | 11. <input type="checkbox"/> Getin Bank        |
| 3. <input type="checkbox"/> Bank Millennium              | 12. <input type="checkbox"/> ING Bank Śląski   |
| 4. <input type="checkbox"/> Bank Pekao SA                | 13. <input type="checkbox"/> Kredyt Bank       |
| 5. <input type="checkbox"/> Bank Pocztowy                | 14. <input type="checkbox"/> mBank (Multibank) |
| 6. <input type="checkbox"/> Bank Spółdzielczy            | 15. <input type="checkbox"/> PKO Bank Polski   |
| 7. <input type="checkbox"/> Bank Zachodni WBK            | 16. <input type="checkbox"/> Polbank           |
| 8. <input type="checkbox"/> Citi Handlowy                | 17. <input type="checkbox"/> SKOK              |
| 9. <input type="checkbox"/> Credit Agricole              | 18. <input type="checkbox"/> other             |

105. Do you trust?:

105.1. commercial banks?	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.2. National Bank of Poland	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.3. Sejm	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.4. President	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.5. European Parliament	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.6. the police	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.7. the government	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.8. ZUS (Social Insurance Institution)	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.9. stock exchange	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.10. courts	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.11. life insurance companies	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.12. property insurance companies	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.13. neighbours	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.14. doctors	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion
105.15. media (journalists)	1 <input type="checkbox"/> YES, a lot	2 <input type="checkbox"/> YES, moderately	3 <input type="checkbox"/> NO	4 <input type="checkbox"/> no opinion

**106. Do you practise any sport or physical activity?**

- 106.1.  no, I do not practise any sport or physical activity  
 106.2.  aerobics  
 106.3.  running/jogging/nordic walking  
 106.4.  gym  
 106.5.  cycling  
 106.6.  skiing or other winter sports  
 106.7.  swimming  
 106.8.  football or other team sports  
 106.9.  yoga  
 106.10.  martial arts  
 106.11.  another sport or type of physical activity

**107. Do you have any kind of insurance?** 1  YES 2  NO**108 -- if yes, which insurance types do you use?**

1.  group insurance policy in the workplace  
 2.  private life insurance  
 3.  third person liability insurance in private life  
 4.  motor insurance  
 5.  health insurance related to traveling abroad

**109. Which of the causes of the Polish airplane's catastrophe in Smoleńsk on 10 April 2010 is in your opinion most probable? (please mark no more than two of the following causes)**

- 1  the pilots' or flight controllers' error  
 2  attack or conspiracy against the Polish president  
 3  the pilots being under pressure to land despite the bad weather conditions  
 4  general chaos in the institutions responsible for the flight  
 5  other causes  
 6  it is hard to say

**110. How many hours a week do you spend on reading the press? (newspapers, journals, magazines)?**  hours**111. How many books did you read (listen to) during the last 12 months?**

- 111.1. printed    
 111.2. audiobooks    
 111.3. e-books

**112. In the last year, did you take any loans in a company which was not a bank**(e.g. Provident, so-called shadow banking systems, by text etc.)? 1  YES 2  NO**113. – if YES, what was the reason for borrowing money from a company different than a bank? (more than one reason can be indicated)**

1.  quick way of obtaining the money  
 2.  the amount was small  
 3.  I was unable to get a loan in a bank  
 4.  there is no difference between banks and non-banks.  
 5.  easy way of contacting the person lending the money  
 6.  favourable interest rates  
 7.  favourable payment conditions  
 8.  other reasons

**The next pages include the sets of questions addressed only to certain persons. Please check which conditions you meet and go to the appropriate parts of the questionnaire:**

- the persons currently working professionally – question 114-121
- the persons who changed their job in the period 2013-2015 – questions 122-123
- the persons who did not work professionally in the period 2013-2015 – questions 124-126
- the persons who have a bank account – questions 127-130
- the persons who use a computer – questions 131-132
- the persons who use the Internet – questions 133-135
- the persons who take care of a disabled adult for free – questions 136-138
- persons who have taken part in Social Diagnosis for the first time – questions 139-141

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**FOR THE PERSONS WHO WORK PROFESSIONALLY AT THE MOMENT**

114. How many hours a week do you work on average?   hours

115. How much time do you usually spend commuting to and from work?    minutes

116. Which solutions would in your opinion facilitate combining professional and family duties, including parental duties? (Please indicate at least three answers you consider the most important.)

- 116.1.  part-time work
- 116.2.  possibility to share parental leave with the child's father
- 116.3.  flexible work hours
- 116.4.  possibility of working partly at home
- 116.5.  more days off in a week
- 116.6.  longer paid child care leave
- 116.7.  higher social benefits (e.g. child care benefit, benefits for children, etc.)
- 116.8.  better possibilities of child care outside home for children under 7 (more nurseries and kindergartens, the time of childcare outside home adjusted to the parents' work hours)
- 116.9.  better possibilities of child care outside home for children aged 7-12 (more additional classes at schools, local care centres, etc.)

117. What is in your opinion the most important in professional work? (please read through all the answers and then choose no more than 3, by crossing the appropriate boxes)

- 117.1.  lack of tensions and stress
- 117.2.  high degree of independence
- 117.3.  personal development opportunities
- 117.4.  work matching one's skills
- 117.5.  quick promotion opportunities
- 117.6.  stability of employment
- 117.7.  convenient work hours
- 117.8.  possibility of working at home
- 117.9.  long leave
- 117.10.  having a profession which is respected by others
- 117.11.  appropriate pay
- 117.12.  other factors

118. Which of the conditions chosen by you in the previous question are fulfilled in your current job?

- 118.1. the first crossed condition      1.  YES    2.  NO
- 118.2. the second crossed condition    1.  YES    2.  NO
- 118.3. the third crossed condition      1.  YES    2.  NO

119. Do you currently work in a managerial capacity? 1  YES 2  NO

120. -- if YES, how many staff do you have reporting to you?

121. In your main place of work, is it possible to?

121.1 change the time of starting or finishing work, 1.  YES 2.  NO

121.2. perform some work-related duties at home 1.  YES 2.  NO

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**FOR PERSONS WHO CHANGED THEIR JOB IN THE PERIOD 2013-2015, IRRESPECTIVE OF WHETHER THEY WORK AT PRESENT OR NOT**

122. Why did you change your job in the period 2013-2015? (you may choose more than one reason)

122.1.  own decision in order to start a better/better paid job

122.2.  my employment contract for a definite period of time expired

122.3.  or reasons outside my control (health condition, dismissal, leave, company's restructuring, company's insolvency, retirement)

122.4.  other reasons

123. Did the change of job also entail a change of occupation? 1  YES 2  NO

\*\*\*\*\*

**THE PERSONS WHO DID NOT WORK PROFESSIONALLY IN 2013-2015**

124. Did you work before the year 2013? 1  YES 2  NO

125. Why did you not work in the period 2013-2015? (please choose up to 3 reasons, by crossing the appropriate boxes)

125.1.  education, gaining new qualifications

125.2.  taking care of the home

125.3.  child-rearing

125.4.  taking care of the disabled and older household members

125.5.  health condition, disability

125.6.  unsuitable age

125.7.  lack of qualifications required by the employers

125.8.  retirement

125.9.  difficulties with finding a job

125.10.  receiving social benefits

125.11.  I did not want to work

126. Which conditions would make you take up a job in Poland? (please choose and indicate up to 2 answers)

126.1.  possibility of working part-time

126.2.  possibility of working at least partly at home

126.3.  possibility of having flexible work hours

126.4.  possibility of receiving more support from other household members in terms of family duties

126.5.  possibility of using proper care services for the children or the ill

126.6.  possibility of retaining the right to receive current social benefits

126.7.  convenient conditions of working and commuting for disabled persons

126.8.  other

126.9.  I do not want to work at all

\*\*\*\*\*

**FOR THE PERSONS WHO HAVE A BANK ACCOUNT**

127. Do you consider the amount of contact on the part of the bank to be:

1  Too much  
 2  Correct  
 3  Too little

128. What is your preferred form of contact on the part of the bank?:

1  by telephone  
 2  e-mail  
 3  letter on paper  
 4  SMS  
 5  visit to branch

129. How frequent contact on the part of the bank would you consider acceptable?  
 (please cross each column. If you have no email account, please leave the column empty)

How often?	129.1. telephone	129.2. e-mail	129.3. letter on paper
Once a week	1 <input type="checkbox"/>	1 <input type="checkbox"/>	1 <input type="checkbox"/>
Once a month	2 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input type="checkbox"/>
Once a quarter	3 <input type="checkbox"/>	3 <input type="checkbox"/>	3 <input type="checkbox"/>
Once every half a year	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
Less than once a year	5 <input type="checkbox"/>	5 <input type="checkbox"/>	5 <input type="checkbox"/>

130. Would you be likely to purchase more bank products if it did not require visiting a branch?

1  YES    2  NO    3.  It is hard to say

\*\*\*\*\*

**FOR THE PERSONS WHO USE A COMPUTER**

131. How many hours have you spent using a computer in the last week?      hours

132. Did you perform the following activities when using a computer?  
 Please cross the appropriate boxes.

	YES	NO
132.1. copying, cutting and pasting in order to replicate or move the selected fragments of a file	1. <input type="checkbox"/>	2. <input type="checkbox"/>
132.2. using the basic mathematical functions in a spread sheet	1. <input type="checkbox"/>	2. <input type="checkbox"/>
132.3. creating an electronic presentation	1. <input type="checkbox"/>	2. <input type="checkbox"/>
132.4. writing a computer programme in a programming language	1. <input type="checkbox"/>	2. <input type="checkbox"/>

\*\*\*\*\*

**FOR THE PERSONS WHO USE THE INTERNET**

133. How many hours have you spent using the internet in the last week?   

134. Please state whether you have performed the following activities when using the Internet?  
 (please read through the list of possible Internet activities below and mark which of them you have ever performed and which of them you have performed in the last week, by crossing the appropriate boxes)

Activity	Ever	Last week
134.1. reading and sending e-mails	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.2. using instant messengers	1. <input type="checkbox"/>	2. <input type="checkbox"/>

134.3. using discussion groups or forums	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.4. calling via the Internet ( Skype),	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.5. creating or modifying websites	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.6. collecting materials necessary for education or work	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.7. participating in online courses or trainings	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.8. job seeking, sending offers concerning employment	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.9. buying products and services online in Poland	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.10. . buying products and services online from abroad	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.11. participating in online auctions	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.12. playing network games online	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.13. downloading free software	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.14. using Facebook	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.15. using other social network portals	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.16. using internet banking services	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.17. downloading free music, films	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.18. reating and publishing own texts (e.g. blog), images, music or other type of online creation	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.19. obtaining information from the websites of public institutions	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.20. downloading or filling in official forms	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.21. listening to music or radio online	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.22. watching TV online	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.23. ticket reservation (airplane, cinema, theatre)	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.24. reading newspapers or books online	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.25. paying for online content	1. <input type="checkbox"/>	2. <input type="checkbox"/>
134.26. using Internet and electronic mail at home for professional reasons	1. <input type="checkbox"/>	2. <input type="checkbox"/>

135. Do you use browser or other internet applications through your mobile phone or Tablet ?

1.  YES, only if Wi-Fi is available,  
 2.  YES, at any place through mobile network,  
 3.  NO

\*\*\*\*\*

**FOR THE PERSONS WHO TAKE CARE OF A DISABLED ADULT FOR FREE**

136. Does the person you take care of live with you? 1.  YES 2.  NO

137. How old is he/she?   years old

138. How much time on average do you spend taking care of the person weekly?   hours

\*\*\*\*\*

**FOR THE PERSONS WHO ARE TAKING PART IN SOCIAL DIAGNOSIS FOR THE FIRST TIME**

If you have children who currently **do not live** with you, please answer question 139. If this does not apply to you, please leave question 139 out.

**139. Please state the date of birth of the children who do not live with you at present.**

The number of the child	1	2	3	4	5	6
<b>Year of birth</b> (only the last two digits)	<input type="text"/> <input type="text"/>					

If you have ever lived together with a partner for more than three months, please answer the following. If not, please finish the questionnaire here.

**140, 141. Please state the year of starting and finishing your time of living together with a partner for over three months**

(if there was more than one such relationship, please state the year when you started and stopped living together with subsequent partners in the subsequent columns)

The subsequent number of the partner	1	2	3	4	5	6
<b>140. The year in which you started to live together with the partner</b> (two last digits)	<input type="text"/> <input type="text"/>					
<b>141. The year in which you finished living together with the partner</b> (two last digits); if this is your current relationship, please leave the space blank	<input type="text"/> <input type="text"/>					

THANK YOU FOR YOUR TIME

WE WOULD LIKE TO ONCE AGAIN ASSURE YOU THAT ALL PROVIDED INFORMATION WILL BE USED ONLY IN COLLECTIVE STATISTICAL SCIENTIFIC STUDIES.

on behalf of the COUNCIL FOR SOCIAL MONITORING

Prof. Tomasz Panek - Szkoła Główna Handlowa (Warsaw School of Economics).

### 1.3. Instructions for interviewers

#### INSTRUCTIONS CONCERNING THE ORGANISATION AND PRINCIPLES OF FILLING IN THE QUESTIONNAIRES UNDER “SOCIAL DIAGNOSIS 2015” R8

##### Introductory notes

The survey “Social Diagnosis” is a cyclical study, repeated on the same sample of households.

In the current eight wave (*R8*) we are planning to interview all the households which took part in the previous rounds and consented to further participation in the survey, as well as the households from a new sample.

The 2015 study will include only those households (questionnaire for the household) from previous rounds that were present on the collective list sent to the Voivodship Statistical Offices by e-mail. If this list includes a household, however, any of its present members is absent from such list, such a person is assigned a number following the last number from the 2009 list. If the household no longer includes a person from the list, such person retains its number and in Part I Section C lines 35, 38, 39 and 41 are filled in.

The most important information identifying the persons examined in the previous rounds is their **fixed number** - it should be carefully and visibly rewritten from the collective list.

The information on the household is collected based on the interview with the household head or a person well aware of the household matters (Part I of the questionnaire). All household members aged 16 and above (as of 1 March 2015, i.e. all persons born after 1 March 1999) fill in Part II of the questionnaire on their own in the interviewer’s presence. If any respondent is unable to fill in this part on his or her own, the interviewer is obliged to help them. Part II of the questionnaire has been prepared in two versions - a male and a female one. Men may not be given the female versions and vice versa as the questionnaire has the respondent’s gender coded in it.

**IMPORTANT:** Some persons examined in the previous rounds do not complete individually Part II but the ISSP questionnaire. These persons are included in the address list in last column R (first digit).

The definitions, classification and groupings are in majority in accordance with the research based on the samples of households conducted by the Central Statistical Office (GUS). The proposed extensions or slightly different classifications come from the recommendations of *Eurostat* for the survey of households.

In the case of the households that were examined under *previous rounds*, apart from the full form for the current wave, you will receive also a part of the information from Part I from Section A, B and C from previous studies. The data should be filled into the questionnaire before the interview or checked during the interview/.

- A. HOUSEHOLD\_NO. – identification number of the household (Section A, Part II and ISSP)
- B. Questionnaire\_No. - (top right corner, Part II or ISSP)
- C. Fixed number of the household (top right corner of the questionnaire)
- D. VOIVODSHIP (Section A, territorial symbol)
- E. powiat (Section A, territorial symbol)
- F. POWIAT\_NAME (do not write it in the questionnaire)
- G. GMINA (Section A, territorial symbol)
- H. address (Section A, address)
- I. phone (verify, please)
- J. CLASS\_OF\_PLACE\_OF\_RESIDENCE (Section A, symbol of the class of residence)
- K. Fixed\_number (Section C and Part II, right top corner)
- L. PERSON\_NO\_IN\_THE\_HOUSEHOLD (Part II and ISSP – the same as the reference number of the person from Section C)
- M. NAME (Section C, Part II, ISSP)
- N. Date of birth (please, verify)
- O. SEX
- P. issp (if digit 1 is included in the address list, this person should be given the ISSP questionnaire, instead of Part II)

We ask you to conduct the interview in Section C based on this information from the previous rounds, i.e. taking into account all the persons in the household present on the list of persons from previous rounds as well as any new persons in the households from *R5*.

**Remember to retain the previous rounds numbers for the persons in the household and to assign the fixed numbers to them**, while the persons who joined the household after the last survey or were not present on the list are assigned with the numbers following the last number of the person from the list. **If the number of persons is higher than 8, all persons with the numbers above 8 are described on a separate sheet for Section C.** For the persons who permanently left the household after the last round, please fill in only the following lines: 35, 38, 39 and 41.

Our aim is to conduct individual interviews (Part II of the questionnaire) with all household members aged 16 and above, even with those who for various reasons were not interviewed during the previous rounds.

If there is more than one household living at the same address, the household the interviewer visited first and which consented to take part in the survey is examined.

The cards to be shown to respondents do not feature such answers as “I do not know” or “It is hard to say”, however, these answers may be present in the questionnaire and may be marked if a respondent spontaneously answers the question this way. In the questions which are not accompanied with the card, such answers are not read to respondents, but are marked (if they are present on the scale of answers) when a respondent spontaneously answers the question this way.

Please inform the examined households that, as in the previous years, they will take part in a lottery with 15 money prizes, with the value of PLN 600 each.

## Detailed characteristics

### PART I

#### SECTION A. HOUSEHOLD CHARACTERISTICS

point 0 - please enter the one-digit number to mark the status of the household in the survey symbol

- 1 the household took part already in the study wave and still lives at the same address => go to point 1
- 2 the household took part in the fifth study wave but has changed the place of residence or all household members have moved to a multi-occupancy accommodation facility => an interview is not conducted
- 3 a new household (previously did not take part in any study wave), randomly chosen in current round

point 1 - enter the seven-digit number of the territorial unit according to the new territorial division of the country (Voivodship, powiat, gmina)

point 3 - enter the one-digit number for the place of residence category of the household's present place of residence, according to the list below: symbol

- 1 cities with more than 500k inhabitants
- 2 cities with 200k to 500k inhabitants
- 3 cities with 100k to 200k inhabitants
- 4 cities with 20k to 100k inhabitants
- 5 cities below 20k inhabitants
- 6 rural areas

point 4 - enter the household identification number. The identification number was hitherto composed of five digits and did not change in the subsequent survey rounds. Therefore, the households which already took part in the survey will have now the same number in the mailing list; and new households will have a new six-digit number taken from the pool of numbers for the given Voivodship to be assigned to such household (110,001 to 115,000).

point 5 - A family is composed of the household members bound by marriage/unmarried couples, blood ties or adoption. Thus, the following types of families may be distinguished: regular families - a married or unmarried couple with no children, a married or unmarried couple with children; single - parent family - a mother with children, a father with children.

Non-family households are the household where there is no family (as defined above). There are non-family one-person households and non-family multi-person households (e.g. a grandmother with a grandson, siblings residing together, persons residing together but not related by blood). If there is no family in the household, enter 0.

Point 6 - enter the one-digit number for the main source of income in the household, in accordance with the list of symbols below (if there are several equally important sources of income, enter 7): symbol

- 1 households of employees
- 2 households of farmers
- 3 households of self-employed persons, except for individual agricultural holding, liberal professions, self-employment
- 4 households of retirees
- 5 households of pensioners
- 6 households with income received but not earned and other than old age or disability pension
- 7 several equally important sources of income in the household

#### SECTION B. INFORMATION ABOUT CONDUCTING THE INTERVIEW

Question 5 - ask whether the household consents to participation in the next survey in 2017

## PART C. COMPOSITION OF THE HOUSEHOLD

1 **the person's reference number** - for the households interviewed previously, please assign the household members with the same numbers as in mailing list. If there is a household member who was omitted on the list sent to the Voivodship Statistical Office, assign the first unoccupied number. A new person in the household previously interviewed is also assigned with a subsequent number. If there are more than 8 household members, in the case of the other persons (number 9, 10, etc.) the data in C section are entered on a separate sheet, which should be folded with the questionnaire after the interview.

2 **fixed number** - the number assigned to the persons who took part in previous rounds and included on the list of the households which qualified for the survey in 2015 in column K.

