



GROWING INEQUALITIES AND THEIR IMPACTS IN POLAND

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Country Report for Poland

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Executive summary

The nature of inequality and its development over time

Most inequality measures and income concepts show a moderate, but steady growth in inequality in Poland since early 1990s. Inequality of market income is much higher than inequality in terms of other income concepts. In general, absolute poverty declined from 13.2% in 1993 to 3.9% in 2010. The situation is different with relative poverty rates, which were increasing up to 2004. Dynamics of consumption inequality is similar to the dynamics of income inequality – both types of measures show that inequality was rising steadily, but that the overall inequality growth was rather modest. Overall, it seems that Poland is more unequal with respect to wealth than most of Western countries, but less unequal than many other transition countries.

Both individual and household based indices show that labour market participation declined. At the same time all data sources agree that there was a substantial increase in earnings inequality. However, educational attainment has improved significantly over the last decade. The share of tertiary graduates almost doubled since 1997 (rising from 7,7% to 13,8% in 2008 year).

It seems that the single most important factor accounting for the inequality rise was the rise in earnings inequality caused by increasing educational premium for highly-qualified workers employed in highly-skilled occupations coupled with the worsening of relative position of workers employed in low-paying occupations. The major underlying reasons are the change from centrally-planned wage setting to decentralized wage setting and radical structural and technological changes of the economy shifting labour demand from public sector to private sector and from manual workers to professionals and highly-qualified workers. The relative impact of internal changes versus globalisation factors (e.g. imports, exports, foreign direct investments) on inequality changes in Poland is difficult to measure because of the short time under analysis and multiple factors involved.

Social impacts

Evidence from the EU-SILC and from public opinion surveys shows that there has been a significant decline in material deprivation in Poland, both by objective and subjective (self-assessed material situation) standards. However, the number of people who are materially deprived or at risk of deprivation is still high. The first measurement of material deprivation based on the EU-SILC definition took place in 2005 and it showed that over half of the population was living in materially

deprived households and one third in severely materially deprived households. In the following years this situation improved and in 2010 these shares were 28.4% and 14.2%, respectively. The quality of housing has also improved significantly, mostly due to increased spending on property modernization. As a result, the number of Poles living in deprived accommodation halved since 2005 (when it was as much as 30%).

Subjective measures of well-being show that health quality in Poland has significantly improved, and life expectancy increased. However, the strength of dependency between education and health remained similar since 1992, and the relationship between self-assessed income (comparing to needs) and health increased over time, closely following changes in Gini index. Poles have also become significantly happier with their life in general, their work and their family's lifestyle. Data on family formation and breakdown point to a significant fall in fertility rates, postponing of marriage and fall in marriage rate, postponing childbearing and an increased percentage of out-of-wedlock births.

Occupational mobility slightly increased between 1982 and 2006, yet more detailed analysis shows that in fact significance of education for achieving higher occupational status slightly declined. Crime and punishment rates increased significantly since 1989, which should be linked to reporting method rather than social or economic changes. Over-time patterns in informal sociability show that Poles' social networks consist mostly of family members, and only infrequently of neighbours.

Political impacts

Poles have been fully aware of the growth of inequalities throughout the period under analysis, and they have been disapproving of this trend. They have expected that the government should reduce income differences, and the more inequalities there were, the more government intervention they expected. Growth in inequalities has been concurrent with the decline of confidence in national, but not local institutions. Increase in inequalities and decline of political confidence have been accompanied by low levels of political participation, and radically declining levels of unionization.

Levels of social trust have been rising steadily throughout the period under observation, which should be attributed to rising levels of life satisfaction and wealth rather than growing income inequality. Charitable giving seems to be driven by income inequality: as inequality was growing, more and more people were declaring they had supported others or institutions through donations. Membership in associations, on the other hand, fluctuated trendlessly through the entire period.

Effectiveness of policy in combating inequality

Socio-economic policies in post-1989 Poland have been usually driven by budgetary, demographic and other non-distributional considerations. Only in the early 1990s a set of explicitly distribution-oriented policies was introduced, including a relatively easy access to disability and old-age pensions. They were aimed at reducing absolute poverty, which started to grow in effect of free-market reforms of 1990-1991. However, due to rising costs these protective and redistributive mechanisms have been gradually withdrawn or limited. Starting in mid-1990s, tax reforms towards proportional income taxes were supported, while amounts and eligibility criteria for social benefits were gradually restricted. The unemployment rate almost doubled between 1998 and 2003, but due to growing budget deficits, social expenditure levels remained stable over that period.

Major economic reforms, including reforms of the tax, health and pension systems, have been reducing the level of redistribution. The level of inequality stabilized since 2005, as the growth of earnings inequality stopped that year. Various tax and benefit reforms over the 2006-2011 period had a small regressive effect – they increased income inequality by only about 0.5 of percentage points.

Introduction: General background on macro and structural indicators, Poland, 1989 – 2010

This chapter provides some background information on Poland since the beginning of the political and economic transition until the end of 2010. This period is most relevant for the study of inequalities and their various consequences, because 1) prior to 1989 Poland's economy was centrally controlled, and 2) very little reliable data for the pre-transition period is available.

The report focuses on three key types of inequalities: income, wealth and educational. These dimensions of inequalities are defined and presented in Chapter 2, while their impacts are discussed in Chapters 3 and 4. Chapter 5 focuses on government policy that has – intentionally or unintentionally – affected level of inequalities in Poland since 1989. In this chapter, we briefly discuss social, political and economic developments in Poland since 1989.

In 1989 Poland was the first country in Eastern Europe to start transformation, and while the political reforms were initially gradual and negotiated (the 1989 parliamentary election was not free, as 70% of the seats was guaranteed for the Communist Party, and the 1989 government took the policy of not 'coming to terms with the past'), the economic reforms were so radical they were termed as the 'shock therapy'. The cost of radical economic liberalization was paid by the most vulnerable groups in the society (the low skilled, the elderly, and most of all – children), and it resulted in the loss of support for the new democratic government, and an early election in 1993, which brought the post-Communist party to power. Since then the political pendulum was swinging between left and right at every election, until 2007 and 2011 when the same party – Civic Platform – won two consecutive elections. Throughout the 1990s and 2000s Poland was considered as an example of a success story of political and economic transformation, although she was sometimes criticised for the lack of control over corruption. In 1999 Poland joined NATO, in 2004 she joined the European Union. Since 1994 Freedom House has rated Poland as completely free in terms of political liberties, and since 2004 - in terms of civil rights. Even in the face of a recent economic crisis, Poland noted economic growth, and her bank sector remained stable.

Poland has a proportional *electoral system* with party lists. The head of the executive branch is the president, who is elected in direct elections. There are very few ethnic or national *minorities*; the largest one is German minority, which constitutes only 0.4% of the total population of Poland. Polish society is very *religious* - in 2009 over 90% of Poles declared they were believers, and 95% declared

they are Catholics.¹ However, fewer people now than in early 1990s go to Church once a week or more often: only around 50% in comparison with over 70% in 1992.

Population of Poland has remained relatively stable between 1989 and 2010, at around 38 million people. However, because of the increased life expectancy combined with decreasing birth rates, its age structure changed significantly. In 1989 the under 15s and over 64s constituted 25.2% and 9.9% of the total population, respectively. In 2010 these proportions changed to 14.8% and 13.6%, respectively.

Economic growth increased from -7.3% GDP *per capita* in 1990 to 3.8% in 2010; in 1997 it peaked at 7%, and again in 2007 – at 6.8%. GDP *per capita* more than doubled between 1989 and 2010, reaching 17348\$. *Inflation* rate in 2010 was 2.6%; during the early transition years (in 1990) it was as high as 585%.

The *unemployment* peaked in 2002 at 19.9%; by 2010 it dropped to 9.6%. Youth unemployment in 2010 was, however, 23.7% (slightly higher than the EU27 average of 20.9%), while long-term unemployment in 2010 was 25.5% (similar to the EU27 average).

The central government *debt* increased from 33% in 2001 to 48.1% in 2009, while the *deficit* slightly exceed 6%.

¹ This is not a mistake; numbers cited after a CBOS report CBOS BS/102/2009.

Table 1. General macro and structural indicators for Poland, 1989 - 2010

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Population (million)	38.0	38.1	38.2	38.4	38.5	38.5	38.6	38.6	38.6	38.7	38.7
Population growth (%)	0.4	0.4	0.4	0.3	0.3	0.2	0.1	0.1	0.1	0.0	0.0
% 0-14	25.2	25.0	24.7	24.3	23.9	23.4	22.8	22.2	21.5	20.8	20.1
% 15-64	64.9	64.9	65.0	65.2	65.4	65.7	66.0	66.4	66.9	67.4	67.9
% 65 and above	9.9	10.1	10.3	10.5	10.7	10.9	11.1	11.4	11.6	11.8	12.0
GDP (constant 2005 \$)		311.8	289.9	297.2	308.4	324.7	347.2	368.9	395.1	414.7	433.5
GDP per capita, (constant 2005 \$)		8182.1	7581.1	7748.0	8017.2	8423.8	8997.2	9551.2	10221.3	10726.7	11212.9
GDP per capita growth (%)			-7.3	2.2	3.5	5.1	6.8	6.2	7.0	4.9	4.5
CPI inflation rate (%)	251.1	585.8	70.3	43.0	35.3	32.2	27.8	19.9	14.9	11.8	7.3
Hh consumption (% of GDP)		48.3	58.5	61.1	62.6	62.6	60.4	62.3	62.7	62.5	63.2
Current account balance (% of GDP)	-1.7	4.8	-2.6	-3.4	-6.2	0.6	0.6	-2.1	-3.7	-4.0	-7.4
Employment/population 15+ (%)			54.1	53.2	52.3	51.1	50.7	50.7	50.8	50.7	48.7
Unemployment (%)				13.3	14.0	14.4	13.3	12.4	11.2	10.7	12.5
Youth unemployment, 15-24 (%)				27.8	30.0	32.6	31.2	28.5	24.7	23.2	30.0
Long-term unemployment (%)				34.7	39.1	40.4	40.0	39.0	38.0	37.4	34.8
Part time employment (%)									11.9	11.8	14.0
Central government debt (% of GDP)											
Cash surplus/deficit (% of GDP)											

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Population (million)	38.5	38.2	38.2	38.2	38.2	38.2	38.1	38.1	38.1	38.2	38.2
Population growth (%)	-0.5	-0.5	0.0	-0.1	-0.1	0.0	-0.1	-0.1	0.0	0.1	0.1
% 0-14	19.4	18.7	18.1	17.5	17.0	16.5	16.0	15.6	15.2	15.0	14.8
% 15-64	68.4	68.8	69.2	69.6	69.9	70.3	70.7	71.0	71.3	71.5	71.6
% 65 and above	12.3	12.5	12.7	12.9	13.1	13.2	13.3	13.4	13.4	13.5	13.6
GDP (constant 2005 \$)	451.9	457.4	464.0	481.9	507.7	526.1	558.8	596.8	627.4	637.6	662.4
GDP per capita, (constant 2005 \$)	11753.4	11959.0	12137.2	12615.1	13297.1	13784.2	14651.8	15654.5	16454.8	16711.3	17348.1
GDP per capita growth (%)	4.8	1.7	1.5	3.9	5.4	3.7	6.3	6.8	5.1	1.6	3.8
CPI inflation rate (%)	10.1	5.5	1.9	0.8	3.5	2.1	1.0	2.5	4.2	3.5	2.6
Hh consumption (% of GDP)	64.1	65.0	66.9	65.8	64.7	63.4	62.5	60.5	61.6	61.1	61.4
Current account balance (% of GDP)	-6.0	-3.1	-2.8	-2.5	-5.2	-2.4	-3.9	-6.2	-6.6	-4.0	-4.7
Employment/population 15+ (%)	47.0	45.7	44.0	43.9	44.2	45.0	46.6	48.7	50.6	50.7	50.5
Unemployment (%)	16.1	18.2	19.9	19.6	19.0	17.7	13.8	9.6	7.1	8.2	9.6
Youth unemployment, 15-24 (%)	35.2	41.0	43.9	43.0	40.8	37.8	29.8	21.7	17.3	20.7	23.7
Long-term unemployment (%)	37.9	43.1	48.4	49.7	47.9	52.2	50.4	45.9	29.0	25.2	25.5
Part time employment (%)	12.8	11.6	11.7	11.5	12.0	11.7	10.8	10.1	9.3	8.7	8.7
Central government debt (% of GDP)		33.0	41.4	45.1	44.5	46.9	47.4	42.8	44.6	48.1	
Cash surplus/deficit (% of GDP)		-2.8	-4.5	-5.5	-5.5	-4.0	-3.4	-1.9	-3.7	-6.1	

Source: World Development Indicators, Central Statistical Office.

The nature of inequality and its development over time

2.1. Has inequality grown?

In this chapter, we analyze recent trends in economic inequalities in Poland using several welfare concepts and inequality measures. In particular, we are concerned with inequalities of household incomes, wages and consumption expenditure. We also perform sub-group inequality decompositions to answer the question which groups have been affected by inequality changes most severely. Finally, we discuss the main possible mechanisms that brought about an increase of inequality in Poland, with a particular focus on factors specific for a transition country.

The collapse of Communism in Central and Eastern Europe (CEE) had a profound effect on income distribution. Although in general it seems that under the Communism there was less inequality in CEE countries than in Western countries, in 1980s the level of income inequality in Poland was similar to that of the USSR and clearly higher than in Hungary or Czechoslovakia (Flemming and Micklewright 2000, p. 866-870). The Gini coefficient for individual per capita income was about 0.25 in mid-1980s – the level slightly higher or comparable to that of Scandinavian countries and Belgium. However, the Gini index was on average lower by seven percentage points than in other OECD countries.