**Line 4** - please enter for the relevant person the one-digit household head's and the remaining persons symbol for the relationship with the household head:

symbol

- 1 household head
- 2 husband, wife
- 3 partner
- 4 son, daughter
- 5 son-in-law, daughter-in-law (partner of the child)
- 6 grandson, granddaughter
- 7 father, mother, father-in-law, mother-in-law
- 8 grandfather, grandmother
- 9 brother, sister
- 0 other person

The household head is the person who provides the household with all or the majority of the means of living.

**Line 5** - enter the one-digit symbol of the family number for each person:

symbol

- 1 for the members of the first family,
- 2 for the members of the second family,
- 3 for the members of the third family,
- 4-8 for the members of the fourth and further family,
- 0 for the persons who are not family members in a family household or for the persons in a non-family or a special household

**Line 6** - enter the one-digit symbol for the relationship with the family head The family head is the man in the case of a regular family (a married or unmarried couple with or without children) or a single parent in a single-parent family:

symbol

- 1 family head
- 2 wife
- 3 partner
- 4 son, daughter
- 5 other person outside the family
- 0 person in a non-family or special household

**Note!** In each questionnaire both line 4 and 6 should be filled in.

**Line 10** - enter the one-digit symbol for gender: symbol

- 1 man
- 2 woman

**Line 11** - enter the one-digit symbol of the marital status for all household members: symbol

- 1 unmarried
- 2 married
- 3 widow(er)
- 4 divorced
- 5 legally separated (based on a court decision)
- 6 practically separated (the spouses do not live together without a court decision)

**Line 16** - enter the two-digit symbol for the educational attainment: symbol

- 10 higher education with at least a PhD degree
- 11 higher education with at least an MA degree or an equivalent degree
- 12 higher education with an Engineer or Bachelor degree
- 20 post-secondary education
- 30 secondary vocational
- 40 secondary general
- 50 basic vocational
- 51 lower secondary
- 60 primary completed
- 70 no education (primary not completed, no school education)
- 99 not applicable (person aged 0-12)

**Line 17** - enter the total number of years in education, regardless of whether the relevant education was completed. The years of any postgraduate studies or training courses are not included. A training course is an extra-curricular education aimed at gaining or upgrading one's professional qualifications, any courses aimed at preparing for any exams, as well as language courses, computer courses, driving courses, etc.

**Line 18** - enter the two-digit symbol for the specialisation of the completed education:  
symbol

- 14 pedagogics
- 21 art
- 22 liberal arts (religion, foreign languages, mother tongue, history, archaeology, philosophy)
- 31 social sciences (psychology, sociology, demography, political science, economy)
- 32 journalism and information
- 34 economy and administration (management, marketing, finance, banking, insurance, accounting and taxes, science about management and administration)
- 38 law
- 42 biological sciences
- 44 physical sciences
- 46 mathematics and statistics
- 48 computer science (IT)
- 50 technical science (engineering, industry, construction)
- 54 production and processing
- 58 architecture and construction
- 62 agriculture, forestry, fishing
- 64 veterinary medicine
- 71 public health
- 72 healthcare (medicine, dentistry, nursing, pharmacy)
- 76 social welfare (social services)
- 81 services for the population and transport services
- 85 environmental protection and sanitary and public utility services
- 86 protection and safety
- 90 armed forces and country protection
- 91 other
- 92 lack of speciality (primary, lower secondary, secondary general education)
- 98 not applicable (persons before the primary education graduation and without the primary education)
- 99 no data

**Line 19** - enter the one-digit symbol for the educational attainment of the person, defined as using or not using various educational services provided under the public education system, by other institutions (public and private e.g., participation in a school for the elderly known as "Third Age University") outside the school system (concerns the current situation) or self-education

symbol

- 1 nursery or kindergarten
- 2 education in a day school
- 3 evening, extramural and external education
- 4 using various forms of education outside the school system (training courses, etc.)
- 5 individual course of education
- 8 not using any educational services

For persons with 1, 2, 3 or 4 in line 19, fill in line 20 and possibly 21 (if the person uses more than one educational service). If 5 or 8 is entered in line 19, go to line 22.

**Lines 20-21** - enter the two-digit symbol of the type of educational service (two most important ones):  
symbol

- 1 nursery, public kindergarten
- 2 nursery, private kindergarten
- 21 education in a public primary and lower secondary school
- 22 education in a private primary and lower secondary school
- 30 education in a basic vocational school, vocational traineeship
- 41 education in a public general secondary school
- 42 education in a private general secondary school
- 51 education in a public vocational secondary school
- 52 education in a private vocational secondary school
- 61 education in a public post-secondary school
- 62 education in a private post-secondary school
- 71 public higher education school
- 72 private higher education school
- 81 postgraduate studies in a public higher education school
- 82 postgraduate studies in a private higher education school
- 83 PhD studies in a public higher education school
- 84 PhD studies in a private higher education school
- 90 training courses and trainings financed by the employer
- 91 training courses and trainings financed from the Labour Fund
- 92 training courses and trainings financed from the European Social Fund
- 93 training courses and trainings financed with own resources of the household
- 94 other forms of improving skills (such as driving lessons, learning how to play an instrument, learning a foreign language)
- 98 I do not know

**Line 22** - enter the symbol

- 1 if the person has a driving licence
- 2 if the person has no driving licence
- 8 person too young

**Lines 23-28** - for each language, enter:

- 1 if the person knows this language actively (speaking and writing)
- 2 if the person knows this language passively (only writing)
- 3 if the person does not know this language

**Line 30** - enter the one-digit symbol for the disability category:

symbol

- 1 for the persons who have a valid certificate from the Social Insurance Institution (ZUS)
- 2 for the persons who have a valid certificate from the Disability Evaluation Board at the Poviats Centre of Family Support (ZOoN at PCPR)
- 3 for the persons who have a valid certificate from the Social Insurance Institution and ZOoN at PCPR
- 4 for the persons who have stated that due to disability or disease they have completely or partly limited ability to perform such activities as learning, working or taking care of own household but they do not have a certificate from the medical board
- 5 disability of children aged below 16
- 0 other cases
- 8 not applicable (the person is not a disabled person)

**Line 31** - for the persons with 1, 2 or 3 in line 31

symbol

- 1 certificate on a severe disability or complete inability to work and live alone or on the first invalidity class
- 2 certificate on a moderate disability or a considerable inability to work or on the second invalidity class
- 3 certificate on a slight disability or a considerable inability to work or advisability of changing one's profession or on the third invalidity class

**Lines 32-33** - these concern a source of income of specific persons; please enter the two-digit symbols for the main and the additional source of income

symbol

- 11 permanent paid employment in the public sector
- 12 permanent paid employment in the private sector
- 13 temporary paid employment in the public sector

- 14 temporary paid employment in the private sector
- 15 use of an agricultural holding
- 16 helping in an agricultural holding
- 17 employer outside an individual holding in agriculture
- 18 permanent work for one's own account (also self-employment)
- 19 temporary work for one's own account
- 20 helping in work for one's own account
- 21 old age pension (apart from the agricultural social insurance system)
- 22 old age pensions for individual farmers (under insurance in the Agricultural Social Insurance Fund, KRUS)
- 23 disability pensions
- 24 family pensions
- 25 maternity benefits
- 26 unemployment benefits
- 27 other benefits from the Labour Fund
- 28 allowance for persons on child care leaves (former child care benefits)
- 29 other social insurance benefits (such as child birth allowance, funeral allowance, sickness allowance)
- 30 family benefits and allowance in accordance with the Act on Family Benefits of 2003, as amended, housing allowance
- 31 social assistance benefits
- 32 other social assistance benefits (such as benefits for persons bringing up children, special purpose benefits and extraordinary benefits)
- 33 children maintenance
- 34 other income of a social benefit nature (including scholarships)
- 35 income from own property (interest, dividends, etc.)
- 36 income from the rental of a house, apartment or garage
- 37 foreign old age and disability pensions
- 38 benefits under a voluntary sickness and accident insurance system
- 39 compensation under other insurance schemes
- 40 donations, maintenance from private persons
- 41 other income
- 42 other revenues (sale of property, savings, credits)
- 43 being supported by other household members

**Line 34** - enter the one-digit symbol concerning the reasons for a temporary absence (absence to date or expected absence longer than 1 months)  
symbol

- 1 stay at a hospital or nursing home
- 2 stay away from the household due to education
- 3 military service
- 4 other institutions (jail, prison, etc.)
- 5 work in the country, outside the place of residence
- 6 work abroad
- 7 education in the country, outside the place of residence
- 8 education abroad
- 9 business travel
- 0 other

**Line 35** - enter the one-digit symbol for the membership of the person in the household symbol

- 1 the person was a member of the household subjected to the study under the previous rounds (and is in the panel sample of persons) and still is a member of this household
- 2 the person permanently left the household
- 3 the person died
- 4 a new person born after the previous study wave, of a mother who took part in that wave
- 5 the person was not a member of the household subjected to the study under the previous rounds (and is not in the panel sample of persons) if one of the following conditions is met:
  - it is a household subjected to the previous wave and this person became its member after the last study (came from the outside)
  - the household is a new household in the survey (none of the household members was a member of the household which took part in the previous rounds)
- 6 the person was in the group to be subjected earlier but was mistakenly not included in the survey (the person is in the panel sample of persons)

7 the person returned to the household: was a member of the household in earlier rounds but not in the last study at that household (and is in the panel sample of persons).

**NOTE!**

**Lines 36-41** are filled in exclusively in the households which took part in the previous rounds. They concern the persons who were the household members in the previous study and left the household or the persons who appeared in the household in between the previous and the present study wave:

**Lines 36-37** - enter the date of arrival in the household - month (Arabic numerals) and year (two last digits)

**Lines 38-39** - enter the date of leaving the household - month (Arabic numerals) and year (two last digits)

**Line 40** - enter the one-digit symbol for the reason for arrival in the household the symbol of the reason for ARRIVAL at the household

- 1 marriage, cohabitation
- 2 divorce, separation, breakdown of an informal relationship
- 3 birth
- 4 other
- 8 not applicable

**Line 41** - enter the one-digit symbol for the reason for leaving the household the symbol of the reason for LEAVING the household

- 1 marriage, cohabitation
- 2 divorce, separation, breakdown of an informal relationship
- 3 death
- 4 starting own household in Poland
- 5 starting own household abroad
- 6 other
- 8 not applicable

**Line 42**

symbol

- 1 interview completed
- The interview was not conducted, although the household was contacted, because
- 2 the person was not able to answer the questions (illness, alcohol intoxication)
- 3 the person did not return a filled in questionnaire
- 4 the person initially refused to be interviewed (it is possible he or she will consent to take part in the study in the next rounds)
- 5 the person definitely refused to take part in the study now or in the future
- It was not possible to contact the person because:
- 6 the person was temporarily away from the household (e.g. a short-term business trip)
- 7 the person was not at home, no one in the household gave them the form to be filled in on his or her own

**PART D. ECONOMIC ACTIVITY OF HOUSEHOLD MEMBERS AGED 15+**

This section concerns persons who are aged 15 as of 1 March 2013, i.e. born before the end of February 1998

**Line 1** - enter the person's number, the same as the one in Section C, line 1

**Lines 2, 3** - symbols and routing principles have been stated in the form

**Line 5** - enter the symbol

symbol

1. based on an employment contract for a specified period of time (apart from the contracts listed below, being non-standard forms of employment (6-11), and for a period longer than one year)
2. based on an employment contract for an unspecified period of time
3. self-employed entrepreneur hiring employers
4. self-employed
5. helping in a family business without pay
6. temporary job (based on fixed-term employment contracts, such as replacement contracts, contracts for specific work)
7. other short-term contracts (such as summer traineeships, employment contracts for a period shorter than one year)
8. trial period employment
9. paid employment on the basis of a civil law contract (contract of mandate, contract for specific work)

10. paid employment without a formal contract or with an oral agreement
11. other

**Line 6** - symbols and routing principles have been stated in the form; full-time job means employment on a full-time basis at least at one workplace.

**Line 7** - enter the symbol of the most important reason symbol

1. cannot find a full-time job
2. does not want to work full-time
3. is forced to as he or she has no possibility of ensuring proper care to his or her children
4. is forced to as he or she has no possibility of ensuring proper care to an ill, old or disabled person
5. has also another job
6. other reasons

**Line 8** - this question is asked to all respondents; symbols and routing principles have been stated in the form

**Line 9** - symbols stated in the form

**Line 10** - this question is asked to all respondents; routing principles have been stated in the form symbol

- 1 YES and I am currently unemployed
- 2 YES and I am currently employed
- 3 NO and I am currently unemployed but I have already found a job
- 4 NO and I am currently unemployed
- 5 NO and I am currently employed

**Line 11** - enter the symbol of the main reason: symbol

- 1 education, gaining new qualifications
- 2 taking care of the home
- 3 due to child care
- 4 due to taking care of disabled and older household members
- 5 due to the health condition
- 6 due to an unsuitable age
- 7 due to the lack of qualifications
- 8 is retired
- 9 is convinced he or she will not find a job anyway
- 10 does not want to lose the right to receive social benefits
- 11 does not want to work at all
- 12 other reasons

**Line 12** - symbols stated in the form

**Lines 13 - 14** enter the number of years and/or months not in employment; for the persons who have never worked enter 97 and go to line 23; in the remaining cases go to line 19

**Line 15** - enter the one-digit symbol for the ownership structure of the institution being the main workplace symbol

- 1 state-owned
- 2 owned by the units of the territorial self-government
- 3 private
- 4 cooperative, owned by a social or religious organisation
- 8 not applicable (in the case of the unemployed)

**line 16** - enter the one-digit symbol for the ownership structure of the institution being the additional workplace symbol

- 1 state-owned
- 2 owned by the units of the territorial self-government
- 3 private
- 4 cooperative, owned by a social or religious organisation
- 8 not applicable (in the case of the unemployed)
- 9 not applicable (in the case of persons who do not have an additional employment)

**Line 17** - symbols stated in the form ((local borders should be taken into account according to the administrative division)

**Line 18** - enter the three-digit symbol of the profession, in accordance with the current classification of professions used in the research of the Central Statistical Office (GUS). This classification is used also in the Labour Force Survey and in the EU SILC.

**Line 19** - enter the three-digit symbol of the profession, in accordance with the current classification of professions used in the research of the Central Statistical Office (GUS). This classification is used also in the Labour Force Survey and in the EU SILC.

**Line 20** - enter how many times this person has been registered in the Labour Office as an unemployed person

**Line 21** - enter the total number of months not in employment

**Line 22** - symbols and routing principles have been stated in the form

**Lines 23, 24, 25** - enter the two-digit symbol of the type of educational service symbol

- 21 education in a public primary and lower secondary school
- 22 education in a private primary and lower secondary school
- 30 education in a basic vocational school, vocational traineeship
- 41 education in a public general secondary school
- 42 education in a private general secondary school
- 51 education in a public vocational secondary school
- 52 education in a private vocational secondary school
- 61 education in a public post-secondary school
- 62 education in a private post-secondary school
- 71 studies in a public higher education school - full-time studies
- 72 studies in a public higher education school - evening or extramural studies
- 73 studies in a private higher education school
- 81 postgraduate studies in a public higher education school
- 82 postgraduate studies in a private higher education school
- 83 PhD studies in a public higher education school
- 84 PhD studies in a private higher education school
- 90 training courses and trainings financed by the employer
- 91 training courses and trainings financed from the Labour Fund
- 92 training courses and trainings financed from the European Social Fund
- 93 training courses and trainings financed with own resources of the household
- 94 other forms of mastering skills (such as driving lessons, learning how to play an instrument, learning a foreign language)
- 95 individual course of education
- 96 School for the elderly known as "Third Age University"
- 98 I do not know

**Line 26** - symbols given in the form

**Line 27** - symbols and routing principles have been stated in the form

**Line 28** - enter the number of travels

**Lines 29, 30** - enter the symbol symbol

1 Austria	6 Greece	11 Germany	16 other EU Member States	17 USA
2 Belgium	7 Spain	12 Portugal	(Czech Republic, Slovakia,	18 Canada
3 Denmark	8 the Netherlands	13 Sweden	Hungary, Estonia, Lithuania,	19 Australia
4 Finland	9 Ireland	14 Great Britain	Latvia, Cyprus, Slovenia,	20 Other countries
5 France	10 Luxembourg	15 Italy	Malta, Bulgaria, Romania)	21 Norway

**Lines 31 - 32** - enter the number of months

**Line 33** - enter the symbol if the person meets the following condition: he/she was abroad in the period 2013-2015 for longer than 6 months and returned to Poland last year (after 1 January 2014).

symbol

1. as had been planned before going abroad
2. had been dismissed/finished the employment
3. had completed education
4. could not find a job abroad
5. due to family reasons
6. due to the decrease in the income level abroad in comparison to the income level in the country
7. due to health reasons
8. only temporarily to deal with certain matters in the country
9. other reason
99. it is hard to say

### Section I. SOCIAL HELP

Question 1 - concerns various sources of assistance, both from private persons and from institutions, such as gmina or town centres of social assistance, Poviatic Centres of Family Support, Regional Centres of Social Policy, secular charitable organisations (including non-governmental organisations operating in the area of social assistance, in this charitable organisations, i.e. charitable associations, foundations, committees, societies, charitable actions, such as Polish Red Cross (PCK), Polish Committee for Social Assistance (PKPS), Foundation for Social Actions (FDS)), religious organisation (such as Caritas) and parishes, trade unions and workplaces.

### Section L. INCOME SITUATION

Question 1 and 2 - in the case of a definite refusal to answer, enter 99999. In the case of a non- definite refusal to answer or difficulties with stating the exact amount, ask to specify the range and enter the symbol in the single box in the right-hand corner. If the given range is higher than any of the following, enter the symbol of the last range (15). If the respondent specifies the exact value of income, or if he/she definitely refuses to answer, the box for the income range remains blank.

symbol of the income range

1. up to PLN 300	9. PLN 6,001- 7,000
2. PLN 301 - 600	10. PLN 7,001 -8,000
3. PLN 601 - 1,000	11. PLN 8,001 -9,000
4. PLN 1,001 -2,000	12. PLN 9,001 - 10,000
5. PLN 2,001 -3,000	13. PLN 10,001 - 15,000
6. PLN 3,001 -4,000	14. PLN 15,001 -20k
7. PLN 4,001 -5,000	15. above PLN 20k
8. PLN 5,001 -6,000	

Question 5 - answer 5 is checked also when the household does not have to repay the credit

### Part II( individual questionnaire) and ISSP questionnaire

The interviewer fills in only the first page (by rewriting the household number, the person's number, the fixed number for the persons from the panel sample and the name from section A and C), the rest of the questionnaire is filled by the respondent in in the presence of the interviewer.

In exceptional situations the respondent may fill in the questionnaire without the interviewer being present. In such a case an envelope should be attached to the questionnaire in order to prevent other household members from looking into the filled in questionnaire before it is collected by the interviewer.

Please explain the rules of filling in the questionnaire (page two) in a clear manner, especially the meaning of the scales with numbers and word definitions only next to the extreme values. Please draw the respondents' attention to the fact that the date of birth on page 3 may not be written with Roman numerals (e.g. 15 02 78, and not 15 II 78).

## ANNEX 2. PRINCIPALS OF PANEL SAMPLE DEFINITION

### 2.1. Basic principles of defining the status of persons to be subjected to panel study

In the subsequent panel waves, the group of persons to be subjected to the study (individual interviews) consists of two subgroups: the individuals from the panel sample of persons and the individuals outside the panel sample of persons. The panel sample of persons comprises persons who are members of the households subjected to the study under the first panel wave (wave  $R=1$ ). In the subsequent panel waves (waves  $R=3$  and  $R=4$ ), only those persons who died in between the panel waves are excluded from the panel sample of persons. Similarly, the children born to women from the panel sample of persons are added to this panel sample. All persons from the panel sample of persons above 16 years of age undergo individual interviews. In this way, the group of persons to be subjected to the panel study is updated in the subsequent panel waves, in order to account for demographic changes.

The subgroup of persons outside the panel sample of persons but also to be subjected to individual interviews in the subsequent waves of the study (according to the same rules as from the panel sample of persons) comprises all individuals who during the given wave (starting from  $R=3$ ) of the study form a household with at least one person from the panel sample of persons (they live in the households to be subjected to the study). Thus, these persons were not members of the households from the panel sample of households subjected to the study in wave  $R=2$ , but became members of such households in the subsequent panel waves (starting from  $R=3$ ). However, when such persons move to households where not one member belongs to the panel sample of persons, they are then excluded from further study.