We analyze the evolution of economic inequality in Poland between 1993 and 2010 using data from the Household Budget Survey (HBS) conducted yearly by the Polish Central Statistical Office (CSO). There are two main problems with the HBS data. Until 1993 the HBS was not fully representative for the Polish population. In addition, in 1993 there was a major methodological change in sampling design (quarterly rotation was replaced by monthly rotation of household). For these reasons, the HBS-based inequality estimates for pre-1993 and after-1993 periods are not directly comparable. However, we still discuss some inequality estimates for the period between 1983 and 1992, taken from previously published sources.

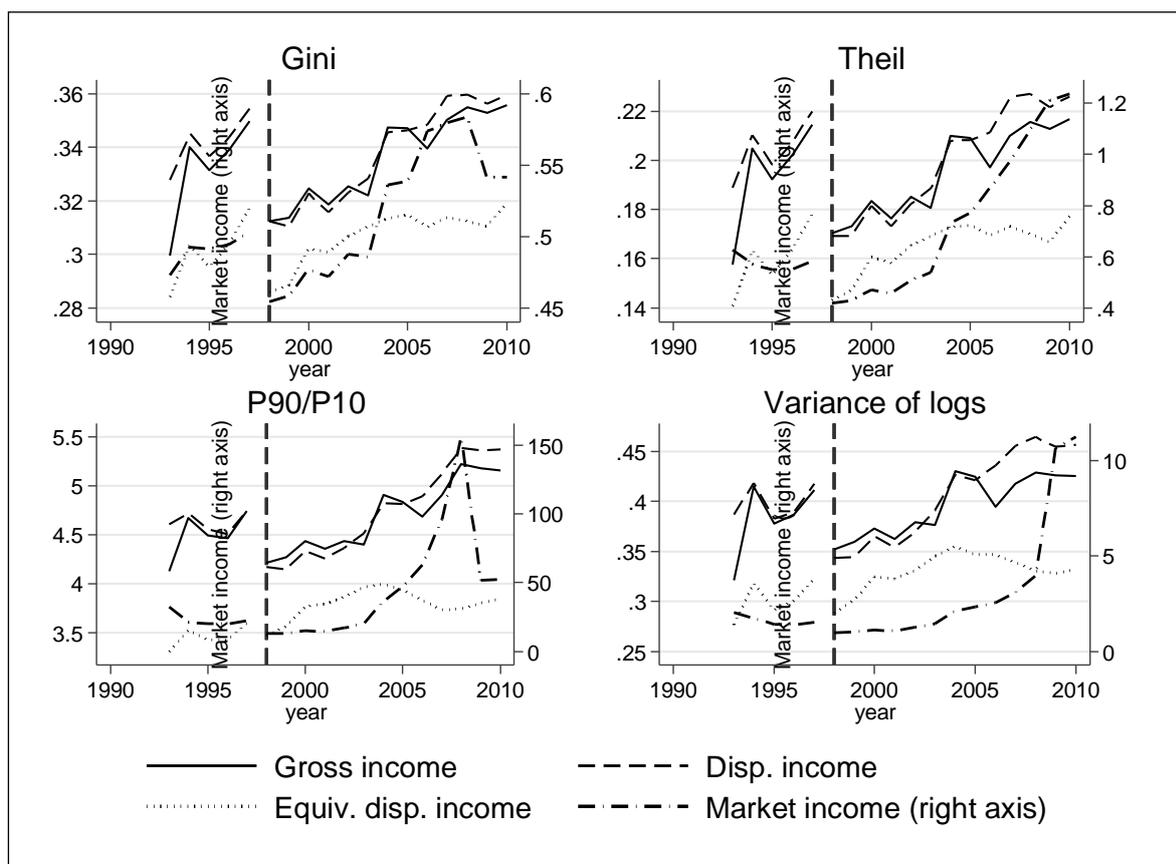
The second problem with the HBS data concerns the change in definition of household disposable income and some other categories that occurred in 1998. We have used information from the CSO to adjust income data for 1993-1997 according to new income definitions from 1998. However, our estimates show a large drop in inequality from 1997 to 1998, which may be in part a statistical artefact related to the changing income definitions. Therefore, we present our estimates of income inequality indices independently for 1993-1997 and 1998-2010 periods (this break is marked on relevant figures using dashed vertical line). All welfare measures used in this chapter are expressed in

real terms after correcting for changes in the level of prices. If not otherwise stated, all calculations and figures in this chapter are based on the HBS data.

Household income inequality

We start with an overview of changes in household income inequality using several inequality measures, which show different sensitivity to differences in various parts of income distribution. Figure 2.1 presents four commonly used inequality indices computed for four household income concepts: 1) market (before taxes and redistribution) income, 2) gross income (market income plus transfers), 3) net disposable income (gross income minus taxes), and 4) equivalized net disposable income.² Inequality trends for disposable income excluding self-employed follow closely trends for disposable income including all groups (solid lines) and therefore, to improve visibility, we do not present the former series in our graphs.

Figure 2.1. Inequality indices for various household income concepts



² Following Brandolini (2007), we use the original OECD equivalence scale, which assigns the weight of 0.7 to every adult household member beyond the first one and the weight of 0.5 to every child. The modified OECD scale, which is recommended by Eurostat, may be less adequate for Poland and other CEE countries because of lower economies of scale than in Western countries.

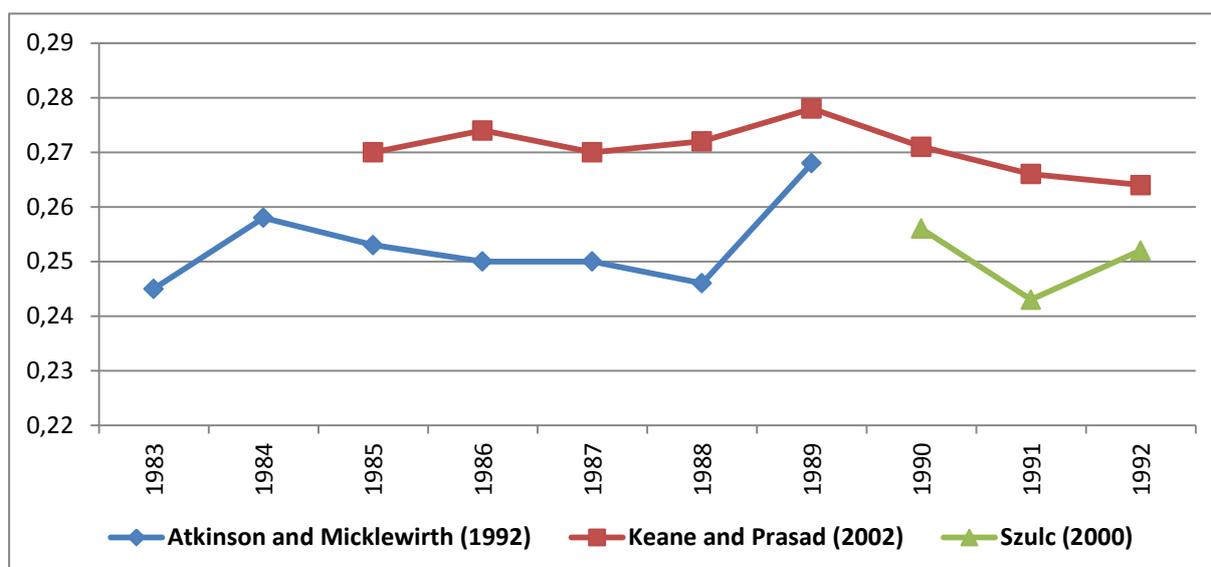
The major conclusion, which is robust for most of inequality measures and income concepts used, is that for both sub-periods (1993-1997 and 1998-2010) there was a moderate, but steady growth in inequality in Poland. For example, in the case of equivalized net household income inequality increased in 1993-1997 and 1998-2010 sub-periods by about 10.5%, 19-21%, 8-10% and 13-14%, for the Gini index, the Theil index, decile ratio and variance of logarithms, respectively.