The presented rules of determining the groups of persons to be subjected to panel study in subsequent waves require that the current “status” of such groups be updated each time, as it results from its status in the previous panel waves.

### 2.2. Principles of identifying the households to be subjected to panel study

All households which took part in the first wave of the study ( $R=1$ ) form the panel sample of households. Due to the dynamic changes taking place in the sample of households over time, it is necessary to establish the principles specifying which households subjected to the study in its second wave would take part in the study also in its subsequent waves. This is determined based on the results of surveys among households from the neighbouring panel waves (the earlier one,  $(R-2)$ , and the one after it,  $(R-1)$ ) as well as on the changes in the structure of the households subjected to the study.

The principles of identifying the households to be subjected to the study (HSS) in wave  $(R-1)$  on the basis of their status in waves  $(R-2)$  and  $(R-1)$  have been presented in Table 1. The households not to be subjected (HNSS) to the study in wave  $(R-1)$  are excluded from the panel sample of households.

Table 2 1. Principles of identifying the households from the panel sample of households in wave  $(R-1)$

Status of the household in wave $(R-2)$	Status of the household in wave $(R-1)$		
	Interviewed	Not interviewed due to: inability to take part in the study (e.g. old age, illness), lack of contact, initial refusal	Not interviewed due to: definite refusal, impossible to be located
Interview conducted in $(R-2)$	GDPB	GDPB	GDNB
Interview was not conducted in $(R-2)$	GDPB	GDNB	GDNB
New household in $(R-1)$ , which was not subject to the interview $(R-2)$ <sup>112</sup>	GDPB	GDPB	GDNB

The analysis presented in Table 1 demonstrates that the households which were not interviewed in two subsequent panel waves are excluded from the panel sample of households. Moreover, the households where, due to structural changes, there is not a single person from the original panel sample of persons left are also excluded from the panel sample of households. On the other hand, the households whose all members moved to collective households (this concerns mainly single-person households) are not subjected to the questionnaire survey in the given panel wave but they remain in the panel sample of households. They are subjected to the so-called “monitoring” procedure which enables their inclusion in the questionnaire survey once they become private households again. The households which temporarily move abroad are handled in a similar manner.

<sup>112</sup> A new household, added to the panel sample of households, that has been created by a person from the panel sample of persons or added to the panel sample as a result of the fact that at least one person from the panel sample of persons moved to the household.

### **2.3. Rules of identification of persons which undergo the study in subsequent waves of the study**

All adult persons from the panel sample of households in the given study wave undergo an individual interview under this wave (*R-1*), regardless of whether they belong to the panel sample of persons or not. These are mainly the persons subjected to the study in the previous study wave (*R-2*), including the persons who were not interviewed in the previous wave due to various reasons. Moreover, all adult persons who became members of the households from the panel sample of households after the previous study wave (*R-2*) also undergo individual interviews.

Those persons who were not interviewed in two subsequent panel waves are excluded from the panel sample of persons (they were members of the households where no interviews were conducted under those waves, that is the households to be excluded from the panel sample of households, or they refused to take part in the study for the second time). The persons from the panel sample of persons who moved to collective households or temporarily moved abroad are also not to be interviewed. However, they are not excluded from the panel sample of persons, but “monitored” so that it is possible to include them in the subsequent panel waves of the study. The information on such persons is gathered (most often from other members of their households), including the information on the reasons for their temporary absence. Finally, the persons outside the panel sample of persons who, though interviewed in wave (*R- 2*) as belonging then to the households from the panel sample of households, later moved to the households where there are no persons from the panel sample of persons, are not interviewed in the given study wave (*R-1*). Such persons are excluded from further research.

## ANNEX 3 COMPARATIVE ANALYSIS OF LIVING CONDITIONS

### 3.1. Taxonomic measure of living conditions

Algorithm of the construction of taxonomic measure of living conditions

1° Variable value standardisation:

$$z_{ij} = \frac{x_{ij} - \bar{x}_j}{S(x_j)}, \quad \bar{x}_j = \frac{\sum_{i=1}^n x_{ij}}{n}, \quad S(x_j) = \sqrt{\frac{\sum_{i=1}^n (x_{ij} - \bar{x}_j)^2}{n}} \quad (\text{A.3.1})$$

where:

$x_{ij}$  - value of the  $j$ -th variable for the  $i$ -th voivodeship,

$z_{ij}$  - value of the  $j$ -th standardised variable for the  $i$ -th voivodeship

2° Construction of so-called development pattern based on an abstract voivodeship  $o$  with the following variable values:

$$z_{oj} = \begin{cases} \max_i z_{ij} & \text{dla } j \in S \\ \min_i z_{ij} & \text{dla } j \in D \end{cases} \quad (j = 1, 2, \dots, m), (i = 1, 2, \dots, n). \quad (\text{A.3.2})$$

where:

$S$  - set of stimulants,

$D$  - set of destimulants.

3° Calculation of the distance between particular voivodeship and the model voivodeship  $P_o$ : as an arithmetical unweighted average:

$$c_{io} = \sqrt{\sum_{j=1}^m (z_{ij} - z_{oj})^2}, \quad (i = 1, 2, \dots, n), \quad (\text{A.3.3})$$

or as a arithmetical weighted average:

$$c_{io} = \sqrt{\frac{\sum_{j=1}^m (z_{ij} - z_{oj})^2 \cdot w_j}{\sum_{j=1}^m w_j}}, \quad (i = 1, 2, \dots, n).$$

4° Estimation of the taxonomic measure of the living conditions for each voivodeship:

$$d_i^R = \begin{cases} 1 & \text{dla } d_i \geq 1 \\ d_i & \text{dla } d_i < 1, \end{cases} \quad (\text{A.3.5})$$

where:

$$d_i = \frac{c_{io}}{c_o}, \quad (\text{A.3.6})$$

while:

$$c_o = \bar{c}_o + 3S_o; \bar{c}_o = \frac{1}{n} \sum_{i=1}^n c_{io}; S_o = \sqrt{\frac{\sum_{i=1}^n (c_{io} - \bar{c}_o)^2}{n}}. \quad (\text{A.3.7})$$

Table 3.1. Variables characterising the various dimensions of household living conditions.

Variables	Variable character	Variable variant	Variable variant weight
<b>1. Income</b>			
1.1 equivalent net income	S	-	-
<b>2. Nutrition</b>			
<i>Incidence of financial difficulties in the satisfaction of requirements for the following food items</i>			
2.1 vegetables and vegetable products	D	-	-
2.2 fruit and fruit products	D	-	-
2.3 meat and poultry	D	-	-
2.4 meat and poultry products	D	-	-
2.5 fish and fish products	D	-	-
2.6 butter and other edible fats	D	-	-
2.7 milk	D	-	-
2.8 milk products	D	-	-
2.9 sugar	D	-	-
2.10 sugar products	D	-	-
2.11 stimulants	D	-	-
<b>3. Material affluence</b>			
3.1 Household equipment and durable goods			
<i>Non-ownership due to financial concerns:</i>			
3.1.1 automatic washing machines	D	-	-
3.1.2 dishwashers	D	-	-
3.1.3 microwave	D	-	-
3.1.4 LCD or plasma TV	D	-	-
3.1.5 satellite or cable TV	D	-	-
3.1.6 iPad or other tablet	D	-	-
3.1.7 home cinema	D	-	-
3.1.8 desktop or portable computer	D	-	-
3.1.9 personal car (personal delivery vehicle)	D	-	-
3.1.10 home internet access	D	-	-
3.1.11 landline telephone	D	-	-
3.1.12 motorboat, sailboat	D	-	-
3.1.13 allotment	D	-	-
3.1.14 holiday home	D	-	-
3.1.15 electronic reader	D	-	-
3.2 Household savings	S	Lack of savings	0
		savings in terms of income for:	
		1 month	1
		3 months	2
		4-6 months	3
3.3 Household borrowings and debts	D	Lack of borrowings	0
		borrowings in terms of income for:	
		1 month	1
		3 months	2
		4-6 months	3

**4. Housing conditions**

4.1 Equipment with media			
Not owned by household:			
4.1.1 water supply system	D	-	-
4.1.2 flushing toilet	D	-	-
4.1.3 bathroom with shower and bathtub	D	-	-
4.1.4 hot running water	D	-	-
4.1.5 gas supply system	D	-	-
4.1.6 central heating (common or individual)	D	-	-
4.1.7 non-independent dwelling	D	-	-
4.1.8 usable floor space per person in sq. m	S	-	-

### 5. Children's education

<i>Occurrence of financial difficulties resulting in:</i>			
<i>5.1 forgoing of additional educational activities</i>	D	-	-
<i>5.2 limitation or suspension of school payments</i>	D	-	-
<i>5.3 forgoing of school dinners</i>	D	-	-
<i>5.4 forgoing of private lessons</i>	D	-	-
<i>5.5 change to a cheaper school</i>	D	-	-
<i>5.6 other limitations</i>	D	-	-

### 6. Healthcare

<i>Lack of funds for health requirement satisfaction in the form of necessary</i>			
<i>6.1 purchasing of prescriptions or medicines recommended by doctors</i>	D	-	-
<i>6.2 dental care</i>	D	-	-
<i>6.3 dental prosthetics</i>	D	-	-
<i>6.4 visit to the doctor</i>	D	-	-
<i>6.5 medical tests (laboratory, x-ray, ECG)</i>	D	-	-
<i>6.6 rehabilitation</i>	D	-	-
<i>6.7 sanatorium therapy</i>	D	-	-
<i>6.8 hospital treatment</i>	D	-	-

### 7. Participation in culture

<i>Necessity to forgo, for financial reasons, visits to the</i>			
<i>7.1 cinema</i>	D	-	-
<i>7.2 theatre, opera, operetta, philharmonic or concert</i>	D	-	-
<i>7.3 museum or exhibition</i>	D	-	-
<i>Necessity to forgo, for financial reasons, the purchase of</i>			
<i>7.4 books</i>	D	-	-
<i>7.5 the press</i>	D	-	-

### 8. Rest and leisure

<i>Necessity to forgo, for financial reasons</i>			
<i>8.1 summer camp or other trips for children</i>	D	-	-
<i>8.2 holidays and other trips for adults</i>	D	-	-
<i>8.3 family trip for both children and adults</i>	D	-	-

## 3.2. Grouping of voivodeship by similarity of living conditions

We grouped voivodeships by similarity in terms of the internal structure of their characteristic variables. These described the level of fulfilment of needs in specific living condition dimensions obtained on the basis of a taxonomic measure of living conditions (table 4.8.1). The grouping fulfilled two basic conditions:

- homogeneity: the voivodeships belonging to the same group should be similar as far as possible,
- heterogeneity: the voivodeships belonging to different groups should differ as far as possible.

Various multivariate comparative analysis methods may be applied for voivodeships grouping (Panek, 2009, p. 105 and further). In this case we used the *k*-average method which belongs to the methods of optimising the given object grouping (here voivodeship).

The entry point for optimisation methods is to establish the desired number of object groups we wish to create. Then we decide on the initial content of each specific group using the following range of approaches (Gabiński et al, 1989, pp. 77-78):

- random selection,
- experts' opinion,
- use of arbitrarily selected variables,
- grouping gained with the aid of any taxonomic method taken as an initial grouping,
- ordering objects according to their distance from the centre of gravity of particular object groups. The objects at the group centre of gravity are objects with numbers are defined according to the following formula:

$$1 + (r - 1) \left( \frac{n}{z} \right),$$

- in which *r* is the following group number and *n* the number of grouped objects.

Optimisation methods seek to improve the quality of initial object grouping by moving objects between groups in accordance with defined goodness of grouping criteria.

Each optimisation method differs in terms of defined optimisation criteria and various procedures of practice. The *k*-average method also has a range of variants differing above all by how the function of the goodness of grouping is defined and the rules of shifting objects (here voivodeships) between groups in the group optimisation process, rules of initial object grouping and the halting of the process of improving the goodness of grouping.

The *k*-average method version applied in this study to establish goodness of grouping criterion is based on the maximisation of intergroup variability in relation to variability within groups. Initially we establish the division of voivodships by group and number of interactions by which we seek to optimise the grouping. Then we calculate the value of goodness of grouping function that makes up the relation of intergroup differentiation to the differentiation within groups. The assessment of intergroup differentiation is most often defined as the sum of distances of voivodship group gravity centres from the centre of gravity of the total of studied voivodships. However, the assessment of the differentiation within groups is therefore the sum of distances of objects from the centre of gravity of the group to which they were classified.

The next step is to calculate the gravity centres for each particular group and assign voivodships to groups on the basis of minimising their distance from the group centres. Then we verify if the goodness of grouping function value has not increased, and if such a change has not occurred we complete the procedure in the assumption that the given grouping is optimal. In the opposite case, we run a further interaction, verifying whether the shift of voivodships between groups does not return a rise in the value of goodness of grouping function. We continue this procedure until the value of goodness of grouping function does not increase or we have reached the assumed number of iterations.

## ANNEX 4. METHODOLOGY OF ANALYSING POVERTY

### 4.1. Monetary poverty

#### 4.1.1. Definition

##### 4.1.1.1. Objective approach

In the objective approach, the poverty line in May 2015 was based on the minimum of existence value for December 2014, adjusted with a relevant consumer price index, calculated by the Institute for Labour and Social Studies for a single-person household of employees. The poverty line for March 2013 constituted the value of the poverty line for May 2015 adjusted with a relevant consumer price index. For all other types of households, the poverty line was calculated as the product of the adjusted minimum of existence value and an appropriate equivalence scale.

The minimum of existence income is equivalent to the value of the basket of consumer goods established for a household having specific social and demographic features. The contents of such basket should provide the household with such living conditions which enable solely "survival" in good health and being able to work (Deniszczuk, Sajkiewicz, 1996). This means that the minimum value of existence is the borderline of extreme poverty.

##### 4.1.1.2. Subjective approach

In the subjective approach to determining the poverty line, the subjective poverty line method was used (Goethart, Halberstadt, Kapteyn and Van Praag, 1997; Panek 2011). In this method, the households themselves indicate the lowest levels of income necessary for them to make ends meet, which are treated as their specific poverty lines. The levels of income declared by specific households depend mainly on their size (the number of persons in the household) and their actual income.

This relation may be presented in the form of the following regression equation:

$$\ln y_{\min} = \alpha_0 + \alpha_1 \ln L + \alpha_2 \ln y, \quad (1)$$

where:

$L$  - number of persons in the household,

$y$  - actual income of the household,

$y_{\min}$  - the lowest level of income necessary to make ends meet, indicated by the household itself.

The parameters of the above regression function, estimated with the use of the least squares method, were the basis for calculating the poverty line for subsequent years of the study. The poverty line is obtained as the value of income  $y^*$ , which - when substituted for  $w$ , and  $v$  - satisfies equation (1). The values of the poverty line ( $y^*$ ) dependent on the number of persons in the household were finally established on the basis of the following formula:

$$y^*(L) = \exp \frac{\alpha_0 + \alpha_1 \ln y}{1 - \alpha_2}. \quad (2)$$

### 4.2. Equivalence scales

#### 4.2.1. Objective approach

The equivalence scales adopted in the objective approach were estimated, both under the unidimensional and multidimensional approach, on the basis of the procedure using the information on the amount of expenditure of the households (Szulc, 1996; Panek, 2011). This procedure takes into account the fact that the households of a different composition spend income in different ways. For example, in the households of young person less is spent on medical care and more on food, unlike the households of older persons. At the same time, it was assumed that the structure of consumption in the households reflects their actual needs.

An employee household of a single person aged between 30 and 59 was established as the point of reference (that is, as a "standard" household, with the equivalence scale of 1). The values of the equivalence scale for any other household may be then interpreted as the number of "standard" persons. The equivalence scales were estimated as follows:

$$\ln m_i = \frac{1}{2} \sum_{j=1}^m \sum_{s=1}^n [m_{sj} (w_{si} + w_{sr})] \ln \frac{A_{ji}}{A_{jr}}, \quad (3)$$

where:

$m_i$  - equivalence scale for the  $i$ -th household.

$w_{si}, w_{sr}$  – percentage of expenditure of the  $i$ -th and  $r$ -th household for the 5-th good or group of goods. In this case the  $r$  household is the standard household.

$m_{sj}$  – elasticity of expenditure for the 5-th good in relation to demographic characteristic ( $j=1,2,\dots,m$ ).

$A_i, A_r$  – vectors of demographic characteristics of the  $i$ -th and  $r$ -th household.

In the presented study, the vectors of demographic characteristics were based on the number of adult persons in the household (above 16 years), the number of children (below 10 years and from 10 to 15 years) and the age of the head of household (16-29 years, 30-60 years and above 60).

The  $m_{sj}$  parameters are obtained through the estimation of the consumption demand model, with the following explanatory variables: the household expenditures, the number of adult persons and children in the household and the prices of consumer goods. These are interpreted as the demographic elasticities of expenditure on specific goods. Thus, the equivalence scale obtained on the basis of equation (3) is a geometric mean of the elasticities of expenditure in relation to the demographic variables weighted with the shares of expenditure on specific goods in the total expenditure.

#### 4.2.2. Subjective approach

In the subjective approach, the estimates for the equivalence scales were based on the poverty lines calculated for households with different numbers of persons in the household, with the use of formula (2). A single-person household was assumed as the “standard” household being the point of reference (with the equivalence scale of 1). The value of the equivalence scale for a  $L$ -person household is obtained by dividing the value of its poverty line by the value of the poverty line for a one-person household:

$$m_L = \frac{y^*(L)}{y^*(1)}. \quad (4)$$

### 4.3. Poverty measurement

#### 4.3.1. Unidimensional (monetary) approach.

In the unidimensional (monetary) approach taking into account only current household income, we can concentrate on the assessment of the actual phenomenon of poverty if we take into consideration household equivalent incomes and the poverty line.

Aggregate poverty indices (Panek 2011) have the widest application in poverty analysis. These are statistical formula aggregating individual poverty measures (for individual households or persons) and allowing assessment on the national scale in terms of territory or typological household groups. Because there is no single, universal formula applicable here, studies should use various formula of aggregated index providing information on various aspects of poverty.

Because in the multidimensional approach to the measurement of poverty we measure its both monetary and non-monetary (material deprivation) aspects, in order to avoid confusion, all the indices measuring monetary poverty will be explicitly called monetary poverty indices. The most popular index assessing the incidence of monetary poverty () is the *headcount monetary poverty ratio*, which is the share of units (persons or households) with income below the poverty line:

$$H^{um} = \frac{n_{um}}{n}, \quad (5)$$

gdzie:

$n$  – number of individuals in the analyzed population,

$n_{um}$  – number of monetary impoverished individuals in the analyzed population.

This index has the value of 0 when there are no poor households and 1 if all units studied have equivalent incomes below the poverty line.

The percentage of those in poverty tells us nothing about other aspects of poverty, as its equals the same value of whether the impoverish household’s incomes are close to the poverty line or close to zero. In the presented study we propose widening the analysis of monetary poverty to the three other aspects beyond its incidence.

The basic measure of monetary poverty depth is the *monetary poverty gap index* defined as:

$$I^{um} = \frac{1}{n_{um}} \sum_{i=1}^{n_{um}} \left( \frac{y^* - y_i^e}{y^*} \right), \quad (6)$$

where:

$y^*$  - is the monetary poverty line,

$y_i^e$  - equivalent income of the  $i$ -th individual.

This measure is different to the monetary poverty gap as it is for the entire population of households, not only those in poverty. The sum of poverty gaps of all individuals (the income gaps of nonmonetary- poor individuals are naturally 0) is here divided by the number of all studied individuals. The income gap index measures the costs of eliminating monetary poverty (in relation to the poverty line), since it indicates the amount of equivalent income (measured as a percentage of the poverty line) which should, on average, be transferred to each of the poor for the income of all studied individuals to move above the poverty line. This index assume values in the interval [0,1] like the poverty income gap index, indicating no poor monetary households as 0 in the population and 1 when the income of all households in poverty equals zero.

Another aspect of monetary poverty is monetary poverty intensity, the most frequently used index of which is the *income gap index*:

$$IT^{um} = \frac{1}{n} \sum_{i=1}^{n_{um}} \left( \frac{y^* - y_i^e}{y^*} \right). \quad (7)$$

This index may be also presented as the product of the monetary poverty headcount ratio and the poverty gap as it describes both the incidence and depth of poverty index:

$$IT^{um} = H^{um} \cdot I^{um}. \quad (8)$$

This measure is different to the poverty gap as it describes of the entire population of households, not only the impoverished sub-population. The sum of monetary poverty gaps of all units (the poverty gaps of non-poor units are naturally 0) is here divided by the number of all studied units. The income gap index measures the costs of eliminating monetary poverty (in relation to the poverty line), since it indicates the amount of equivalent income (measured as a percentage of the poverty line) which should, on average, be transferred to each of the poor for the income of all studied units to move above the poverty line. This index uses 0-1 values like the poverty income gap index, indicating no poor households as 0 in the population and 1 when the income of all households in poverty equals zero.

The fourth group of indexes assesses monetary poverty severity. The indices of monetary poverty severity, measure not only the monetary incidence and the distance between poor households' income and the poverty line (monetary poverty depth) but also income inequalities among the poor.

The basic index of monetary poverty severity most often applied in practice is the *squared income gap index*:

$$SE^{um} = \frac{1}{n} \sum_{i=1}^{n_{um}} \left( \frac{y^* - y_i^e}{y^*} \right)^2. \quad (9)$$

It may also be presented in a form that shows the impact of specific aspects of poverty on the analysed phenomenon:

$$SE^{um} = H \left( \frac{y^* - \overline{y_i^{eum}}}{y^*} \right)^2 + \frac{S^2(y_i^{eum})}{(y^*)^2}, \quad (10)$$

where:

$\overline{y_i^{eum}}$  - mean equivalent income of the monetary poor,

$S^2(y_i^{eum})$  - variance of equivalent income of the monetary poor.

As opposed to the income gap index, in this index the greater the distance from the income determining the poverty line and the equivalent income of the monetary poor, the greater the weights assigned to such individual. Therefore, monetary poverty severity among the monetary poor, and at the same time the value of this index, rise together with the increase in the distance between monetary poor equivalent income and the poverty line. The weights assigned to the households are directly proportional to the size of their income gaps. For example, if the income gap of a given individual is 10% of the poverty line, the individual receives a weight of 10% of all studied individuals weights. This index is 0 when there are no monetary poor in the studied population. The value of the index increases together with the number of monetary poor individuals, their income gaps rise and increase of the income inequalities between them. The index has its maximum value of 1 when all studied individuals have income equal to zero.

### **4.3.2. Non-monetary poverty (material deprivation)**

The first step to measuring non-monetary poverty is defining its non-monetary dimensions closely linked to the need-groups of the studied units (persons and households), followed by the selection of variables that are symptoms of non-monetary poverty in each of its dimensions. The study considered the following dimensions of deprivation and their symptoms:

1. Satisfaction of household nutritional requirements (a lack of requirement satisfaction for financial reasons).  
Lack of financial means to satisfy nutritional requirement for:
  - 1.1 Vegetables and vegetable products
  - 1.2 Fruit and fruit products.
  - 1.3 Meat and poultry.
  - 1.4 Meat and poultry products.
  - 1.5 Fish and fish products.
  - 1.6 Butter and other edible fats.
  - 1.7 Milk.
  - 1.8 Milk products.
  - 1.9 Sweets.
  - 1.10 Confectionaries.
  - 1.11 Stimulants including alcohol and cigarettes.
2. Household equipment and durable goods (lack of equipment or goods for financial reasons). Lack of financial means to satisfy the need for:
  - 2.1. Washing machine.
  - 2.2. Dishwasher.
  - 2.3. Microwave oven.
  - 2.4. LCD/plasma TV.
  - 2.5. Pay TV (satellite or cable).
  - 2.6. Computer (desktop or laptop).
  - 2.7. Passenger car.
  - 2.8. Access to home internet.
  - 2.9. Landline.
3. Housing conditions and payment.
  - 3.1. Too high density (less than 5m<sup>2</sup> per person).
  - 3.2. Lack of mains water.
  - 3.3. Lack of flushing toilet.
  - 3.4. Lack of bathroom with bath or shower.
  - 3.5. Lack of hot running water.
  - 3.6. Lack of mains or bottled gas.
  - 3.7. Lack of central heating (collective or individual).
  - 3.8. Non-payment of rent.
  - 3.9. Non-payment of gas or electricity bills.
  - 3.10. Non-payment of mortgage instalments.
4. Children's education (forgone for financial reasons).
  - 4.1. Resignation from extra-curricular activities.
  - 4.2. The limitation or suspension of school fees.
  - 4.3. Resignation from school lunches.
  - 4.4. Resignation from private lessons.
  - 4.5. Changing to a cheaper school.
  - 4.6. Other restrictions.
5. Culture (forgone for financial reasons).
  - 5.1. Cinema.
  - 5.2. Theatre, opera, operetta, philharmonia, concert.
  - 5.3. Museum or exhibition.
  - 5.4. Purchase of book.
  - 5.5. Purchase of press.
6. Leisure (forgone for financial reasons).
  - 6.1. Camp and other children's group trips.
  - 6.2. Holidays, trips adults.
  - 6.3. Family outings and trips.
7. Healthcare (forgone for financial reasons).
  - 7.1. Prescriptions or doctor's recommended medicine.
  - 7.2. Dental treatment.
  - 7.3. Dental prosthetics .

7.4. Visits to the doctor.

7.5. Medical tests.

7.6. Rehabilitation.

7.7. Sanatorium therapy.

Symptoms of material deprivation included in analysis are measured on a nominal scale and are binary except for one symptom. This symptom is too high flat density (3.1) We assumed that the household involves exclusion due to too high density in their flat, if there is less than 5m<sup>2</sup>.

The measures of monetary poverty presented in 5.3.1 can be used, after the appropriate modification, to analyse non-monetary poverty (material deprivation).

In the first step, each household was assigned to the number of existing symptoms of deprivation, independently for each of the material deprivation dimensions distinguished in the study.

In order to evaluate different aspects of material deprivation in each of its dimensions, we adopted the material deprivation line for each dimension of material deprivation, i.e. an upper limit of deprivation symptom numbers at which the individual is in deprivation (table 4.1).

Table 45.1. Material deprivation lines for particular dimensions of material deprivation.

Deprivation dimensions	Material deprivation lines
1. Satisfaction of nutritional needs	At least 5 symptoms of deprivation
2. Durable goods	At least 4 symptoms of deprivation
3. Housing conditions and payment of rent	At least 4 symptoms of deprivation
4. Children's education	At least 2 symptoms of deprivation
5. Culture	At least 2 symptoms of deprivation
6. Leisure	At least 1 symptom of deprivation
7. Health care	At least 3 symptoms of deprivation

A household is considered to be materially deprived in a given dimension if it is characterized by the number of deprivation symptoms in this dimension which is at least equal to the material deprivation line.

A general assessment of material deprivation (in all dimensions altogether) requires an analysis of the number of deprivation dimensions in which tested individuals are subject to deprivation. We assume that the risk of material deprivation for an individual (person or household) grows if the number of reported deprivation dimensions increased. Next, after arranging the number of material deprivation dimensions by decreasing degree of deprivation (from the 7 non-dimensions of material deprivation to the absence of deprivation in any dimension) we define a variable by assigning successive natural numbers to these numbers of non-monetary material deprivation dimensions ( $z = 0, 1, 2, \dots, k$ ). Next, we have to define the value of the material deprivation line, i.e. the lower limit of the number of deprivation dimensions with which a unit is subject to deprivation. It was adopted that an individual is non-monetary poor (subject to material deprivation) if it experiences material deprivation in at least three dimensions.

The index measuring the incidence of material deprivation is the *headcount material deprivation ratio* in this dimension, that is, the percentage of individuals subject to material deprivation:

$$H^{dm} = \frac{n^{dm}}{n}, \quad (11)$$

where:

$n^{dm}$  – the number of individuals subject to material deprivation.

The evaluation of material deprivation depth of materially deprived is the *material deprivation gap index for materially deprived individuals* defined as follows:

$$I^{dm} = \frac{1}{n^{dm}} \sum_{i=1}^{n^{dm}} \left( \frac{(z^* + 1) - z_i}{(z^* + 1)} \right), \quad (12)$$

where:

$z_i$  – value of the  $z$ -th variable for the  $i$ -th individual (the number of material deprivation dimension in which the  $i$ -th individual is materially deprived),

$z^*$  – the material deprivation line.

The measurement of the intensity of material deprivation is conducted with the *material deprivation gap index*:

$$IT^{dm} = \frac{1}{n} \sum_{i=1}^{n^{dm}} \left( \frac{(z^* + 1) - z_i}{(z^* + 1)} \right). \quad (13)$$

The material deprivation severity is measured with the *squared material deprivation gap index*:

$$SE^{dm} = \frac{1}{n} \sum_{i=1}^{n^{dm}} \left( \frac{(z^* + 1) - z_i}{(z^* + 1)} \right)^2. \quad (14)$$

### 4.3.3. Measurement of co-occurrence of monetary and non-monetary poverty (material deprivation)

The final stage of a multidimensional analysis of poverty is the assessment of the co-occurrence of monetary poverty and non-monetary poverty. The incidence of both monetary poverty and material deprivation substantially worsens the severity of this phenomenon. If the household does not achieve both current income at least equal to the monetary poverty line and is subject to material deprivation, its financial resources, including not only current income, but also income from previous periods and accumulated non-cash assets are not sufficient to satisfy its basic needs at the minimal acceptable level. This poverty will be labelled as *manifest poverty*.

A number of measures of manifest poverty is applied to conduct an evaluation of different aspects of cumulative monetary poverty and non-monetary poverty. A measurement of the incidence of combined monetary and non-monetary poverty, that is manifest poverty incidence, is the proportion of individuals both in monetary poverty and material deprivation, that is, the *manifest poverty headcount ratio* defined as follows:

$$H^{uo} = \frac{\sum_{i=1}^{n_u} n_i | x_i \in X^{dm}}{n}, \quad (15)$$

where:

$X^{dm}$  - set of materially deprived individuals,

$x_i \in X^{dm}$  -  $i$  individual that belongs to materially deprived individuals set.

The measure of manifest poverty depth is the *manifest poverty gap of manifestly poor index*, i.e. the monetary poor and also subject to deprivation:

$$I^{uo} = \frac{1}{2n^{um}} \sum_{i=1}^{n^{um}} \left( \frac{y^* - y_i^e}{y^*} \right) | x_i \in X^{dm} + \frac{1}{2n^{dm}} \sum_{i=1}^{n^{dm}} \left( \frac{(z^* + 1) - z_i}{(z^* + 1)} \right) | x_i \in X^{um}, \quad (16)$$

where:

$X^{um}$  - set of monetary poor individuals,

$x_i \in X^{um}$  - the  $i$ -th individual that belongs to monetary poor individuals.

The measure of manifest poverty intensity is the *manifest poverty gap index*:

$$IT^{uo} = \frac{1}{2n} \sum_{i=1}^{n^{um}} \left( \frac{y^* - y_i^e}{y^*} \right) | x_i \in X^{dm} + \frac{1}{2n} \sum_{i=1}^{n^{dm}} \left( \frac{(z^* + 1) - z_i}{(z^* + 1)} \right) | x_i \in X^{um}. \quad (17)$$

The measure of manifest poverty severity is the *squared manifest poverty gap index*:

$$SE^{uo} = \frac{1}{2n} \sum_{i=1}^{n^{um}} \left( \frac{y^* - y_i^e}{y^*} \right)^2 | x_i \in X^{dm} + \frac{1}{2n} \sum_{i=1}^{n^{dm}} \left( \frac{(z^* + 1) - z_i}{(z^* + 1)} \right)^2 | x_i \in X^{um}. \quad (18)$$

## 4.4. Analysis of changes in poverty

When analysing the dynamic phenomena related to poverty, it is particularly important whether a specific household is suffering poverty temporarily or whether this condition is of a permanent character (Panek, 2011). This is particularly significant when formulating the tasks under social policy aimed at fighting poverty, as these should focus on counteracting permanent poverty. Identifying the character of poverty is possible solely by means of a panel approach which consists in the observation of the same households in all periods (years). Hence, in the presented study on poverty, the assessment of the changes in poverty was based on the information concerning only those households which took part in all last two study phases in 2013 and 2015.

In analyses conducted as part of the study, the character of poverty by means of analysing the mobility of the household in terms of its position above or below the poverty line was examined.

The assessment of household mobility in terms of its position above or below the poverty line is based on the analysis of household flow between statuses of belonging to the poverty sphere (belonging or not belonging to the poverty sphere) in two comparable periods (years). The scheme of flows of households between the status of being below or above the poverty line under the conventional (unidimensional) approach is presented in table 4.2.

Table 4.2. Scheme of household flows between statuses of belonging to the sphere of poverty.

Belonging to the poverty sphere in the period $t-1$	Belonging to the poverty sphere in the period $t$		$n_{j,t-1}$
	non-poor household ( $j=0$ )	poor household ( $j=1$ )	
Non-poor household ( $j=0$ )	$n_{00,t-1,t}$	$n_{01,t-1,t}$	$n_{0,t-1}$
Poor household ( $j=1$ )	$n_{10,t-1,t}$	$n_{11,t-1,t}$	$n_{1,t-1}$
$n_{j,t}$	$n_{0,t}$	$n_{1,t}$	$n$

In the case of poverty analysis in relation to the income situation of households, the values on the diagonal of the matrix of flows  $N = [n_{jj',t-1,t}]$  indicate the number of households which did not change their status of belonging to the poverty sphere in the two comparable periods (i.e. in both comparable periods (years) these households were or were not below the poverty sphere). The number of households which “entered” to the poverty sphere is below the diagonal, and the number of households which “left” below the poverty sphere is above the diagonal.

The indices of mobility, which are synthetic assessments of the scale of mobility of the households in relation to their belonging to the poverty sphere, are calculated on the basis of the matrix of flows. A classical mobility index often used in practice and calculated based on the matrices of flows is the Shorrocks index (1978), described with the following formula:

$$M^S = \frac{n - tr(\mathbf{N})}{n}, \tag{19}$$

where:

$tr(\mathbf{N})$  – trace of the matrix of flows <sup>113</sup>,

while:

$n_{jj',t-1,t}$  – number of individuals which moved from the status of belonging to poverty sphere to the  $j'$ -status.

Index (27) may have the  $j$ -th value from the range of [0,1]. The higher the value of the index, the greater the mobility of the households.

When decomposing index (27), and expanding its analytical capacities, we obtain the following:

$$M^S = \frac{n - tr(\mathbf{N})}{n} = \frac{\sum_{j>j'} n_{jj'} + \sum_{j<j'} n_{jj'}}{n} = \frac{\sum_{j>j'} n_{jj'}}{n} + \frac{\sum_{j<j'} n_{jj'}}{n} = M^{S+} + M^{S-}, \tag{20}$$

The first of the components on the right side of the equation indicates the percentage of households which “left” the poverty sphere in the comparable periods. The second component of the sum is the percentage of households which “entered” the poverty sphere in the studied period. As a supplementation for mobility index (27), T. Panek (2001) proposed the index of the character of the households’ mobility:

$$CM = \frac{\sum_{j>j'} n_{jj'}}{n} - \frac{\sum_{j<j'} n_{jj'}}{n} = M^{S+} - M^{S-}, \tag{21}$$

This index assumes values from the range of [-1; 1]. Its positive values mean that the flows of households from the poverty sphere beyond the poverty sphere prevail. On the other hand, its negative values mean that the flows of households from outside the poverty sphere to the poverty sphere prevail. The higher the absolute value of the index, the greater the prevalence of one type of flows over the other.

### 4.5. Determinants of poverty

A widely used method of establishing the determinants of poverty divides the researched population into groups according to selected social and economic features, and then assesses this phenomenon inside these groups by means of poverty indices most often by means of the percentage of the poor. High values of the poverty index in the given group of households, with a concurrent high diversity of such values between the groups under the given classification suggest that this variant of the feature characterising the selected group of households generates poverty.

However, the assessments of the impact of specific variables on generating poverty may independently be biased since the relation of such variables with other variables is not taken into account. For example, high values of poverty index in the group of rural households indicate that living in the countryside generates poverty. However, a high value of poverty index for this group of households is a combined effect not only of the place of residence, but also of other

<sup>113</sup> Values on the diagonal of the matrix, i.e. the number of households, which have not changed their poverty sphere status in the periods under comparison.

factors; e.g. a higher number of children in rural households in comparison to urban households, a lower level of education of the members of such households in comparison with the households from the cities. Thus, in order to specify the determinants of poverty necessary to estimate the “net” impact of specific variables on generating poverty requires the application of multidimensional methods of analysing interdependence and the multiple regression in particular.

In order to specify the impact of the features underlined in the study on the degree of the risk of poverty, probit or logit models may be applied (Greene, 1997). In these models, the dependent variable is the dummy variable which has the value of 1 if the household was in the poverty sphere and otherwise the value of 0.

The probit model may be defined as follows:

$$\Phi^{-1}[p(\mathbf{X})] = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \dots + \alpha_k X_k + \varepsilon, \quad (22)$$

where:

$\mathbf{X}$  – vector of the potential determinants of poverty (explanatory variables),

$p(\mathbf{X})$  – probability of the household’s “entered” the poverty sphere, at a specified set of potential determinants of poverty (independent variables),

$\Phi^{-1}(p)$  – inverse cumulative standard normal distribution function,

$\varepsilon$  – the model residual.

The explanatory variables included in the models as the potential determinants of poverty may be presented, similarly as the explanatory variable, by means of a set of dummy variables. When estimating the models with the sets of dummy variables, in each such set one of the variable category is omitted in order to avoid multicollinearity. This means that the parameters in the model are relative indicators of the risk of entering the poverty sphere. The higher the positive value of the parameter the higher the risk of “entering” the poverty sphere among the households displaying this variable category, in comparison with the households whose does not contain this variable category. On the other hand, the negative value of the parameter indicates a lower risk of “entering” the poverty sphere (in relation to the omitted variable category).