The evolution of inequality in Poland from mid-1980s to early 1990s was studied, among others, by Atkinson and Micklewirth (1992), Szulc (2000) and Keane and Prasad (2002). Their results for the Gini index calculated for per capita income are shown in Figure 2.2.³ Surprisingly, there seems to be no increase in income inequality in the very first years of the transition to market economy (1989-1992). In fact, income inequality may have actually fallen between 1989 and 1992. One factor that may explain this fact is that the early transition years brought a significant compression of incomes – for example, mean real household income dropped by about 26% from 1988 to 1991. Thus, lowering incomes were associated with lowering income dispersion. However, starting in 1993 income inequality began to rise steadily as shown in Figure 2.1.

Inequality of market income is much higher in Poland than inequality in terms of other income concepts. For example, Gini index for market income was 0.54 in 2010, while it was 0.36 for disposable income. The tax and transfer system plays therefore a significant role in reducing market income inequalities in Poland. To distinguish further between the effect of taxes and transfers, we analyze series for gross income and net disposable income. Figure 2.1. shows that for all inequality measures used, and for most of time span analyzed, there is little difference between the two series. This suggests that the major role in reducing market income inequality is played by the transfer system, while the role of taxes is much more limited. The impact of tax and transfer system on inequality in Poland is discussed further in Section 2.4 and in Chapter 5.

³ Keane and Prasad (2002) present, in addition, several other inequality indices computed assuming various equivalence scales. All their series show no increase in income inequality over the 1985-1992 period.

Figure 2.2. The Gini index for per capita income, Poland, 1983-1992



The last point about figure 2.1 concerns the role of household income equalization. For all inequality measures used, inequality of equalized income is significantly lower than inequality in terms of unequalized incomes. The gap between the two series is visibly increasing between 1998 and 2010. For example, Gini index for income inequality for (unequalized) disposable income rose by about 15% during 1998-2010 period, while the respective number for equalized income is only 10.5%. The reason for this difference is the changing composition of households. For example, while the average number of children aged 14 and less in the HBS data is falling throughout the analyzed period, its trend over 2005-2010 period is especially interesting. The average number of children for “poor” households (defined as those with income equal at most the first household income decile) fell from 1.07 in 2005 to 0.86 in 2010. On the other hand, the average number of children for “rich” households (with incomes equal at least the ninth household income decile) increased from 0.31 to 0.37. In addition, the number of single-person households among the “poor” households increased from 11% in 2005 to 17% in 2010, while the proportion of such households among the “rich” households fell from 30% to 28%. Further analysis of changing household composition in Poland is presented in Section 3.5 of the report.

Figure 2.3 extends the analysis using income shares of bottom and top percentiles. Income shares of bottom 10% and 20% of population declined somewhat for all income definitions. For example, in the case of household equalized disposable income the share belonging to the bottom 10% decreased from 3% in 1998 to 2.7% in 2010. On the other hand, top income shares were rising fast, especially over the 1998-2010 period. For example, using household equalized disposable income, we estimate that the share of income going to the richest 5% of the population increased from 14.6% in 1998 to 16.8% in 2010. Another interesting observation drawn from Figure 2.3 is that the share of

market income going to the richest 5% grew exceptionally fast during the last few years. It increased by about 42% between 1998 and 2010, but this increase was reduced by tax and transfer system to 15%. The share of income going to the middle 60% of the population (not shown in Figure 2.3) decreased from 54% in 1998 to 52% in 2010. Therefore, there is evidence for slowly growing economic polarization of Polish society.

Shares of bottom percentiles display the lowest levels and the highest dynamics for market income. The series for gross and disposable household income again show very similar pattern, while using equiweighted disposable income highlights that the changes unfavourable to the poor, especially during the 1998-2010 period, were smaller than other series suggest.

Figure 2.4 presents trends in absolute and relative poverty rates for household equivalized disposable income. Absolute poverty rates are computed with a quasi-absolute poverty line equal to the 60% of median income in 1993, while relative poverty rates with a poverty line equal to 60% of median income in a given year. In general, absolute poverty declined from 13.2% in 1993 to 3.9% in 2010. However, between 1998 and 2004 absolute poverty increased from 6.4 to 9.7% due to slower economic growth and worsening labour market conditions. Since 2004, when economic growth in Poland was particularly strong and unemployment rate plummeted, absolute poverty has been falling very fast. The situation is different with relative poverty rates. This kind of poverty, which in fact may be considered as a dimension of inequality concerned with lower part of income distribution, was increasing in Poland up to 2004, but later it declined somewhat from 17.2% in 2004 to 16.1% in 2010. These changes follow quite closely the evolution of income and consumption inequality. The average poverty gaps behave in a similar way to poverty rates.

Inequality estimates for household consumption expenditure are presented in Figure 2.5. All inequality measures show a moderate growth in inequality. Gini index for household equivalized consumption increased from 1993 to 2010 by 14%, while the increases for the Theil index and decile ratio were, respectively, 31% and 21%.

The behaviour of bottom and top consumption shares is very similar to that of income shares. Contrary to the case of income inequality, estimates of consumption inequality are comparable over the whole period from 1993 to 2010, as the definitions of major consumption concepts in the HBS remained unchanged. In general, the dynamics of consumption inequality is similar to the dynamics of income inequality – both types of measures show that inequality was rising steadily, but that the overall inequality growth was rather modest.