**ANNEX 5. RANK OF SOCIO-DEMOGRAPHIC AND PROFESSIONAL GROUPS IN RELATION TO EIGHT DIMENSIONS OF THE QUALITY OF LIFE IN 2015.**

## 5.1. Towns and cities

### Civilisation level

Rank	City/Town	Average	SD	N
1	Warszawa	0.68	.79	942
2	Rzeszów	0.60	.85	59
3	Poznań	0.55	.85	262
4	Kraków	0.54	.90	497
5	Zielona Góra	0.50	.95	75
6	Lublin	0.46	.77	158
7	Toruń	0.44	.86	124
8	Wrocław	0.43	.78	346
9	Gorzów Wlk.	0.42	.87	68
10	Gliwice	0.42	.71	115
11	Opole	0.41	.84	86
12	Gdańsk	0.40	.87	385
13	Gdynia	0.37	.92	121
14	Olsztyn	0.27	.90	120
15	Bytom	0.25	.87	56
16	Bydgoszcz	0.24	.97	169
17	Ruda Śląska	0.23	.78	85
18	Katowice	0.21	.95	261
19	Jaworzno	0.20	.91	169
20	Kielce	0.19	.94	105
21	Wałbrzych	0.17	.93	89
22	Bielsko-Biała	0.14	.91	150
23	Białystok	0.09	.99	212
24	Łódź	0.03	.94	427
25	Sosnowiec	0.03	.95	141
26	Zabrze	-0.01	.83	109
27	Częstochowa	-0.11	1.04	72
28	Radom	-0.14	.99	160

### Social well-being

Rank	City/Town	Average	SD	N
1	Olsztyn	0.21	.81	115
2	Bytom	0.18	1.01	57
3	Bydgoszcz	0.17	.56	167
4	Poznań	0.16	1.01	255
5	Opole	0.11	1.27	88
6	Kraków	0.08	.91	487
7	Gdańsk	0.07	1.25	384
8	Zabrze	0.07	.76	111
9	Katowice	0.06	.90	252
10	Wrocław	0.04	.88	361
11	Gdynia	0.03	.75	125
12	Sosnowiec	0.03	.94	140
13	Zielona Góra	0.00	.71	72
14	Toruń	-0.01	1.20	126
15	Częstochowa	-0.01	.99	78
16	Gliwice	-0.01	.97	113
17	Bielsko-Biała	-0.05	.77	155
18	Rzeszów	-0.07	1.02	59
19	Radom	-0.07	1.05	164
20	Jaworzno	-0.07	1.20	170
21	Warszawa	-0.08	1.13	917
22	Lublin	-0.09	1.03	163
23	Łódź	-0.09	.98	412
24	Wałbrzych	-0.17	.90	89
25	Kielce	-0.23	1.04	105
26	Białystok	-0.28	1.17	220
27	Gorzów Wlk.	-0.32	1.07	69
28	Ruda Śląska	-0.40	1.50	85

### Material well-being

Rank	City/Town	Average	S	
			D	N
1	Warszawa	0.98	1.76	825
2	Gdynia	0.64	1.41	103
3	Toruń	0.55	1.37	128
4	Gdańsk	0.42	1.10	378
5	Poznań	0.40	1.09	187
6	Kraków	0.39	1.02	479
7	Gliwice	0.38	1.00	93
8	Gorzów Wlk.	0.28	.96	72
9	Zielona Góra	0.27	.91	76
10	Jaworzno	0.27	.59	137
11	Wrocław	0.23	1.16	315
12	Zabrze	0.13	.95	96
13	Lublin	0.10	.90	137
14	Wałbrzych	0.09	1.10	79
15	Katowice	0.05	1.20	234
16	Olsztyn	0.04	.98	118
17	Opole	-0.02	.96	76
18	Łódź	-0.03	1.02	430
19	Sosnowiec	-0.03	1.01	137
20	Bielsko-Biała	-0.05	.66	154
21	Kielce	-0.07	.98	106
22	Bytom	-0.09	1.00	59
23	Rzeszów	-0.10	.70	58
24	Ruda Śląska	-0.14	.72	86
25	Białystok	-0.17	.89	210
26	Radom	-0.23	.85	164
27	Częstochowa	-0.25	.77	75
28	Bydgoszcz	-0.28	.79	174

### Pathologies (the higher the value, the more pathologies)

Rank	City	Average	SD	N
1	Jaworzno	-0.28	.75	170
2	Bydgoszcz	-0.18	.77	176
3	Rzeszów	-0.12	.88	61
4	Częstochowa	-0.08	.74	78
5	Poznań	-0.07	.98	266
6	Wałbrzych	-0.06	.74	89
7	Zabrze	-0.06	.68	115
8	Kraków	-0.05	1.07	507
9	Olsztyn	-0.04	.96	120
10	Zielona Góra	-0.02	.82	78
11	Radom	0.01	.82	164
12	Toruń	0.02	1.11	130
13	Białystok	0.02	.92	220
14	Gliwice	0.02	.99	114
15	Łódź	0.03	.93	435
16	Lublin	0.04	.97	165
17	Gorzów Wlk.	0.05	.98	69
18	Wrocław	0.10	1.07	366
19	Sosnowiec	0.10	1.22	144
20	Bytom	0.12	.89	59
21	Kielce	0.14	1.28	106
22	Gdańsk	0.24	1.18	386
23	Warszawa	0.28	1.38	940
24	Katowice	0.29	1.13	261
25	Bielsko-Biała	0.44	1.79	155
26	Gdynia	0.50	1.32	125
27	Opole	0.55	1.45	90
28	Ruda Śląska	0.58	1.23	89

*Social capital*

Rank	City	Average	SD	N
1	Poznań	0.48	1.39	256
2	Gorzów Wlk.	0.42	1.36	65
3	Warszawa	0.36	1.20	920
4	Kraków	0.28	1.12	487
5	Bytom	0.27	1.16	59
6	Częstochowa	0.25	1.34	77
7	Lublin	0.24	1.24	158
8	Gliwice	0.22	1.04	108
9	Katowice	0.21	1.30	246
10	Jaworzno	0.20	1.05	146
11	Toruń	0.19	1.31	129
12	Opole	0.17	1.05	90
13	Zielona Góra	0.10	1.18	73
14	Gdynia	0.10	.85	125
15	Olsztyn	0.09	.97	118
16	Gdańsk	0.06	.92	386
17	Wrocław	0.05	1.06	361
18	Rzeszów	0.02	1.07	61
19	Radom	-0.01	.92	164
20	Kielce	-0.01	1.25	105
21	Łódź	-0.08	.93	424
22	Bydgoszcz	-0.09	1.11	174
23	Zabrze	-0.10	.98	114
24	Bielsko-Biała	-0.12	.82	155
25	Białystok	-0.13	.78	220
26	Ruda Śląska	-0.14	.67	88
27	Sosnowiec	-0.20	.66	143
28	Wałbrzych	-0.32	.64	89

*Physical well-being*

Rank	City	Average	SD	N
1	Jaworzno	0.27	.91	169
2	Olsztyn	0.26	.74	116
3	Rzeszów	0.25	.77	60
4	Bielsko-Biała	0.25	.77	151
5	Poznań	0.20	.76	246
6	Gliwice	0.19	.68	113
7	Kraków	0.10	.99	498
8	Toruń	0.09	.97	129
9	Łódź	0.08	1.05	420
10	Zabrze	0.08	1.00	114
11	Sosnowiec	0.07	1.01	137
12	Białystok	0.05	1.05	219
13	Wrocław	0.03	.90	361
14	Gdańsk	0.01	1.05	375
15	Warszawa	-0.05	1.02	913
16	Zielona Góra	-0.07	1.26	74
17	Gdynia	-0.11	.97	125
18	Ruda Śląska	-0.11	1.01	88
19	Lublin	-0.15	1.05	150
20	Bytom	-0.19	1.22	59
21	Radom	-0.21	1.02	160
22	Wałbrzych	-0.22	1.01	88
23	Bydgoszcz	-0.24	1.22	164
24	Katowice	-0.27	1.18	251
25	Opole	-0.32	1.13	90
26	Kielce	-0.33	1.16	104
27	Częstochowa	-0.41	1.20	77
28	Gorzów Wlk.	-0.58	1.36	68

*Psychological well-being*

Rank	City	Average	SD	N
1	Bytom	0.48	1.01	59
2	Olsztyn	0.32	.86	112
3	Zielona Góra	0.30	.77	70
4	Kraków	0.23	.89	482
5	Bielsko-Biała	0.21	.70	144
6	Gliwice	0.21	.77	100
7	Poznań	0.18	.85	249
8	Wrocław	0.13	.98	352
9	Gdynia	0.12	.93	125
10	Bydgoszcz	0.09	.94	165
11	Zabrze	0.09	.98	115
12	Toruń	0.07	1.04	126
13	Jaworzno	0.06	1.05	165
14	Warszawa	0.05	.96	865
15	Gdańsk	0.04	1.13	383
16	Rzeszów	-0.01	.95	60
17	Radom	-0.05	1.01	156
18	Katowice	-0.05	.97	252
19	Łódź	-0.06	1.03	382
20	Sosnowiec	-0.09	1.03	135
21	Wałbrzych	-0.10	1.13	88
22	Lublin	-0.12	1.02	155
23	Częstochowa	-0.12	.84	75
24	Ruda Śląska	-0.16	1.12	87
25	Opole	-0.18	.90	85
26	Białystok	-0.23	1.06	214
27	Gorzów Wlk.	-0.30	.92	66
28	Kielce	-0.45	1.22	96

*Life stress (the higher the value, the higher the stress)*

Rank	City	Average	SD	N
1	Łódź	-0.23	.92	407
2	Zielona Góra	-0.14	.81	64
3	Sosnowiec	-0.14	.97	144
4	Bielsko-Biała	-0.13	1.12	155
5	Ruda Śląska	-0.12	.77	89
6	Zabrze	-0.08	.89	115
7	Jaworzno	-0.05	.79	169
8	Toruń	-0.03	.91	130
9	Gdynia	-0.03	.91	125
10	Bytom	-0.01	.89	58
11	Bydgoszcz	0.02	.79	169
12	Kraków	0.02	.97	502
13	Poznań	0.03	.82	253
14	Katowice	0.05	1.01	254
15	Białystok	0.07	1.02	220
16	Radom	0.12	1.20	164
17	Gorzów Wlk.	0.14	1.17	69
18	Wałbrzych	0.15	.97	90
19	Gdańsk	0.16	1.05	386
20	Częstochowa	0.16	1.01	78
21	Gliwice	0.16	1.00	108
22	Rzeszów	0.17	1.06	61
23	Wrocław	0.22	1.06	355
24	Olsztyn	0.23	1.02	108
25	Warszawa	0.29	1.02	924
26	Lublin	0.35	1.02	160
27	Kielce	0.45	1.13	105
28	Opole	0.69	1.27	89

## 5.2. Voivodships

### Civilisation level

Rank	Voivodship	Average	SD	N
1	Pomorskie	0.13	0.90	1399
2	Mazowieckie	0.10	1.04	3027
3	Dolnośląskie	0.08	0.97	1547
4	Małopolskie	0.08	1.03	1883
5	Śląskie	0.06	0.94	2521
6	Lubuskie	0.05	0.99	540
7	Wielkopolskie	0.02	0.98	2087
8	Zachodniopomorskie	-0.05	0.98	895
9	Kujawsko-Pomorskie	-0.06	0.94	1145
10	Podlaskie	-0.07	1.05	669
11	Opolskie	-0.08	1.05	696
12	Podkarpackie	-0.11	1.04	1125
13	Łódzkie	-0.14	0.99	1355
14	Warmińsko-Mazurskie	-0.16	0.99	767
15	Lubelskie	-0.17	1.05	1214
16	Świętokrzyskie	-0.17	1.05	674

### Social well-being

Rank	Voivodship	Average	SD	N
1	Opolskie	0.16	1.03	678
2	Małopolskie	0.10	0.93	1904
3	Wielkopolskie	0.06	0.96	2096
4	Lubelskie	0.05	1.00	1219
5	Pomorskie	0.05	0.97	1440
6	Kujawsko-Pomorskie	0.03	0.87	1132
7	Podkarpackie	0.03	1.01	1152
8	Dolnośląskie	-0.03	0.95	1546
9	Mazowieckie	-0.03	1.05	3005
10	Śląskie	-0.03	1.00	2510
11	Warmińsko-Mazurskie	-0.04	0.94	763
12	Lubuskie	-0.08	1.00	538
13	Świętokrzyskie	-0.09	1.02	670
14	Łódzkie	-0.10	1.12	1332
15	Podlaskie	-0.10	0.99	684
16	Zachodniopomorskie	-0.11	1.13	892

### Material well-being

Rank	Voivodship	Average	SD	N
1	Mazowieckie	0.25	1.31	2892
2	Pomorskie	0.15	1.05	1386
3	Małopolskie	0.11	0.90	1715
4	Wielkopolskie	0.05	0.95	1829
5	Dolnośląskie	0.04	0.97	1380
6	Śląskie	0.04	0.90	2282
7	Lubuskie	0.03	1.00	552
8	Zachodniopomorskie	0.00	0.98	832
9	Podlaskie	-0.07	0.91	657
10	Warmińsko-Mazurskie	-0.12	0.89	782
11	Łódzkie	-0.15	0.91	1303
12	Opolskie	-0.16	0.87	600
13	Świętokrzyskie	-0.18	0.97	648
14	Lubelskie	-0.22	0.89	1183
15	Kujawsko-Pomorskie	-0.24	0.90	1142
16	Podkarpackie	-0.25	0.74	1137

### Pathologies (the higher the value, the more pathologies)

Rank	Voivodship	Average	SD	N
1	Małopolskie	-0.14	0.86	1936
2	Warmińsko-Mazurskie	-0.12	0.76	789
3	Kujawsko-Pomorskie	-0.10	0.79	1170
4	Podkarpackie	-0.10	0.88	1170
5	Lubelskie	-0.09	0.80	1265
6	Wielkopolskie	-0.08	0.86	2162
7	Świętokrzyskie	-0.05	0.91	693
8	Podlaskie	-0.02	0.92	691
9	Łódzkie	-0.01	0.99	1391
10	Opolskie	0.03	1.04	709
11	Mazowieckie	0.04	1.09	3086
12	Dolnośląskie	0.07	1.00	1584
13	Śląskie	0.08	1.06	2584
14	Lubuskie	0.13	1.06	555
15	Pomorskie	0.16	1.16	1447
16	Zachodniopomorskie	0.22	1.48	908

### Social capital

Rank	Voivodship	Average	SD	N
1	Mazowieckie	0.09	1.02	3016
2	Podkarpackie	0.06	1.06	1161
3	Pomorskie	0.03	1.01	1448
4	Dolnośląskie	0.02	1.01	1556
5	Małopolskie	0.02	1.00	1893
6	Śląskie	0.02	1.02	2480
7	Lubelskie	0.00	0.98	1209
8	Opolskie	0.00	1.10	699
9	Wielkopolskie	-0.01	1.04	2089
10	Lubuskie	-0.04	1.13	537
11	Świętokrzyskie	-0.05	0.89	675
12	Warmińsko-Mazurskie	-0.05	0.77	770
13	Kujawsko-Pomorskie	-0.08	1.00	1143
14	Zachodniopomorskie	-0.08	0.96	887
15	Łódzkie	-0.10	0.93	1349
16	Podlaskie	-0.13	0.85	691

### Physical well-being

Rank	Voivodship	Average	SD	N
1	Warmińsko-Mazurskie	0.20	0.94	775
2	Małopolskie	0.06	0.97	1886
3	Zachodniopomorskie	0.05	0.92	890
4	Mazowieckie	0.02	1.01	3024
5	Podlaskie	0.02	1.03	683
6	Śląskie	0.02	0.98	2522
7	Kujawsko-Pomorskie	0.01	1.02	1136
8	Wielkopolskie	0.01	0.96	2058
9	Łódzkie	0.00	0.98	1353
10	Pomorskie	-0.03	1.04	1403
11	Podkarpackie	-0.04	1.00	1126
12	Świętokrzyskie	-0.04	1.03	681
13	Opolskie	-0.05	0.97	697
14	Lubelskie	-0.08	1.04	1162
15	Dolnośląskie	-0.09	1.00	1553
16	Lubuskie	-0.22	1.20	545

*Psychological well-being*

Rank	Voivodship	Average	SD	N
1	Małopolskie	0.15	0.95	1830
2	Wielkopolskie	0.11	0.93	1842
3	Pomorskie	0.09	1.00	1435
4	Śląskie	0.02	0.97	2361
5	Kujawsko-Pomorskie	0.01	0.94	1106
6	Mazowieckie	0.01	0.99	2863
7	Zachodniopomorskie	0.00	1.09	890
8	Dolnośląskie	-0.02	0.99	1472
9	Warmińsko-Mazurskie	-0.03	1.08	705
10	Lubuskie	-0.06	1.05	515
11	Opolskie	-0.06	0.94	661
12	Podkarpackie	-0.07	1.05	1100
13	Łódzkie	-0.13	1.03	1236
14	Świętokrzyskie	-0.13	1.11	645
15	Lubelskie	-0.15	0.97	1150
16	Podlaskie	-0.15	1.06	674

*Life stress (the higher the value, the more stress)*

Rank	Voivodship	Average	SD	N
1	Dolnośląskie	0.14	1.03	1553
2	Zachodniopomorskie	0.11	1.05	884
3	Podkarpackie	0.09	1.04	1160
4	Lubuskie	0.08	0.99	531
5	Opolskie	0.08	1.09	687
6	Lubelskie	0.04	1.05	1209
7	Mazowieckie	0.04	1.01	3042
8	Śląskie	0.01	0.99	2530
9	Świętokrzyskie	0.01	1.03	683
10	Łódzkie	-0.01	1.02	1342
11	Podlaskie	-0.01	0.96	687
12	Pomorskie	-0.07	1.00	1437
13	Wielkopolskie	-0.07	0.95	2083
14	Warmińsko-Mazurskie	-0.09	0.96	757
15	Kujawsko-Pomorskie	-0.13	0.90	1151
16	Małopolskie	-0.13	0.94	1921

## 5.3. Subregions (NUTS3)

## Civilisation level

Rank	Subregion	Average	SD	N
1	Jeleniogórski	-0.01	0.96	369
2	Legnicko-głogowski	0.02	1.02	289
3	Wrocławski	-0.09	0.99	266
4	Wałbrzyski	-0.02	1.01	277
5	Grudziądzki	-0.15	0.87	266
6	Bydgosko-toruński	0.24	0.95	388
7	Włocławski	-0.25	0.92	489
8	Bialski	-0.09	1.05	180
9	Puławski	-0.37	1.07	282
10	Lubelski	0.20	0.92	349
11	Chełmsko-zamojski	-0.38	1.05	403
12	Gorzowski	0.15	0.88	220
13	Zielonogórski	-0.02	1.05	319
14	Łódzki	0.01	0.94	601
15	Piotrkowski	-0.17	1.01	350
16	Sieradzki	-0.45	1.02	197
17	Skierniewicki	-0.21	0.97	207
18	Krakowski	0.34	0.98	839
19	Nowosądecki	-0.23	1.03	423
20	Oświęcimski	0.03	0.94	265
21	Tarnowski	-0.15	1.07	357
22	Ciechanowsko-płocki	-0.22	0.95	392
23	Warszawski	0.39	0.98	1570
24	Ostrołęcko-siedlecki	-0.16	1.01	582
25	Radomski	-0.28	1.04	483
26	Nyski	-0.29	1.06	286
27	Opolski	0.07	1.02	410
28	Krośnieński	-0.19	1.03	376
29	Przemyski	-0.21	0.99	216
30	Rzeszowski	0.09	1.07	272
31	Tarnobrzeczki	0.17	0.94	620
32	Białostocki	0.00	1.05	326
33	Łomżyński	-0.11	1.03	204
34	Suwalski	-0.15	1.05	140
35	Gdański	0.30	0.89	789
36	Słupski	-0.20	0.90	302
37	Starogardzki	0.02	0.83	308
38	Bielski	-0.05	0.97	412
39	Bytomski	0.15	0.97	220
40	Częstochowski	-0.10	0.91	252
41	Gliwicki	0.17	0.87	281
42	Katowicki	0.13	0.96	446
43	Rybnicki	-0.06	0.98	260
44	Sosnowiecki	0.13	0.93	440
45	Tyski	0.12	0.86	191
46	Kielecki	-0.11	1.06	395
47	Sandomiersko-jędrzejowski	-0.25	1.04	278
48	Elbląski	-0.15	0.99	298
49	Ełcki	-0.23	0.90	104
50	Olsztyński	-0.15	1.01	365
51	Kaliski	-0.01	0.98	496
52	Koniński	-0.13	0.94	509
53	Leszczyński	-0.01	0.95	412
54	Poznański	0.28	0.97	541
55	Pilski	-0.35	0.97	120
56	Koszaliński	-0.31	0.97	365
57	Stargardzki	-0.09	1.00	209
58	Szczeciński	0.27	0.89	321