Figure 2.3. Income shares for various household income concepts

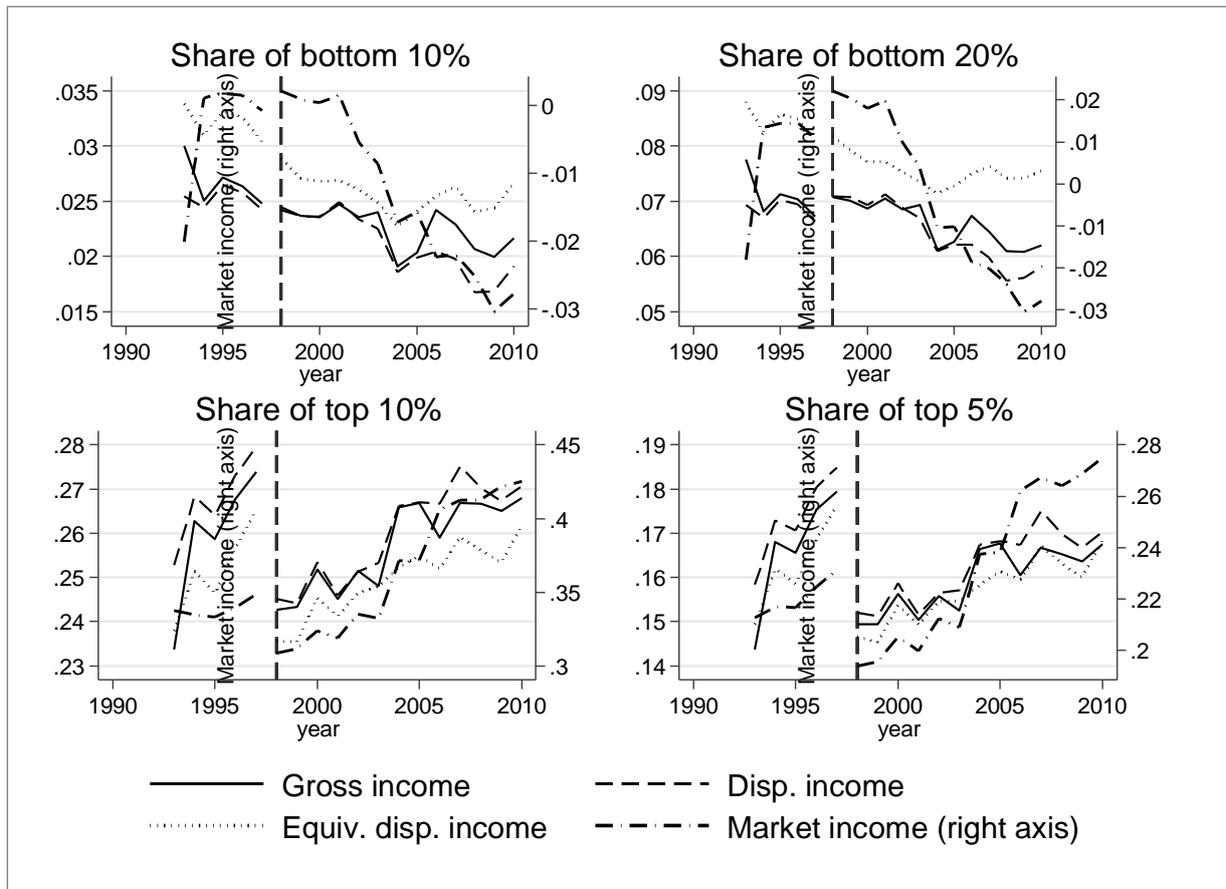


Figure 2.4. Absolute and relative poverty rates and average poverty gaps for household equivalized disposable income

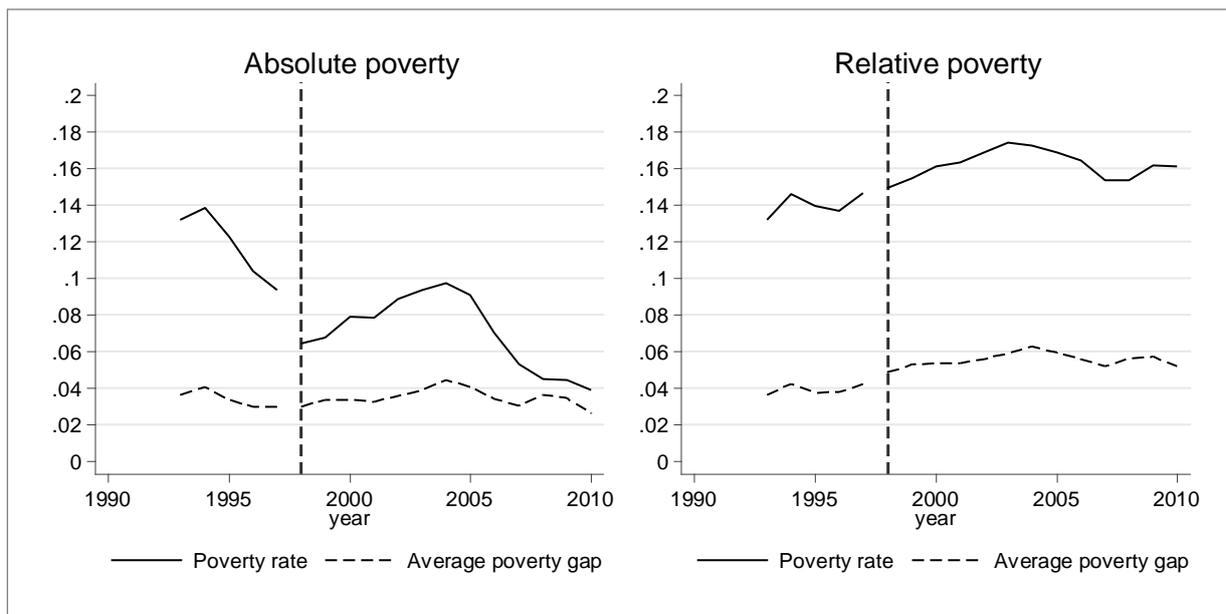
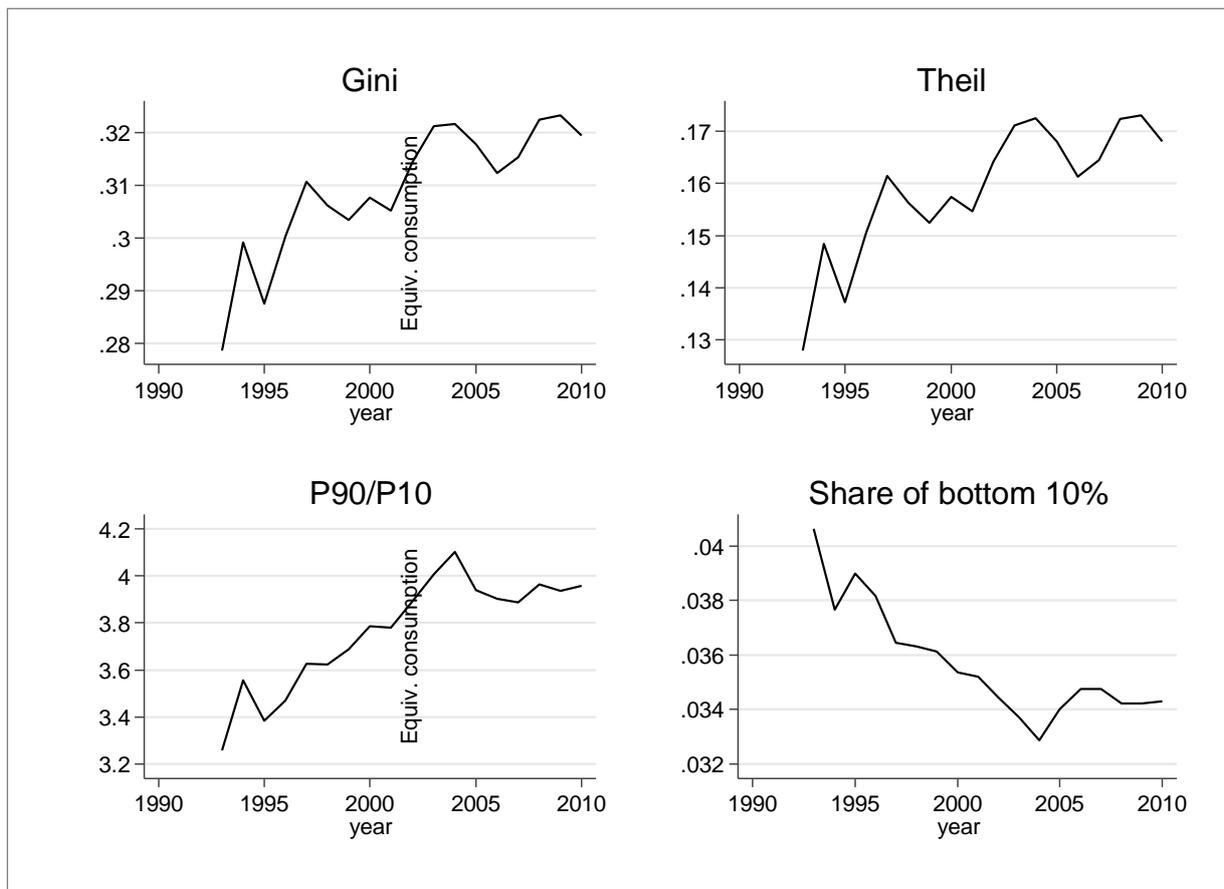