## Social well-being

Rank	Subregion	Average	SD	N
1	Jeleniogórski	0.00	0.90	365
2	Legnicko-głogowski	0.04	1.01	287
3	Wrocławski	-0.11	0.97	262
4	Wałbrzyski	-0.15	1.00	271
5	Grudziądzki	0.03	0.91	261
6	Bydgosko-toruński	0.07	0.88	388
7	Włocławski	0.00	0.84	481
8	Bialski	0.14	0.90	182
9	Puławski	0.04	1.15	279
10	Lubelski	0.02	1.00	350
11	Chełmsko-zamojski	0.05	0.94	407
12	Gorzowski	-0.15	1.00	228
13	Zielonogórski	-0.03	1.00	310
14	Łódzki	-0.04	0.94	586
15	Piotrkowski	-0.10	1.26	342
16	Sieradzki	-0.37	1.28	195
17	Skierniewicki	-0.02	1.13	209
18	Krakowski	0.05	0.87	828
19	Nowosądecki	0.25	0.77	430
20	Oświęcimski	0.11	0.88	268
21	Tarnowski	0.04	1.20	377
22	Ciechanowsko-płocki	0.05	1.06	392
23	Warszawski	-0.08	1.09	1536
24	Ostrołęcko-siedlecki	0.05	0.85	581
25	Radomski	-0.03	1.10	495
26	Nyski	0.11	0.96	274
27	Opolski	0.19	1.07	404
28	Krośnieński	0.08	1.03	388
29	Przemyski	-0.09	0.91	224
30	Rzeszowski	0.03	0.97	271
31	Tarnobrzeczki	0.04	0.97	643
32	Białostocki	-0.18	1.08	335
33	Łomżyński	-0.03	0.99	205
34	Suwalski	0.02	0.70	144
35	Gdański	0.05	1.06	802
36	Słupski	0.07	0.86	317
37	Starogardzki	0.03	0.86	322
38	Bielski	-0.10	0.84	411
39	Bytomski	0.13	0.90	220
40	Częstochowski	-0.08	1.06	261
41	Gliwicki	0.04	0.85	277
42	Katowicki	-0.08	1.08	433
43	Rybnicki	0.03	0.97	260
44	Sosnowiecki	-0.09	1.16	442
45	Tyski	0.00	0.92	188
46	Kielecki	-0.13	1.07	391
47	Sandomiersko-jędrzejowski	-0.04	0.93	279
48	Elbląski	0.02	0.76	303
49	Ełcki	-0.17	1.17	107
50	Olsztyński	-0.05	1.00	352
51	Kaliski	0.06	0.98	488
52	Koniński	0.09	0.95	503
53	Leszczyński	0.04	0.93	423
54	Poznański	0.06	1.04	546
55	Pilski	0.07	0.71	128
56	Koszaliński	-0.27	1.18	371
57	Stargardzki	0.08	1.10	205
58	Szczeciński	-0.06	1.05	316

*Material well-being**Pathologies (the higher the value. the more pathologies)*

Rank	Subregion	Average	SD	N	Rank	Subregion	Average	SD	N
1	Jeleniogórski	-0.15	0.93	330	1	Jeleniogórski	0.06	0.88	374
2	Legnicko-głogowski	0.05	0.95	249	2	Legnicko-głogowski	0.05	1.13	290
3	Wrocławski	0.02	0.77	227	3	Wrocławski	0.10	1.04	276
4	Wałbrzyski	0.03	0.89	259	4	Wałbrzyski	0.01	0.86	278
5	Grudziądzki	-0.33	0.67	266	5	Grudziądzki	-0.14	0.65	272
6	Bydgosko-toruński	0.07	1.08	393	6	Bydgosko-toruński	-0.07	0.91	402
7	Włocławski	-0.44	0.78	482	7	Włocławski	-0.10	0.77	494
8	Biały	-0.26	0.78	191	8	Biały	-0.09	0.80	191
9	Puławski	-0.20	0.84	267	9	Puławski	-0.13	0.80	286
10	Lubelski	0.10	1.13	302	10	Lubelski	0.03	0.98	364
11	Chełmsko-zamojski	-0.44	0.67	424	11	Chełmsko-zamojski	-0.17	0.60	424
12	Gorzowski	0.04	0.95	231	12	Gorzowski	0.14	1.04	229
13	Zielonogórski	0.02	1.05	322	13	Zielonogórski	0.13	1.08	325
14	Łódzki	-0.02	0.98	607	14	Łódzki	-0.03	0.85	613
15	Piotrkowski	-0.31	0.83	318	15	Piotrkowski	0.16	1.25	357
16	Sieradzki	-0.37	0.94	179	16	Sieradzki	-0.14	1.04	204
17	Skierniewicki	-0.06	0.69	199	17	Skierniewicki	-0.08	0.75	217
18	Krakowski	0.33	0.99	778	18	Krakowski	-0.11	1.01	856
19	Nowosądecki	-0.12	0.60	395	19	Nowosądecki	-0.27	0.62	432
20	Oświęcimski	0.18	0.82	179	20	Oświęcimski	-0.12	0.65	272
21	Tarnowski	-0.17	0.88	363	21	Tarnowski	-0.09	0.87	376
22	Ciechanowsko-płocki	-0.07	0.87	407	22	Ciechanowsko-płocki	0.01	1.02	408
23	Warszawski	0.64	1.56	1441	23	Warszawski	0.13	1.20	1581
24	Ostrołęcko-siedlecki	-0.16	0.78	551	24	Ostrołęcko-siedlecki	-0.13	0.90	601
25	Radomski	-0.20	0.86	494	25	Radomski	-0.01	0.93	496
26	Nyski	-0.30	0.79	249	26	Nyski	0.04	1.05	289
27	Opolski	-0.06	0.91	350	27	Opolski	0.03	1.04	420
28	Krośnieński	-0.29	0.78	383	28	Krośnieński	-0.04	1.07	394
29	Przemyski	-0.49	0.68	216	29	Przemyski	-0.22	0.59	225
30	Rzeszowski	0.00	0.67	276	30	Rzeszowski	0.00	0.95	281
31	Tarnobrzeczki	-0.01	1.03	590	31	Tarnobrzeczki	-0.02	0.92	650
32	Białostocki	-0.05	0.93	324	32	Białostocki	0.17	1.14	336
33	Łomżyński	-0.03	0.90	192	33	Łomżyński	-0.21	0.58	210
34	Suwalski	-0.17	0.87	141	34	Suwalski	-0.20	0.65	145
35	Gdański	0.35	1.16	758	35	Gdański	0.23	1.18	809
36	Ślupski	-0.04	0.79	314	36	Ślupski	-0.08	0.94	315
37	Starogardzki	-0.12	0.91	314	37	Starogardzki	0.20	1.30	323
38	Bielski	0.05	0.65	407	38	Bielski	0.11	1.35	420
39	Bytomski	-0.29	1.00	189	39	Bytomski	0.14	0.99	233
40	Częstochowski	-0.17	0.76	230	40	Częstochowski	-0.09	0.81	261
41	Gliwicki	0.22	0.97	246	41	Gliwicki	-0.06	0.82	292
42	Katowicki	-0.02	1.10	418	42	Katowicki	0.31	1.12	453
43	Rybnicki	0.16	0.89	237	43	Rybnicki	-0.03	0.87	268
44	Sosnowiecki	0.10	0.84	392	44	Sosnowiecki	0.00	1.08	443
45	Tyski	0.34	0.78	149	45	Tyski	0.11	1.12	194
46	Kielecki	-0.10	1.11	383	46	Kielecki	-0.04	0.96	404
47	Sandomiersko-jędrzejowski	-0.29	0.72	265	47	Sandomiersko-jędrzejowski	-0.07	0.82	289
48	Elbląski	-0.05	0.74	298	48	Elbląski	-0.17	0.80	304
49	Ełcki	-0.12	0.92	110	49	Ełcki	-0.09	0.74	109
50	Olsztyński	-0.18	0.98	373	50	Olsztyński	-0.09	0.73	376
51	Kaliski	0.04	0.96	509	51	Kaliski	-0.10	0.85	512
52	Koniński	0.05	0.89	455	52	Koniński	-0.09	0.81	526
53	Leszczyński	0.01	0.92	329	53	Leszczyński	0.04	0.91	425
54	Poznański	0.17	1.06	402	54	Poznański	-0.07	0.93	557
55	Pilski	-0.13	0.78	129	55	Pilski	-0.29	0.43	133
56	Koszaliński	-0.15	0.99	360	56	Koszaliński	0.41	1.93	377
57	Stargardzki	0.03	0.91	192	57	Stargardzki	0.03	1.06	211
58	Szczeciński	0.17	0.99	280	58	Szczeciński	0.12	0.99	319

*Social capital**Physical well-being*

Rank	Subregion	Average	SD	N	Rank	Subregion	Average	SD	N
1	Jeleniogórski	-0.01	0.95	372	1	Jeleniogórski	-0.08	1.02	369
2	Legnicko-głogowski	0.01	1.10	274	2	Legnicko-głogowski	-0.18	1.14	278
3	Wrocławski	0.15	1.04	273	3	Wrocławski	-0.03	0.83	268
4	Wałbrzyski	-0.11	0.90	276	4	Wałbrzyski	-0.23	1.06	276
5	Grudziądzki	-0.14	0.88	266	5	Grudziądzki	0.12	0.98	259
6	Bydgosko-toruński	0.02	1.18	397	6	Bydgosko-toruński	-0.12	1.11	388
7	Włocławski	-0.14	0.88	478	7	Włocławski	0.06	0.95	488
8	Bialski	-0.05	0.98	182	8	Bialski	0.03	0.96	169
9	Puławski	0.02	0.93	270	9	Puławski	-0.12	1.03	268
10	Lubelski	0.18	1.12	346	10	Lubelski	-0.08	0.99	344
11	Chełmsko-zamojski	-0.13	0.88	411	11	Chełmsko-zamojski	-0.10	1.13	381
12	Gorzowski	-0.03	1.21	224	12	Gorzowski	-0.27	1.22	227
13	Zielonogórski	-0.04	1.07	313	13	Zielonogórski	-0.19	1.18	318
14	Łódzki	-0.10	0.89	601	14	Łódzki	0.10	1.03	597
15	Piotrkowski	0.00	0.99	343	15	Piotrkowski	-0.23	1.03	343
16	Sieradzki	-0.14	0.92	192	16	Sieradzki	0.07	0.79	201
17	Skierniewicki	-0.23	0.94	212	17	Skierniewicki	0.06	0.86	212
18	Krakowski	0.14	1.05	819	18	Krakowski	0.11	0.98	832
19	Nowosądecki	-0.21	0.81	428	19	Nowosądecki	0.12	0.96	429
20	Oświęcimski	0.05	1.06	270	20	Oświęcimski	-0.03	0.98	262
21	Tarnowski	0.00	1.00	375	21	Tarnowski	-0.04	0.95	364
22	Ciechanowsko-płocki	-0.08	0.83	393	22	Ciechanowsko-płocki	-0.02	1.07	398
23	Warszawski	0.21	1.12	1543	23	Warszawski	0.01	1.00	1546
24	Ostrołęcko-siedlecki	-0.04	0.89	585	24	Ostrołęcko-siedlecki	0.12	0.99	588
25	Radomski	-0.01	0.90	495	25	Radomski	-0.04	0.97	492
26	Nyski	-0.27	0.89	284	26	Nyski	0.08	0.92	281
27	Opolski	0.18	1.20	415	27	Opolski	-0.14	0.99	417
28	Krośnieński	0.24	1.16	395	28	Krośnieński	-0.18	1.06	367
29	Przemyski	-0.20	0.90	225	29	Przemyski	0.10	0.95	226
30	Rzeszowski	-0.06	1.06	278	30	Rzeszowski	-0.03	0.95	267
31	Tarnobrzeski	0.07	1.01	638	31	Tarnobrzeski	0.03	0.95	641
32	Białostocki	0.00	0.91	336	32	Białostocki	0.03	1.02	335
33	Łomżyński	-0.23	0.73	210	33	Łomżyński	-0.03	1.02	208
34	Suwałski	-0.32	0.81	145	34	Suwałski	0.09	1.09	141
35	Gdański	0.18	1.08	809	35	Gdański	-0.10	1.06	791
36	Ślupski	-0.16	0.86	316	36	Ślupski	0.17	0.95	295
37	Starogardzki	-0.14	0.92	323	37	Starogardzki	-0.04	1.07	317
38	Bielski	0.01	0.95	405	38	Bielski	0.17	0.85	412
39	Bytomski	0.07	1.08	225	39	Bytomski	0.08	0.98	227
40	Częstochowski	-0.02	1.01	254	40	Częstochowski	-0.09	1.05	259
41	Gliwicki	0.11	1.04	278	41	Gliwicki	0.11	0.86	289
42	Katowicki	0.06	1.11	434	42	Katowicki	-0.22	1.16	435
43	Rybnicki	-0.05	0.99	262	43	Rybnicki	0.03	0.81	260
44	Sosnowiecki	-0.05	0.95	414	44	Sosnowiecki	0.08	0.98	430
45	Tyski	0.08	1.00	188	45	Tyski	0.06	0.91	191
46	Kielecki	-0.08	0.91	393	46	Kielecki	-0.08	1.09	401
47	Sandomiersko-jędrzejowski	-0.01	0.85	282	47	Sandomiersko-jędrzejowski	0.03	0.93	280
48	Elbąski	-0.08	0.70	298	48	Elbąski	0.32	0.88	305
49	Ełcki	-0.06	0.93	107	49	Ełcki	-0.01	1.09	108
50	Olsztyński	-0.02	0.76	364	50	Olsztyński	0.17	0.92	362
51	Kaliski	-0.11	0.90	507	51	Kaliski	-0.05	0.98	476
52	Koniński	-0.16	0.90	499	52	Koniński	0.05	0.96	499
53	Leszczyński	0.11	1.10	415	53	Leszczyński	-0.14	1.03	411
54	Poznański	0.21	1.23	529	54	Poznański	0.20	0.80	532
55	Pilski	-0.29	0.80	132	55	Pilski	-0.15	1.11	132
56	Koszaliński	-0.24	.86	377	56	Koszaliński	-0.05	1.04	376
57	Stargardzki	0.08	1.03	195	57	Stargardzki	0.01	0.87	198
58	Szczeciński	0.02	1.00	315	58	Szczeciński	0.19	0.78	315

*Psychological well-being*

Rank	Subregion	Average	SD	N
1	Jeleniogórski	0.02	1.01	353
2	Legnicko-głogowski	-0.07	0.98	249
3	Wrocławski	-0.11	0.96	256
4	Wałbrzyski	-0.12	1.02	261
5	Grudziądzki	-0.04	0.90	259
6	Bydgosko-toruński	0.04	0.98	383
7	Włocławski	0.01	0.93	464
8	Bialski	-0.17	1.01	170
9	Puławski	-0.18	1.04	268
10	Lubelski	-0.12	0.98	324
11	Chełmsko-zamojski	-0.13	0.90	388
12	Gorzowski	-0.01	0.98	211
13	Zielonogórski	-0.09	1.09	304
14	Łódzki	-0.06	1.03	529
15	Piotrkowski	-0.21	1.01	336
16	Sieradzki	-0.37	1.13	192
17	Skierniewicki	0.05	0.91	178
18	Krakowski	0.20	0.90	808
19	Nowosądecki	0.26	0.87	402
20	Oświęcimski	0.11	0.99	252
21	Tarnowski	-0.08	1.08	367
22	Ciechanowsko-płocki	0.03	1.04	359
23	Warszawski	0.05	0.98	1465
24	Ostrołęcko-siedlecki	0.04	0.99	554
25	Radomski	-0.12	1.01	485
26	Nyski	0.04	0.97	272
27	Opolski	-0.12	0.91	390
28	Krośnieński	-0.01	1.05	382
29	Przemyski	-0.19	1.05	212
30	Rzeszowski	-0.03	0.97	270
31	Tarnobrzescki	0.02	1.05	603
32	Białostocki	-0.20	1.07	329
33	Łomżyński	-0.06	1.01	206
34	Suwalski	-0.15	1.09	139
35	Gdański	0.06	1.03	801
36	Ślupski	0.27	0.94	312
37	Starogardzki	0.01	0.93	323
38	Bielski	0.11	0.83	348
39	Bytomski	0.16	0.99	211
40	Częstochowski	-0.19	1.13	252
41	Gliwicki	0.15	0.87	266
42	Katowicki	-0.11	1.04	428
43	Rybnicki	0.13	0.79	251
44	Sosnowiecki	-0.06	1.03	422
45	Tyski	0.10	0.85	163
46	Kielecki	-0.21	1.21	376
47	Sandomiersko-jędrzejowski	-0.01	0.96	270
48	Elbląski	0.05	0.93	291
49	Ełcki	-0.30	1.15	91
50	Olsztyński	-0.02	1.16	324
51	Kaliski	0.22	0.87	434
52	Koniński	0.03	0.96	394
53	Leszczyński	0.06	0.97	403
54	Poznański	0.15	0.91	508
55	Pilski	-0.02	0.97	95
56	Koszaliński	-0.18	1.25	368
57	Starogardzki	0.16	1.06	207
58	Szczeciński	0.10	0.88	314

*Life stress (the higher the value. the greater the stress)*

Rank	Subregion	Average	SD	N
	Ślupski	-0.53	0.78	307
	Elbląski	-0.44	0.74	306
	Nowosądecki	-0.37	0.86	426
	Pilski	-0.27	0.98	131
	Chełmsko-zamojski	-0.26	0.97	407
	Ostrołęcko-siedlecki	-0.24	0.90	589
	Łódzki	-0.23	0.92	581
	Włocławski	-0.23	0.92	486
	Suwalski	-0.19	0.82	145
	Koniński	-0.17	0.95	502
	Bielski	-0.16	0.94	414
	Grudziądzki	-0.15	0.89	270
	Kaliski	-0.13	0.90	499
	Krakowski	-0.11	0.91	849
	Łomżyński	-0.09	0.91	209
	Starogardzki	-0.09	0.99	321
	Ciechanowsko-płocki	-0.08	1.04	399
	Nyski	-0.07	0.99	282
	Leszczyński	-0.03	0.94	410
	Oświęcimski	-0.02	0.92	268
	Rybnicki	-0.02	0.97	258
	Sandomiersko-jędrzejowski	-0.02	1.02	288
	Bydgosko-toruński	-0.01	0.85	393
	Katowicki	-0.01	0.97	445
	Starogardzki	-0.01	1.19	200
	Częstochowski	0.00	1.05	258
	Tarnowski	0.00	1.04	377
	Puławski	0.01	0.99	279
	Kielecki	0.03	1.04	395
	Sieradzki	0.03	1.08	201
	Gliwicki	0.04	0.94	284
	Wałbrzyski	0.04	0.94	276
	Jeleniogórski	0.05	1.00	373
	Zielonogórski	0.05	0.96	303
	Sosnowiecki	0.07	1.00	438
	Skierniewicki	0.08	0.94	207
	Radomski	0.09	1.05	496
	Bialski	0.10	1.11	183
	Legnicko-głogowski	0.10	1.00	283
	Poznański	0.11	0.96	533
	Przemyski	0.11	1.15	224
	Białostocki	0.12	1.02	333
	Bytomski	0.12	1.14	223
	Gdański	0.12	1.02	809
	Gorzowski	0.12	1.03	228
	Krośnieński	0.12	1.02	394
	Olsztyński	0.12	1.03	349
	Rzeszowski	0.13	1.09	278
	Tarnobrzescki	0.13	0.99	633
	Szczeciński	0.14	0.93	312
	Koszaliński	0.16	1.07	372
	Warszawski	0.16	1.01	1558
	Opolski	0.19	1.14	405
	Tyski	0.19	0.94	191
	Ełcki	0.25	1.00	103
	Piotrkowski	0.28	1.10	354
	Wrocławski	0.30	1.15	265
	Lubelski	0.38	1.07	340

## 5.4. Socio-demographic groups

### Civilisation level

Rank	Socio-demographic group	Average	SD	N
1	Higher education	0.85	0.59	5584
2	Private entrepreneurs	0.72	0.61	1036
3	Public sector employees	0.64	0.67	2850
4	Age: 25-34	0.60	0.66	4181
5	Unmarried couples without children	0.60	0.82	374
6	School and university students	0.57	0.50	1313
7	Age: up to 24	0.50	0.54	2312
8	Towns with 500.000+ inhabitants.	0.49	0.88	2480
9	Age: 35-44	0.45	0.73	3865
10	Separated	0.43	0.86	320
11	Private sector employees	0.40	0.71	6315
12	Married couple with 2 children	0.39	0.78	3761
13	Single person	0.31	0.88	5443
14	Married couple with a child	0.27	0.87	4183
15	Town with 200.000-500.000 inhabitants	0.26	0.92	2052
16	Married couple with 3+ children	0.24	0.79	2045
17	Secondary education	0.20	0.73	6583
18	Unmarried couple with children	0.19	0.82	333
19	Town with 100.000-200.000 inhabitants	0.18	0.93	1669
20	Man	0.10	0.93	10088
21	Husband/wife	0.07	0.93	12586
22	Town with 20.000-100.000 inhabitants	0.01	0.96	4225
23	Town with 20.000 inhabitants	-0.01	0.98	2539
24	Age: 45-59	-0.04	0.87	5293
25	Multi-family households without children	-0.06	1.01	150
26	Multi-family households with children	-0.06	0.91	2560
27	Woman	-0.09	1.05	11460
28	Unemployed	-0.09	0.87	1206
29	Divorced	-0.17	0.98	973
30	Occupationally passive	-0.21	0.96	1647
31	Village	-0.24	1.02	8577
32	Farmers	-0.25	0.82	1143
33	Single-parent families	-0.25	1.03	1929
34	Married couple without children	-0.29	1.05	3467
35	Multi-person households	-0.29	1.21	241
36	Vocational education	-0.32	0.76	6445
37	Age: 60-64	-0.43	0.92	1853
38	Single-person households	-0.66	1.15	2351
39	Retirees	-0.79	0.93	1417
40	Pensioners	-0.87	0.96	4578
41	Age: 65+	-1.08	0.93	4031
42	Widow(er)	-1.17	0.88	2164
43	Primary and lower education	-1.39	0.76	2914