Figure 2.5. Inequality indices for household consumption expenditure



2.1.2 Wealth and debt inequality

As far as we know, there is no reliable comprehensive micro data on wealth and debt of Polish households. However, there are sources of information, which provide a partial insight into the state of wealth inequality in Poland. The first source is the Survey of Health, Ageing and Retirement in Europe (SHARE) project, which gives socio-economic information of Europeans aged 50 and over. Poland participated in waves 2 and 4 of SHARE covering years 2006/2007 and 2008/2009. In SHARE, wealth was defined as equalized household net worth equal to the sum of financial and real assets, net of debts. Poland emerged as the most unequal country with respect to all three welfare indicators computed (net equivalent household income, equivalent household food consumption and wealth) among the studied group, which included also Austria, Belgium, France, Germany, Netherlands, Denmark, Sweden, Switzerland, Greece, Italy, Spain and Czech Republic (Börsch-Supan et al. 2008). Skopek et al. (2011) computed a number of wealth inequality measures for the SHARE sample. 14% of Polish respondents reported zero or negative wealth. The bottom half of the elderly Polish population owns 6% of total wealth, while the top 10% and 5% own, respectively, 62% and

53% of total wealth. The Gini index for wealth is 0.75. All these numbers show that the wealth inequality among the Polish elderly is the highest in the SHARE sample of countries.

The second source of data on wealth inequality in Poland is Yemtsov (2008), who approximated wealth distribution by the distribution of housing stock. Using data from the HBS for 2001, he used an imputation method to assess the value of household housing. In his comparison of three transition countries (Poland, Russia, Serbia), Poland emerged as the least unequal country. For example, the Gini index for overall housing wealth distribution (including zero values for non-owners) was 0.402 for Poland while it was 0.631 and 0.504 for Russia and Serbia, respectively.

Another source of information is the Global Wealth Report (GWR) by Credit Suisse (Davies et al. 2012). It suggests that the Gini index for wealth inequality in Poland increased from 66.8% in 2010 to 74.9% in 2011, and 75.3 in 2012. According to GWR, this is significantly lower than the European average.⁴

These somewhat contradictory results cannot be easily reconciled since there are no comprehensive internationally-comparable surveys on household wealth holdings in Poland.

In the remainder of this section, we use the HBS data to estimate changes in housing stock distribution in Poland by observing evolution of tenure status. As Table 2 shows, shortly after the economic transition percentages of those not living in their own apartments across income quintiles (according to disposable equivalised income) were roughly similar. Since then we can see a growing share of wealthier households living in their own housing, while the percentage of the poorest living in someone else's apartments or houses remains approximately the same.

Table 2. Inequalities among households not living in own apartment/house by income quintiles.

% of those not living in own housing	1993	1998	2004	2010
Lowest quintile	25,5%	25,9%	26,2%	24,8%
2. quintile	26,7%	23,3%	24,1%	22,1%
3. quintile	26,4%	21,9%	21,7%	18,3%
4. quintile	27,1%	21,8%	19,1%	17,1%
Highest quintile	25,1%	19,6%	17,1%	17,7%

Note: Housing cooperative membership is also considered as a form of ownership.

⁴ The GWR estimates of wealth inequality for Poland were constructed by rescaling data on income distribution taken from World Development Indicators or the World Income Inequality Database (details not provided in the GWR) by estimates of average wealth. The extent of error introduced by various simplifications and approximations in this approach is unknown and, in our opinion, does not allow for a meaningful assessment of trends in wealth inequality in Poland over such a short time period.

Mortgage market grew rapidly after 2000. Only recently we can see a small slowdown, partially caused by an introduction of a more restrictive loan policy. Government mortgage subsidy program “Family on its own” additionally encouraged borrowing money and buying new apartments and houses. As a result, the percentage of households living in mortgaged property increased from 2.9% in 2004 to 5.9% in 2010 (3.7% and 7.4% respectively among those living in their own property or housing cooperatives). Inspecting data in Table 3 reveals that it is mostly the better-off households that acquired property through mortgage. We find this reassuring, since growing numbers of poor households with mortgages might be considered economically dangerous. Among the households from the first quintile living in their own housing, the share of those with a mortgage fell slightly between 2004 and 2010. Among other quintiles we can see an increase in the share of mortgaged households; in the highest quintile that share even tripled within 6 years.

On one hand we can say that since the economic transition inequality in terms of housing has increased, as those with higher incomes have been more likely to acquire houses and apartments they live in. On the other hand, these purchases seem to have been financed mostly through mortgages. It suggests that the rise in housing inequality does not translate into wealth inequality, since for the next decade or longer those new apartment owners will be burdened with mortgage payments.

Table 3. Percentage of households occupying a mortgaged property among those living in their own apartments/houses or housing cooperatives.

% of mortgaged among those living in own apartments or housing cooperative	2004	2010
Lowest quintile	2,9%	2,4%
2. quintile	2,6%	3,1%
3. quintile	2,9%	5,0%
4. quintile	3,7%	7,6%
Highest quintile	6,1%	18,2%

2.1.3. Labour market inequality

We start our analysis of labour income inequality with an analysis of participation in the labour market. Figure 2.6 shows three indicators measuring labour market participation. First, the ratio of households declaring that their main source of income is from hired work⁵ (labour households) to the number of households whose head is less than 65 years old; second, the ratio of employed

⁵ This group of households excludes farmers’ households, households of self-employed, households of retirees and pensioners and households living on unearned sources.

individuals to the working-age population (15-64 years old); third, the proportion of full time employees in the working-age population. The most striking fact is that the percentage of labour households has declined significantly over the 1998-2005 period from 58% in 1998 to 52% in 2005. This is obviously related to the huge growth in the unemployment rate that occurred roughly over the same period (see Chapter 1). The employment-population ratio, which is based on individual, not household data, shows a smaller drop between 1998 and 2005. After 2005, due to the fast rate of economic growth and declining unemployment rate both indicators, and especially the latter one, show some improvement in labour market participation. The last measure presented in Figure 2.6 – the proportion of full-time employees – is available only for a couple of recent years. It suggests that the proportion of part-time jobs actually declined over the 2005-2010 period from about 8% of the working-age population in 2005 to about 6% in 2010. However, this trend might not have been sustained after 2010 when Polish labour market started to adjust in face of the economic crisis.

Figure 2.6. Personal and household access to employment

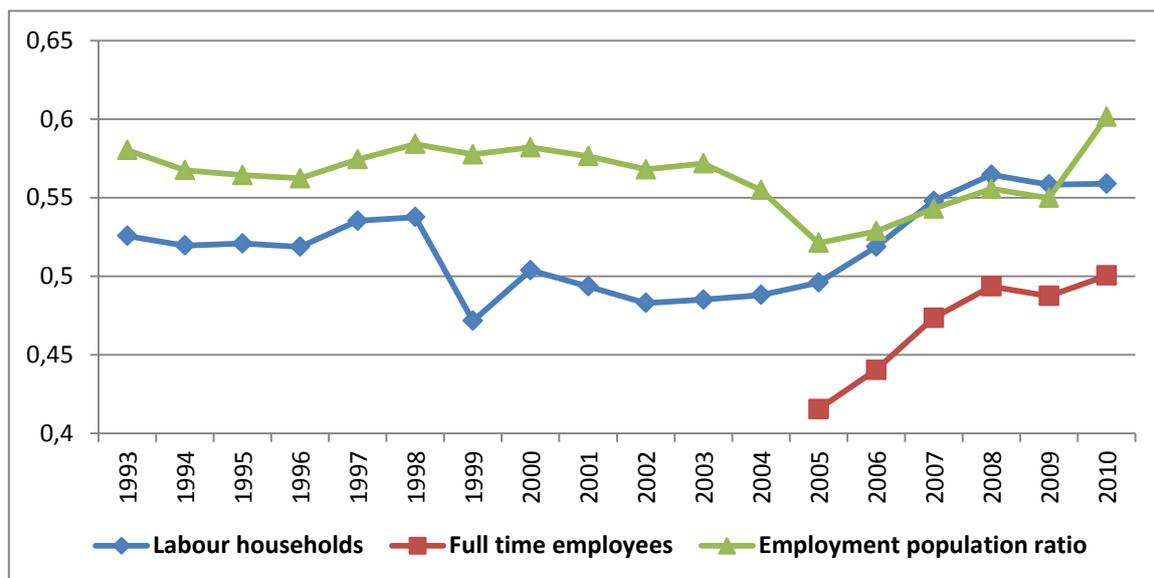
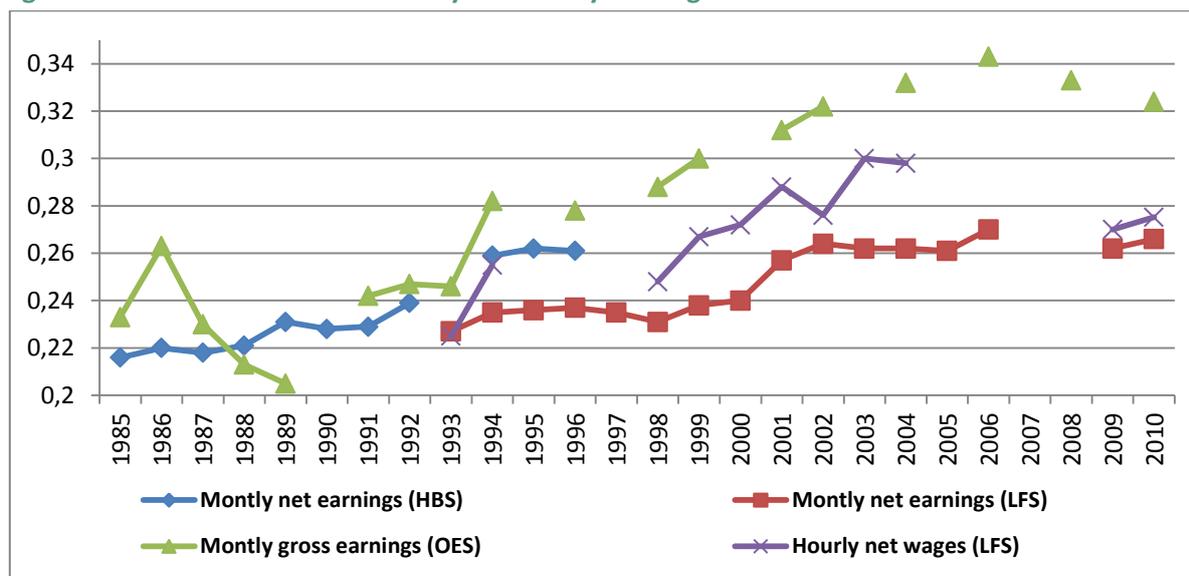


Figure 2.7. The Gini index for monthly and hourly earnings series from various sources



Sources: Monthly net earnings (HBS) are taken from Keane and Prasad (2006), monthly net earnings (LFS) from Newell and Socha (2007), Marcinkowska et al. (2008) and own calculations, monthly gross earnings (OES) from Kumor (2009) and the CSO publications, and hourly net wages (LFS) from Newell and Socha (2007) and own calculations. Missing values are interpolated.

Figure 2.7 presents the evolution of the Gini index for monthly and hourly earnings taken from various available sources. Beside the HBS data, the figure shows series computed using the Labour Force Survey (LFS, *Badanie Aktywności Ekonomicznej Ludności*), a household survey devoted to studying labour market that started in 1992. Moreover, we use data from another CSO survey – the so-called October Earnings Survey (OES, *Październikowe Badanie Wynagrodzeń*) – which is a biannual survey of enterprises employing at least 9 persons. The OES data is therefore not fully representative for the whole economy, but offers more precise earnings data as they are reported by employers, not by employees.