### Social well-being

Rank	Socio-demographic group	Average	SD	N
1	Private entrepreneurs	0.29	1.21	675
2	Multi-family without children	0.25	0.99	87
3	School and university students	0.24	1.11	726
4	Age: up to 24	0.20	1.10	1366
5	Married couple without children	0.15	0.96	2478
6	Multi-family with children	0.13	1.07	1784
7	Farmers	0.12	1.09	787
8	Towns with 500.000+ inhabitants.	0.10	1.14	1646
9	Higher and secondary education	0.10	0.93	3612
10	Man	0.09	1.08	6757
11	Husband/wife	0.09	0.94	8762
12	Age: 25-34	0.08	0.94	2414
13	Married couple with 2 children	0.08	0.89	2510
14	Village	0.06	1.04	5970
15	Married couple with 1 child	0.06	0.98	2799
16	Married couple with 3+ children	0.06	0.98	1397
17	Secondary education	0.04	0.98	4506
18	Public sector employees	0.04	0.91	1949
19	Single person	0.04	1.08	3466
20	Age: 60-64	0.03	1.07	1396
21	Vocational education	0.03	1.04	4406
22	Town with 200.000-500.000 inhabitants	0.02	0.90	1370
23	Pensioners	0.02	1.01	3452
24	Private sector employees	0.01	0.90	4145
25	Age: 35-44	-0.01	0.92	2657
26	Age: 65+	-0.01	1.05	3094
27	Towns with 100.000-200.000 inhabitants.	-0.02	1.00	1058
28	Town with 20.000 inhabitants	-0.02	0.92	1750
29	Age: 45-59	-0.03	0.98	3812
30	Woman	-0.04	0.92	7983
31	Town with 20.000-100.000 inhabitants	-0.04	0.92	2945
32	Occupationally passive	-0.06	1.00	1111
33	Retirees	-0.10	1.11	1075
34	Unmarried couple with children	-0.11	0.81	175
35	Unemployed	-0.14	0.99	790
36	Primary and lower education	-0.15	1.05	2192
37	Separated	-0.17	0.64	136
38	Widow(er)	-0.18	1.05	1649
39	Unmarried couples without children	-0.20	0.66	161
40	Single-parent family	-0.20	1.05	1386
41	Non-family single-person household	-0.21	1.10	1746
42	Non-family multi-person households	-0.37	1.25	107
43	Divorced	-0.38	0.99	678

*Material well-being*

Ran k	Socio-demographic group	Average	SD	N
1	Private entrepreneurs	0.94	1.38	883
2	Higher and secondary education	0.59	1.10	5013
3	Towns with 500.000+ inhabitants.	0.50	1.42	2240
4	Public sector employees	0.43	0.97	2596
5	Married couple with 1 child	0.32	1.00	3919
6	Unmarried couples without children	0.31	1.36	336
7	Age: 35-44	0.20	1.00	3557
8	Private sector employees	0.18	0.94	5782
9	Married couple with 2 children	0.17	0.88	3571
10	Husband/wife	0.17	0.95	11496
11	Married couple without children	0.14	1.05	3229
12	Separated	0.13	1.35	302
13	Age: 25-34	0.12	0.94	3718
14	Town with 200.000- 500.000 inhabitants	0.12	1.09	1970
15	Multi-family without children	0.11	0.68	141
16	Age: 45-59	0.09	1.09	4873
17	Secondary education	0.08	0.88	6024
18	Town: 100k to 200k.	0.06	0.97	1614
19	School and university students	0.06	0.97	1578
20	Man	0.05	1.01	9537
21	Multi-family with children	0.04	0.72	2246
22	Town: less than 20 k.	0.01	0.98	2415
23	Age: up to 24	-0.03	0.94	2538
24	Town: 20k - 100k.	-0.04	0.95	3940
25	Marriage with 3+ children	-0.04	0.85	2026
26	Woman	-0.05	0.99	10784
27	Age: 60-64	-0.05	0.98	1742
28	Unmarried couple with children	-0.05	1.25	332
29	Single person	-0.08	1.03	5440
30	Farmers	-0.11	0.75	1043
31	Village	-0.16	0.81	8142
32	Vocational education	-0.24	0.81	6368
33	Pensioners	-0.25	0.88	4360
34	Occupationally inactive	-0.36	0.94	1508
35	Divorced	-0.36	1.04	931
36	Age: 65+	-0.38	0.89	3879
37	Single-parent families	-0.47	0.86	1909
38	Retirees	-0.48	0.82	1385
39	Unemployed	-0.58	0.85	1141
40	Non-family single-person households	-0.60	1.07	2271
41	Non-family multi-person households	-0.61	0.97	212
42	Widow(er)	-0.61	0.80	2090
43	Primary and lower education	-0.67	0.79	2878

*Pathologies (the higher the value, the more pathologies)*

Ran k	Socio-demographic group	Average	SD	N
1	Age: 65+	-0.26	0.64	4105
2	Widow(er)	-0.25	0.56	2203
3	Pensioners	-0.22	0.66	4637
4	Woman	-0.15	0.80	11782
5	Farmers	-0.12	0.79	1150
6	School and university students	-0.10	1.07	1708
7	Marriage without children	-0.10	0.86	3500
8	Village	-0.09	0.85	8885
9	Primary and lower education	-0.06	0.94	3051
10	Marriage with 3+ children	-0.06	0.98	2185
11	Multi-family without children	-0.06	0.97	150
12	Husband/wife	-0.06	0.83	12683
13	Public sector employees	-0.04	0.93	2857
14	Multi-family with children	-0.04	0.88	2615
15	Age: 60-64	-0.03	0.82	1866
16	Secondary education	-0.03	0.94	6646
17	Marriage with 2 children	-0.02	1.08	3938
18	Higher and post- secondary education	-0.01	1.01	5609
19	Retirees	-0.01	0.91	1451
20	Marriage with 1 child	0.00	0.94	4265
21	Town: 20k - 100k.	0.01	1.07	4297
22	Town: less than 20 k.	0.01	0.99	2621
23	Age: up to 24	0.02	1.24	2748
24	Non-family single-person households	0.02	1.00	2374
25	Age: 45-59	0.04	0.89	5322
26	Age: 35-44	0.06	0.96	3892
27	Vocational education	0.06	1.07	6801
28	Towns with 500.000+ inhabitants.	0.10	1.16	2520
29	Private sector employees	0.11	1.04	6365
30	Single-parent families	0.11	1.07	1999
31	Town: 100k to 200k.	0.12	1.12	1721
32	Age: 25-34	0.14	1.27	4196
33	Town: 200k-500k	0.14	1.09	2096
34	Occupationally inactive	0.14	1.34	1677
35	Man	0.17	1.17	10363
36	Private entrepreneurs	0.17	1.14	1039
37	Single person	0.17	1.32	5897
38	Divorced	0.25	1.14	975
39	Unemployed	0.28	1.29	1212
40	Unmarried couple with children	0.28	1.13	346
41	Separated Non-family	0.33	1.26	320
42	multi-person households	0.46	1.62	239
43	Unmarried couples without children	0.55	1.51	375

## Social capital

Rank	Socio-demographic group	Average	SD	N
1	Public sector employees	0.46	1.22	2779
2	Higher and post-secondary education	0.43	1.20	5480
3	Private entrepreneurs	0.31	1.12	1013
4	Towns with 500.000+ inhabitants.	0.23	1.15	2453
5	Age: 35-44	0.15	1.05	3793
6	Farmers	0.11	0.97	1117
7	Husband/wife	0.11	1.02	12368
8	Age: 45-59	0.10	1.02	5198
9	Marriage without children	0.10	1.04	3421
10	Age: 60-64	0.09	1.06	1816
11	Marriage with 2 children	0.09	1.03	3846
12	Town: 200k-500k.	0.07	1.08	2071
13	Marriage with 1 child	0.07	1.01	4164
14	Multi-family without children	0.05	1.02	146
15	Town: 100k to 200k.	0.04	1.02	1688
16	Secondary education	0.04	0.97	6494
17	Man	0.03	1.04	10113
18	Divorced	0.00	1.07	952
19	Woman	-0.03	0.97	11494
20	Town: 20k - 100k.	-0.03	1.01	4176
21	Town: less than 20 k.	-0.03	0.98	2567
22	Pensioners	-0.04	1.00	4537
23	Marriage with 3+ children	-0.04	1.00	2125
24	Private sector employees	-0.05	0.90	6218
25	Age: 25-34	-0.06	0.95	4086
26	Village	-0.06	0.92	8647
27	Multi-family with children	-0.08	0.88	2541
28	Non-family single-person households	-0.09	1.01	2328
29	Unmarried couples without children	-0.10	0.89	373
30	Age: 65+	-0.12	0.96	4021
31	School and university students	-0.13	0.98	1669
32	Single person	-0.14	0.96	5771
33	Single-parent families	-0.16	0.94	1935
34	Non-family multi-person households	-0.17	0.91	235
35	Separated	-0.17	0.87	312
36	Age: up to 24	-0.21	0.92	2680
37	Vocational education	-0.22	0.82	6623
38	Occupationally inactive	-0.22	0.83	1629
39	Widow(er)	-0.22	0.87	2138
40	Unmarried couple with children	-0.23	0.99	342
41	Unemployed	-0.24	0.83	1187
42	Retirees	-0.25	0.84	1411
43	Primary and lower education	-0.39	0.68	2973

## Physical well-being

Rank	Socio-demographic group	Average	SD	N
1	School and university students	0.58	0.57	1673
2	Age: up to 24	0.54	0.60	2692
3	Age: 25-34	0.43	0.70	4111
4	Single person	0.37	0.81	5781
5	Private sector employees	0.32	0.70	6225
6	Marriage with 2 children	0.28	0.78	3832
7	Marriage with 3+ children	0.27	0.83	2119
8	Age: 35-44	0.26	0.75	3777
9	Unmarried couple with children	0.26	0.78	331
10	Public sector employees	0.25	0.74	2779
11	Private entrepreneurs	0.25	0.79	1001
12	Unmarried couples without children	0.23	0.77	358
13	Separated	0.23	0.82	306
14	Higher and post-secondary employees	0.22	0.83	5488
15	Farmers	0.21	0.69	1115
16	Unemployed	0.15	0.94	1182
17	Marriage with 1 child	0.10	0.92	4158
18	Multi-family with children	0.10	0.89	2531
19	Non-family multi-person households	0.10	0.99	239
20	Man	0.09	0.98	10104
21	Village	0.06	0.95	8626
22	Secondary education	0.05	0.99	6453
23	Towns with 500.000+ inhabitants.	0.04	0.98	2444
24	Vocational education	0.01	0.99	6599
25	Occupationally inactive	0.00	0.99	1622
26	Town: less than 20 k.	-0.01	1.00	2559
27	Husband/wife	-0.02	0.95	12294
28	Multi-family without children	-0.05	1.07	146
29	Town: 200k-500k.	-0.07	1.05	2032
30	Woman	-0.08	1.01	11394
31	Town: 100k to 200k.	-0.08	1.03	1661
32	Town: 20k - 100k.	-0.08	1.06	4171
33	Single-parent families	-0.08	1.08	1954
34	Age: 45-59	-0.11	0.97	5150
35	Divorced	-0.33	1.17	945
36	Marriage without children	-0.34	1.07	3387
37	Age: 60-64	-0.39	1.10	1811
38	Non-family single-person households	-0.52	1.23	2288
39	Primary and lower education	-0.56	1.13	2924
40	Pensioners	-0.57	1.08	4459
41	Widow(er)	-0.74	1.16	2117
42	Age: 65+	-0.75	1.12	3942
43	Retirees	-1.28	1.23	1400

*Psychological well-being*

Rank	Socio-demographic group	Average	SD	N
1	School and university students	0.54	0.82	1534
2	Age: up to 24	0.46	0.82	2502
3	Age: 25-34	0.37	0.86	3872
4	Private entrepreneurs	0.35	0.79	968
5	Higher and post-secondary education	0.32	0.81	5274
6	Private sector employees	0.28	0.82	5928
7	Marriage with 2 children	0.28	0.88	3603
8	Unmarried couples without children	0.26	0.96	359
9	Public sector employees	0.24	0.79	2644
10	Marriage with 3+ children	0.24	0.90	1969
11	Age: 35-44	0.20	0.86	3655
12	Single person	0.19	1.01	5402
13	Marriage with 1 child	0.18	0.88	3938
14	Separated	0.16	0.98	303
15	Multi-family with children	0.12	0.94	2417
16	Husband/wife	0.11	0.87	11735
17	Towns with 500.000+ inhabitants.	0.10	0.96	2337
18	Man	0.08	0.98	9587
19	Secondary education	0.08	0.92	6196
20	Farmers	0.08	0.88	1038
21	Town: less than 20 k.	0.05	1.00	2382
22	Unmarried couple with children	0.05	0.99	324
23	Multi-family without children	0.05	0.96	144
24	Town: 100k to 200k.	0.04	0.93	1637
25	Village	0.00	0.99	8131
26	Town: 200k-500k.	-0.04	1.02	2021
27	Vocationally inactive	-0.05	1.02	6226
28	Marriage without children	-0.06	0.86	3253
29	Woman	-0.07	1.01	10905
30	Town: 20k - 100k.	-0.09	1.05	3978
31	Age: 45-59	-0.10	.97	4908
32	Occupationally inactive	-0.16	1.13	1565
33	Age: 60-64	-0.30	1.05	1739
34	Non-family multi-person households	-0.36	1.24	225
35	Unemployed	-0.37	1.15	1117
36	Pensioners	-0.46	.99	4299
37	Single-parent families	-0.46	1.14	1855
38	Age: 65+	-0.61	1.01	3801
39	Non-family single-person households	-0.64	1.14	2261
40	Retirees	-0.67	1.13	1356
41	Primary and lower education	-0.68	1.12	2761
42	Divorced	-0.70	1.18	935
43	Widow(er)	-0.86	1.05	2053

*Life stress (the higher the value, the greater the stress)*

Rank	Socio-demographic group	Average	SD	N
1	School and university students	-0.71	0.54	1602
2	Age: 65+	-0.55	0.63	4030
3	Widow(er)	-0.54	0.67	2170
4	Age: up to 24	-0.50	0.69	2612
5	Pensioners	-0.50	0.67	4549
6	Non-family single-person households	-0.47	0.64	2335
7	Single person	-0.32	0.75	5728
8	Primary and lower education	-0.29	0.90	2985
9	Retirees	-0.26	0.85	1428
10	Non-family multi-person households	-0.20	0.76	240
11	Marriage without children	-0.16	0.86	3416
12	Multi-family without children	-0.14	0.96	149
13	Age: 60-64	-0.13	0.90	1829
14	Unmarried couples without children	-0.13	0.79	370
15	Single-parent families	-0.12	0.86	1954
16	Village	-0.08	0.98	8693
17	Woman	-0.03	0.99	11500
18	Town: less than 20 k.	-0.02	0.98	2560
19	Occupationally inactive	-0.02	0.94	1625
20	Vocational education	0.00	1.01	6641
21	Divorced	0.01	0.94	952
22	Town: 20k - 100k.	0.02	1.01	4201
23	Secondary education	0.03	1.01	6475
24	Man	0.04	1.01	10164
25	Age: 25-34	0.05	0.95	4125
26	Town: 100k to 200k.	0.07	1.06	1683
27	Multi-family with children	0.08	1.06	2567
28	Towns with 500k+ inhabitants.	0.11	1.00	2447
29	Town: 200k-500k.	0.12	1.01	2075
30	Higher and post-secondary education	0.12	1.00	5528
31	Marriage with 1 child	0.15	1.05	4171
32	Marriage with 3+ children	0.15	1.11	2115
33	Unemployed	0.17	1.00	1184
34	Marriage with 2 children	0.19	1.10	3852
35	Separated	0.20	0.93	313
36	Husband/wife	0.24	1.07	12436
37	Private sector employees	0.30	1.03	6268
38	Public sector employees	0.31	1.05	2816
39	Farmers	0.34	1.02	1121
40	Age: 45-59	0.36	1.08	5211
41	Unmarried couple with children	0.37	1.03	338
42	Age: 35-44	0.43	1.05	3841
43	Private entrepreneurs	0.48	1.12	1025

### 5.5. Professional groups of occupationally active persons

#### Civilisation level

Rank	Professional group	Average	SD	N
1	Academic teachers	1.38	0.44	97
2	Creators, artists, writers, journalists	1.19	0.63	84
3	Doctors, vets, dentists	1.14	0.42	95
4	Other specialists	1.09	0.39	126
5	Lawyers	1.06	0.53	74
6	Marketing specialists	1.05	0.35	188
7	Financial specialists	1.03	0.44	180
8	IT specialists and similar professions	1.03	0.32	191
9	Engineers, architects, designers and similar	1.02	0.31	339
10	Authorities and directors	0.99	0.55	89
11	Administration and management specialists	0.97	0.35	217
12	Primary school teachers	0.96	0.40	331
13	Secondary school teachers	0.92	0.44	204
14	Managers of various specialities	0.91	0.44	505
15	Sales and business agents and brokers	0.85	0.37	228
16	Other health care specialists	0.80	0.52	202
17	Public officers	0.78	0.40	189
18	Middle-level financial specialists	0.77	0.46	288
19	Professional soldiers	0.66	0.45	53
20	Office support	0.64	0.53	558
21	Waiters, bartenders and stewards	0.63	0.40	76
22	Other middle-level staff	0.62	0.58	132
23	Technicians	0.59	0.55	181
24	Nurses and midwives	0.48	0.57	151
25	Hairdressers, beauticians	0.46	0.47	74
26	Accounting and transport specialists	0.43	0.56	232
27	Electricians and electronic technicians	0.41	0.60	176
28	Salespersons	0.38	0.57	920
29	Mechanics	0.30	0.58	219
30	Mining equipment operators	0.30	0.61	81
31	Passenger and delivery vehicle drivers	0.30	0.56	191
32	Truck and bus drivers	0.29	0.58	230
33	Personal assistance employees	0.27	0.77	75
34	Steelworkers	0.27	0.63	58
35	Machine operators	0.27	0.68	301
36	Construction workers - finishing	0.23	0.65	297
37	Blacksmiths and toolmakers	0.20	0.65	209
38	Railwaymen	0.19	0.65	49
39	Fitters	0.15	0.67	128
40	Moulders, welders	0.14	0.67	138
41	Security services employees (firefighters, policemen and similar)	0.13	0.77	183
42	Other personal services personnel	0.12	0.68	65
43	Wood processing workers, papermakers, carpenters	0.12	0.66	176
44	Painters and similar	0.07	0.73	67
45	Textile production workers	0.02	0.71	174
46	Food processing industry employees	-0.01	0.60	212
47	Cooks	-0.04	0.60	89
48	Construction workers - raw state	-0.07	0.71	276
49	Labourers in mining and construction	-0.11	0.82	122
50	Plant production farmers	-0.13	0.81	295
51	Simple works employees	-0.16	0.79	389
52	Workers not classified otherwise	-0.26	0.83	121
53	Plant and animal production farmers	-0.30	0.85	896
54	Domestic help and cleaners	-0.42	0.76	316
55	Farmers producing for their own needs	-0.73	0.88	112

*Social well-being*

Rank	Professional group	Average	SD	N
1	Authorities and directors	0.41	0.70	89
2	Professional soldiers	0.39	0.97	54
3	Academic teachers	0.32	0.96	94
4	Doctors, vets, dentists	0.29	0.68	94
5	Sales and business agents and brokers	0.29	0.78	227
6	Passenger and delivery vehicle drivers	0.29	0.86	187
7	IT specialists and similar professions	0.27	0.69	184
8	Other specialists	0.26	0.86	127
9	Hairdressers, beauticians	0.22	0.64	75
10	Creators, artists, writers, journalists	0.20	0.84	82
11	Accounting and transport specialists	0.19	0.67	225
12	Construction workers - raw state	0.19	0.89	275
13	Railwaymen	0.19	0.64	48
14	Machine operators	0.18	0.94	286
15	Engineers, architects, designers and similar	0.17	0.99	331
16	Moulders, welders	0.17	0.82	137
17	Electricians and electronic technicians	0.17	0.64	174
18	Food processing industry employees	0.16	0.92	210
19	Wood processing workers, papermakers, carpenters	0.16	0.79	167
20	Primary school teachers	0.14	0.81	322
21	Truck and bus drivers	0.14	0.82	228
22	Managers of various specialities	0.13	0.88	486
23	Mechanics	0.13	1.03	216
24	Mining equipment operators	0.12	1.05	79
25	Construction workers - finishing	0.10	1.09	292
26	Other personal services personnel	0.09	0.88	64
27	Farmers producing for their own needs	0.09	1.05	111
28	Marketing specialists	0.08	0.92	190
29	Lawyers	0.07	0.91	74
30	Plant production farmers	0.06	1.13	285
31	Plant and animal production farmers	0.04	1.00	871
32	Workers not classified otherwise	0.04	1.18	121
33	Nurses and midwives	0.03	0.78	146
34	Blacksmiths and toolmakers	0.03	0.96	203
35	Steelworkers	0.02	1.13	56
36	Financial specialists	0.01	0.93	180
37	Painters and similar	0.01	1.19	67
38	Other middle-level staff	0.00	1.05	127
39	Office support	0.00	0.86	536
40	Other health care specialists	-0.01	0.81	203
41	Cooks	-0.01	0.80	88
42	Personal assistance employees	-0.01	0.85	72
43	Fitters	-0.01	0.99	128
44	Administration and management specialists	-0.02	1.04	206
45	Salespersons	-0.02	0.96	904
46	Secondary school teachers	-0.03	0.89	193
47	Public officers	-0.03	1.03	184
48	Waiters, bartenders and stewards	-0.03	0.75	77
49	Textile production workers	-0.03	1.06	176
50	Technicians	-0.04	0.85	179
51	Security services employees (firefighters, policemen and similar)	-0.07	1.00	188
52	Simple works employees	-0.08	1.00	386
53	Middle-level financial specialists	-0.11	.88	285
54	Domestic help and cleaners	-0.12	1.08	307
55	Labourers in mining and construction	-0.21	1.20	115

*Material well-being*

Rank	Professional group	Average	SD	N
1	Authorities and directors	1.98	1.78	77
2	Doctors, vets, dentists	1.98	2.16	77
3	Lawyers	1.17	1.61	67
4	Academic teachers	1.11	1.33	74
5	Creators, artists, writers, journalists	1.05	0.97	74
6	Managers of various specialities	1.03	1.19	435
7	Marketing specialists	0.97	1.11	177
8	Other specialists	0.87	0.87	120
9	Financial specialists	0.85	1.75	149
10	Sales and business agents and brokers	0.84	1.26	188
11	Engineers, architects, designers and similar	0.83	1.04	316
12	IT specialists and similar professions	0.70	1.05	176
13	Administration and management specialists	0.67	0.93	196
14	Primary school teachers	0.56	0.86	299
15	Secondary school teachers	0.55	1.01	196
16	Middle-level financial specialists	0.54	0.84	250
17	Public officers	0.52	0.77	172
18	Other health care specialists	0.39	0.78	176
19	Hairdressers, beauticians	0.35	0.61	73
20	Nurses and midwives	0.34	0.82	140
21	Office support	0.34	0.92	481
22	Passenger and delivery vehicle drivers	0.34	0.92	180
23	Truck and bus drivers	0.28	0.71	217
24	Other personal services personnel	0.24	0.92	61
25	Accounting and transport specialists	0.23	0.62	217
26	Professional soldiers	0.22	0.65	49
27	Technicians	0.22	0.98	143
28	Steelworkers	0.22	0.71	49
29	Mining equipment operators	0.20	0.69	77
30	Moulders, welders	0.19	0.81	129
31	Electricians and electronic technicians	0.19	0.80	164
32	Railwaymen	0.15	0.63	48
33	Machine operators	0.14	0.78	272
34	Cooks	0.10	0.85	80
35	Salespersons	0.09	0.77	847
36	Other middle-level staff	0.07	0.81	118
37	Mechanics	0.05	0.66	203
38	Wood processing workers, papermakers, carpenters	0.04	0.61	165
39	Plant production farmers	0.00	0.80	260
40	Construction workers - finishing	0.00	0.75	265
41	Security services employees (firefighters, policemen and similar)	-0.01	0.90	175
42	Blacksmiths and toolmakers	-0.01	0.83	194
43	Personal assistance employees	-0.02	0.87	69
44	Fitters	-0.05	0.76	115
45	Waiters, bartenders and stewards	-0.08	0.64	69
46	Painters and similar	-0.12	0.84	68
47	Workers not classified otherwise	-0.14	1.01	112
48	Textile production workers	-0.15	0.69	170
49	Plant and animal production farmers	-0.16	0.72	817
50	Farmers producing for their own needs	-0.18	0.78	110
51	Construction workers - raw state	-0.20	0.79	249
52	Food processing industry employees	-0.21	0.80	204
53	Simple works employees	-0.29	0.84	373
54	Domestic help and cleaners	-0.30	0.87	297
55	Labourers in mining and construction	-0.35	0.75	112

*Pathologies (the higher the value, the more pathologies)*

Rank	Professional group	Average	SD	N
1	Nurses and midwives	-0.26	0.56	153
2	Personal assistance employees	-0.23	0.61	76
3	Hairdressers, beauticians	-0.21	0.66	75
4	Plant and animal production farmers	-0.16	0.68	903
5	Textile production workers	-0.13	0.65	177
6	Other specialists	-0.11	0.93	127
7	Middle-level financial specialists	-0.11	0.76	289
8	Professional soldiers	-0.10	0.97	55
9	Farmers producing for their own needs	-0.10	1.09	115
10	Office support	-0.09	0.89	557
11	Cooks	-0.09	0.74	89
12	Waiters, bartenders and stewards	-0.08	0.77	77
13	Primary school teachers	-0.07	1.04	334
14	Lawyers	-0.07	1.10	74
15	Railwaymen	-0.07	0.77	49
16	Secondary school teachers	-0.03	0.89	203
17	Domestic help and cleaners	-0.02	0.75	317
18	Financial specialists	-0.01	1.39	179
19	Food processing industry employees	-0.01	0.71	212
20	Plant production farmers	0.00	0.94	294
21	Fitters	0.01	0.67	128
22	Technicians	0.02	0.97	182
23	Salespersons	0.02	1.04	930
24	Academic teachers	0.03	1.06	97
25	Passenger and delivery vehicle drivers	0.04	0.93	192
26	Sales and business agents and brokers	0.05	0.95	232
27	Public officers	0.05	0.84	189
28	Managers of various specialities	0.06	0.99	506
29	Other personal services personnel	0.07	0.92	64
30	Administration and management specialists	0.08	1.30	217
31	Other middle-level staff	0.08	1.13	133
32	Accounting and transport specialists	0.10	1.02	237
33	Moulders, welders	0.10	0.96	139
34	Engineers, architects, designers and similar	0.13	1.12	340
35	Mechanics	0.13	0.91	222
36	Truck and bus drivers	0.13	1.01	230
37	Other health care specialists	0.14	1.10	203
38	Electricians and electronic technicians	0.14	1.02	181
39	Wood processing workers, papermakers, carpenters	0.14	1.04	176
40	Doctors, vets, dentists	0.15	1.16	95
41	Marketing specialists	0.15	1.07	191
42	Blacksmiths and toolmakers	0.15	1.02	212
43	Simple works employees	0.15	1.12	396
44	Steelworkers	0.18	1.00	58
45	IT specialists and similar professions	0.21	1.27	191
46	Authorities and directors	0.22	0.88	89
47	Construction workers - raw state	0.22	1.00	280
48	Security services employees (firefighters, policemen and similar)	0.26	1.03	185
49	Construction workers - finishing	0.26	1.18	296
50	Painters and similar	0.27	0.98	67
51	Machine operators	0.27	1.08	301
52	Workers not classified otherwise	0.34	1.13	123
53	Mining equipment operators	0.37	1.15	81
54	Labourers in mining and construction	0.46	0.99	122
55	Creators, artists, writers, journalists	0.98	2.04	84

*Social capital*

Rank	Professional group	Average	SD	N
1	Creators, artists, writers, journalists	1.47	1.63	82
2	Academic teachers	1.44	1.80	95
3	Authorities and directors	0.91	1.31	89
4	Secondary school teachers	0.88	1.26	203
5	Primary school teachers	0.88	1.38	327
6	Other specialists	0.72	1.22	124
7	Professional soldiers	0.65	1.47	54
8	Other middle-level staff	0.64	1.34	131
9	Financial specialists	0.54	1.35	174
10	Administration and management specialists	0.51	1.16	214
11	Managers of various specialities	0.48	1.14	488
12	Marketing specialists	0.42	1.06	187
13	Lawyers	0.41	1.21	74
14	Engineers, architects, designers and similar	0.39	1.23	328
15	Sales and business agents and brokers	0.32	1.03	224
16	Public officers	0.32	1.04	183
17	Other health care specialists	0.31	1.08	201
18	Doctors, vets, dentists	0.28	1.09	89
19	Technicians	0.25	0.86	173
20	IT specialists and similar professions	0.23	1.00	188
21	Railwaymen	0.20	1.03	45
22	Nurses and midwives	0.13	0.87	149
23	Middle-level financial specialists	0.13	0.86	280
24	Other personal services personnel	0.13	1.12	63
25	Plant and animal production farmers	0.13	0.99	871
26	Security services employees (firefighters, policemen and similar)	0.11	1.07	182
27	Office support	0.09	0.99	537
28	Accounting and transport specialists	0.09	1.10	231
29	Mining equipment operators	0.06	0.99	80
30	Personal assistance employees	0.04	1.01	73
31	Plant production farmers	0.04	0.90	289
32	Machine operators	0.04	0.82	296
33	Electricians and electronic technicians	0.02	0.86	180
34	Painters and similar	0.00	0.95	65
35	Farmers producing for their own needs	-0.07	0.85	114
36	Workers not classified otherwise	-0.08	0.91	123
37	Waiters, bartenders and stewards	-0.09	1.21	77
38	Cooks	-0.11	0.77	89
39	Passenger and delivery vehicle drivers	-0.11	0.75	184
40	Salespersons	-0.14	0.86	917
41	Truck and bus drivers	-0.14	0.77	222
42	Blacksmiths and toolmakers	-0.15	0.88	201
43	Wood processing workers, papermakers, carpenters	-0.15	0.79	167
44	Hairdressers, beauticians	-0.17	0.85	74
45	Textile production workers	-0.18	0.76	167
46	Steelworkers	-0.18	0.72	58
47	Moulders, welders	-0.20	0.85	139
48	Mechanics	-0.22	0.84	218
49	Domestic help and cleaners	-0.22	0.72	310
50	Simple works employees	-0.25	0.84	383
51	Construction workers - finishing	-0.27	0.70	289
52	Fitters	-0.27	0.64	121
53	Labourers in mining and construction	-0.28	0.72	121
54	Construction workers - raw state	-0.29	0.82	275
55	Food processing industry employees	-0.35	0.65	203

*Physical well-being*

Rank	Professional group	Average	SD	N
1	Professional soldiers	0.60	0.38	55
2	Waiters, bartenders and stewards	0.52	0.46	76
3	Financial specialists	0.49	0.51	174
4	Painters and similar	0.48	0.59	67
5	Lawyers	0.47	0.65	72
6	Steelworkers	0.47	0.52	57
7	IT specialists and similar professions	0.46	0.70	187
8	Mechanics	0.46	0.64	215
9	Other specialists	0.44	0.59	126
10	Truck and bus drivers	0.44	0.58	226
11	Engineers, architects, designers and similar	0.41	0.68	327
12	Electricians and electronic technicians	0.41	0.58	177
13	Passenger and delivery vehicle drivers	0.38	0.60	183
14	Construction workers - finishing	0.37	0.60	288
15	Hairdressers, beauticians	0.36	0.65	69
16	Mining equipment operators	0.35	0.61	81
17	Managers of various specialities	0.34	0.63	494
18	Technicians	0.34	0.73	177
19	Accounting and transport specialists	0.34	0.67	230
20	Machine operators	0.34	0.68	297
21	Public officers	0.33	0.66	181
22	Doctors, vets, dentists	0.32	0.65	86
23	Labourers in mining and construction	0.32	0.71	117
24	Sales and business agents and brokers	0.31	0.69	230
25	Construction workers - raw state	0.30	0.69	273
26	Blacksmiths and toolmakers	0.30	0.70	210
27	Secondary school teachers	0.29	0.86	201
28	Marketing specialists	0.29	0.70	185
29	Moulders, welders	0.29	0.65	138
30	Fitters	0.29	0.74	120
31	Railwaymen	0.29	0.79	49
32	Administration and management specialists	0.28	0.67	211
33	Food processing industry employees	0.28	0.70	204
34	Primary school teachers	0.27	0.68	329
35	Salespersons	0.27	0.72	894
36	Middle-level financial specialists	0.26	0.78	284
37	Plant production farmers	0.26	0.68	289
38	Other health care specialists	0.24	0.81	196
39	Other middle-level staff	0.24	0.90	130
40	Creators, artists, writers, journalists	0.23	0.71	84
41	Other personal services personnel	0.23	0.67	64
42	Office support	0.21	0.75	543
43	Authorities and directors	0.16	0.67	89
44	Cooks	0.15	0.72	88
45	Academic teachers	0.14	0.74	95
46	Plant and animal production farmers	0.14	0.79	870
47	Textile production workers	0.14	0.82	170
48	Wood processing workers, papermakers, carpenters	0.13	0.80	169
49	Workers not classified otherwise	0.11	0.92	123
50	Nurses and midwives	0.10	0.89	151
51	Personal assistance employees	0.08	0.75	74
52	Simple works employees	0.04	0.92	385
53	Domestic help and cleaners	-0.01	0.84	308
54	Farmers producing for their own needs	-0.09	0.89	114
55	Security services employees (firefighters, policemen and similar)	-0.27	1.22	181

*Psychological well-being*

Rank	Professional group	Average	SD	N
1	IT specialists and similar professions	0.67	0.59	166
2	Academic teachers	0.50	0.65	97
3	Lawyers	0.48	0.62	73
4	Doctors, vets, dentists	0.47	0.76	90
5	Managers of various specialities	0.46	0.70	471
6	Other specialists	0.46	0.78	121
7	Sales and business agents and brokers	0.45	0.67	220
8	Hairdressers, beauticians	0.44	0.80	63
9	Authorities and directors	0.43	0.72	76
10	Engineers, architects, designers and similar	0.43	0.74	324
11	Waiters, bartenders and stewards	0.43	0.66	76
12	Railwaymen	0.43	0.67	45
13	Mining equipment operators	0.40	0.74	75
14	Financial specialists	0.38	0.71	169
15	Marketing specialists	0.38	0.73	179
16	Primary school teachers	0.36	0.75	305
17	Creators, artists, writers, journalists	0.36	0.77	81
18	Mechanics	0.36	0.83	204
19	Truck and bus drivers	0.36	0.60	211
20	Secondary school teachers	0.34	0.73	190
21	Administration and management specialists	0.34	0.73	206
22	Other health care specialists	0.33	0.76	193
23	Accounting and transport specialists	0.33	0.59	210
24	Electricians and electronic technicians	0.33	0.77	175
25	Professional soldiers	0.32	0.73	50
26	Wood processing workers, papermakers, carpenters	0.32	0.79	166
27	Passenger and delivery vehicle drivers	0.32	0.70	173
28	Moulders, welders	0.31	0.88	133
29	Steelworkers	0.31	0.62	55
30	Construction workers - finishing	0.30	0.74	280
31	Fitters	0.30	0.74	116
32	Technicians	0.27	0.78	177
33	Middle-level financial specialists	0.26	0.76	271
34	Construction workers - raw state	0.24	0.84	256
35	Office support	0.23	0.83	534
36	Cooks	0.23	0.76	81
37	Other personal services personnel	0.23	0.78	61
38	Other middle-level staff	0.22	1.18	128
39	Salespersons	0.19	0.84	857
40	Machine operators	0.19	0.78	280
41	Food processing industry employees	0.17	0.74	197
42	Public officers	0.16	0.86	174
43	Blacksmiths and toolmakers	0.14	0.87	197
44	Plant production farmers	0.13	0.90	267
45	Nurses and midwives	0.10	0.84	139
46	Painters and similar	0.09	0.84	62
47	Personal assistance employees	0.06	0.78	74
48	Textile production workers	0.06	0.90	159
49	Security services employees (firefighters, policemen and similar)	0.01	1.03	169
50	Workers not classified otherwise	0.01	0.85	117
51	Plant and animal production farmers	0.00	0.91	823
52	Labourers in mining and construction	-0.01	1.20	111
53	Farmers producing for their own needs	-0.06	0.88	101
54	Domestic help and cleaners	-0.11	1.00	291
55	Simple works employees	-0.13	1.01	369

*Life stress (the higher the value, the greater the stress)*

Rank	Professional group	Average	SD	N
1	IT specialists and similar professions	-0.07	0.99	185
2	Hairdressers, beauticians	-0.07	0.85	73
3	Doctors, vets, dentists	0.07	0.87	92
4	Railwaymen	0.07	1.11	48
5	Lawyers	0.10	1.07	74
6	Farmers producing for their own needs	0.10	0.93	112
7	Other specialists	0.14	1.15	124
8	Secondary school teachers	0.18	1.11	198
9	Waiters, bartenders and stewards	0.18	0.83	76
10	Mechanics	0.18	0.93	218
11	Academic teachers	0.19	1.07	94
12	Financial specialists	0.19	1.05	178
13	Mining equipment operators	0.20	0.98	80
14	Engineers, architects, designers and similar	0.24	0.99	340
15	Other middle-level staff	0.24	0.99	130
16	Primary school teachers	0.25	1.04	327
17	Cooks	0.25	0.91	89
18	Security services employees (firefighters, policemen and similar)	0.25	1.08	185
19	Technicians	0.26	1.10	181
20	Fitters	0.26	0.95	125
21	Other health care specialists	0.27	1.06	195
22	Creators, artists, writers, journalists	0.27	0.97	82
23	Truck and bus drivers	0.27	0.96	230
24	Machine operators	0.28	0.95	297
25	Professional soldiers	0.29	1.12	55
26	Construction workers - raw state	0.29	1.02	273
27	Salespersons	0.30	1.04	919
28	Middle-level financial specialists	0.31	1.07	288
29	Moulders, welders	0.31	1.02	138
30	Accounting and transport specialists	0.33	0.95	232
31	Plant production farmers	0.33	1.10	289
32	Plant and animal production farmers	0.33	1.02	882
33	Marketing specialists	0.34	1.03	187
34	Painters and similar	0.34	0.81	67
35	Construction workers - finishing	0.36	1.05	294
36	Electricians and electronic technicians	0.36	1.13	180
37	Administration and management specialists	0.37	1.01	215
38	Office support	0.37	1.10	552
39	Other personal services personnel	0.37	1.10	65
40	Blacksmiths and toolmakers	0.38	1.09	210
41	Workers not classified otherwise	0.38	1.15	122
42	Managers of various specialities	0.39	1.07	497
43	Passenger and delivery vehicle drivers	0.40	1.16	189
44	Public officers	0.41	1.05	185
45	Food processing industry employees	0.41	1.00	207
46	Simple works employees	0.41	1.10	387
47	Personal assistance employees	0.43	1.00	73
48	Domestic help and cleaners	0.44	1.22	314
49	Wood processing workers, papermakers, carpenters	0.45	1.01	171
50	Nurses and midwives	0.47	1.02	148
51	Steelworkers	0.49	1.23	56
52	Textile production workers	0.50	1.14	176
53	Sales and business agents and brokers	0.51	1.06	227
54	Labourers in mining and construction	0.54	1.07	118
55	Authorities and directors	0.58	1.05	86