Despite some inconsistencies, all data sources agree that there was a substantial increase in earnings inequality in the early period of transition from Communism to market economy, between 1989 and 1993. The total increase over this period according to the HBS series is 12%. During 1993-1998 earnings inequality stabilized in Poland, but it started to grow steadily from 1998. According to the LFS data, the Gini index for monthly earnings increased in this period by almost 17%. The inequality increase in case of gross earnings was even higher, especially if decile ratio (P90/P10) is considered. The OES data show that during 1998-2006, the decile ratio increased by about 30% (see figure 2.8). As stressed by Magda and Szydłowski (2008), most of this inequality increase came from the lower part of earnings distribution. Figure 2.8 shows that the dynamics of the median to the first decile ratio (P50/P10) was essentially identical to that of the decile ratio, while the ratio of the ninth decile to the median (P90/P50) grew substantially slower. Magda and Szydłowski (2008) suggest that the

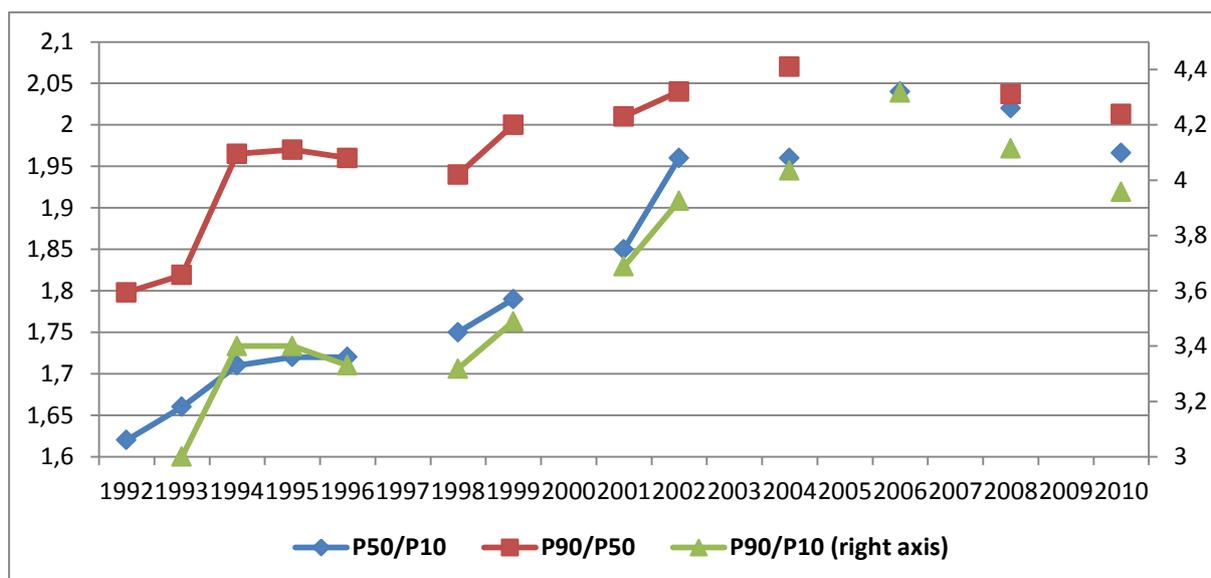
worsening of the lower tail of earnings distribution can be attributed to the falling dynamics of real wages of low-skilled workers during the recession of 2001-2002 and to the falling relative minimum wage during this period (see Section 5.2 of this report).

After 2006, all available sources show stabilization and even some decline in the level of earnings inequality.

Hourly earnings inequality estimated from the HBS has grown faster between 1993 and 2003 than did monthly earnings inequality. In fact, it grew in this period by about 30%, which suggests that wage premia for education and skills were a major factor driving monthly earnings inequality, while changes in working time played a smaller role (Newell and Socha 2007, see also Section 2.4 of this report). Our series for gross monthly earnings suggests that the degree of reduction of earnings inequality due to the tax system was modest and roughly constant between 1993 and 2003. However, it seems that between 2003 and 2006 the tax system eliminated almost all increase in gross earnings inequality over that period.

In order to further illuminate the significance of labour market inequality for household income inequality, Figure 2.9 presents results for households that declare that hired work is their main source of income. The proportion of these households was 48% in 1993, it was then slowly declining to 45.5% in 2003 and then has fallen quickly to 40.7% in 2005. Since then, it recovered to 47.3% in 2010.

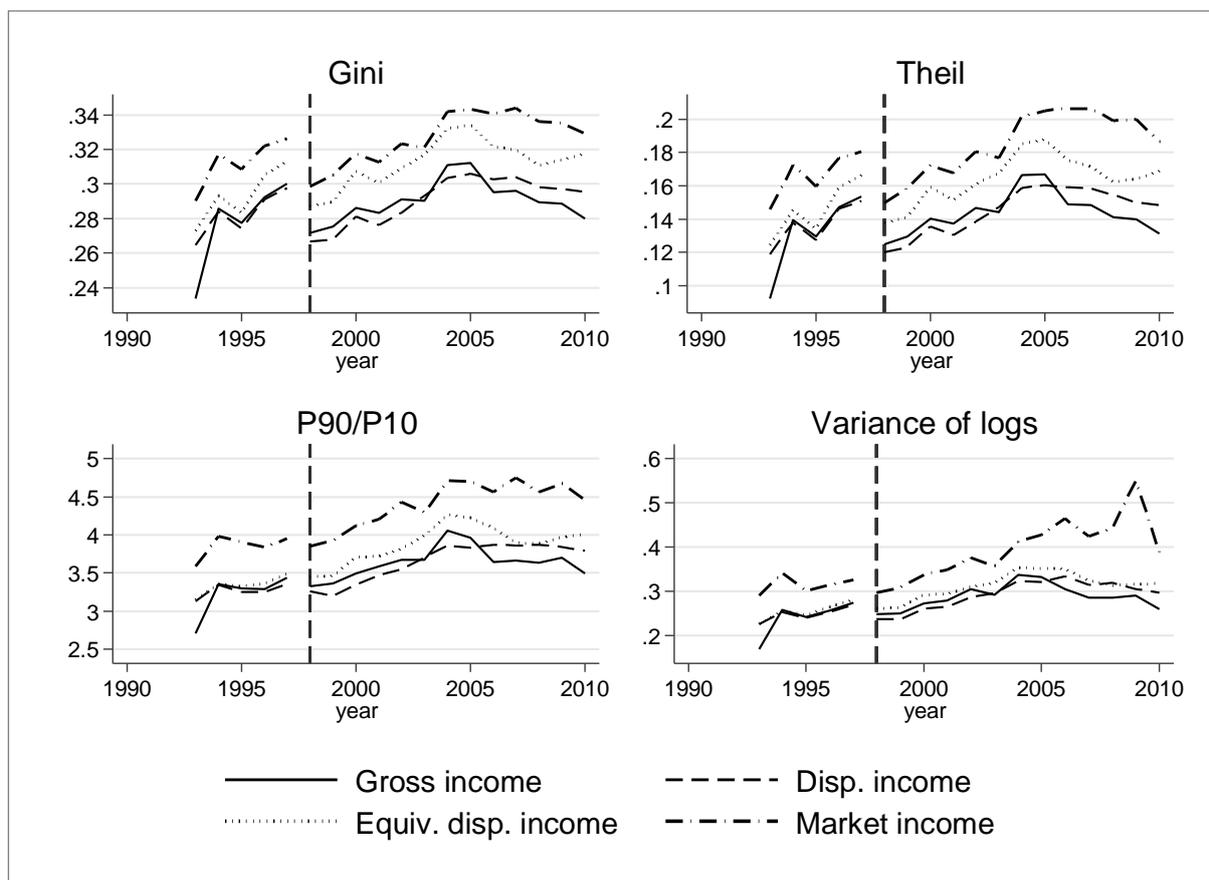
Figure 2.8. Percentile ratios for gross monthly earnings, OES data



Sources: Rutkowski (2001), Magda and Szydłowski (2008) and CSO publications. Missing values are interpolated.

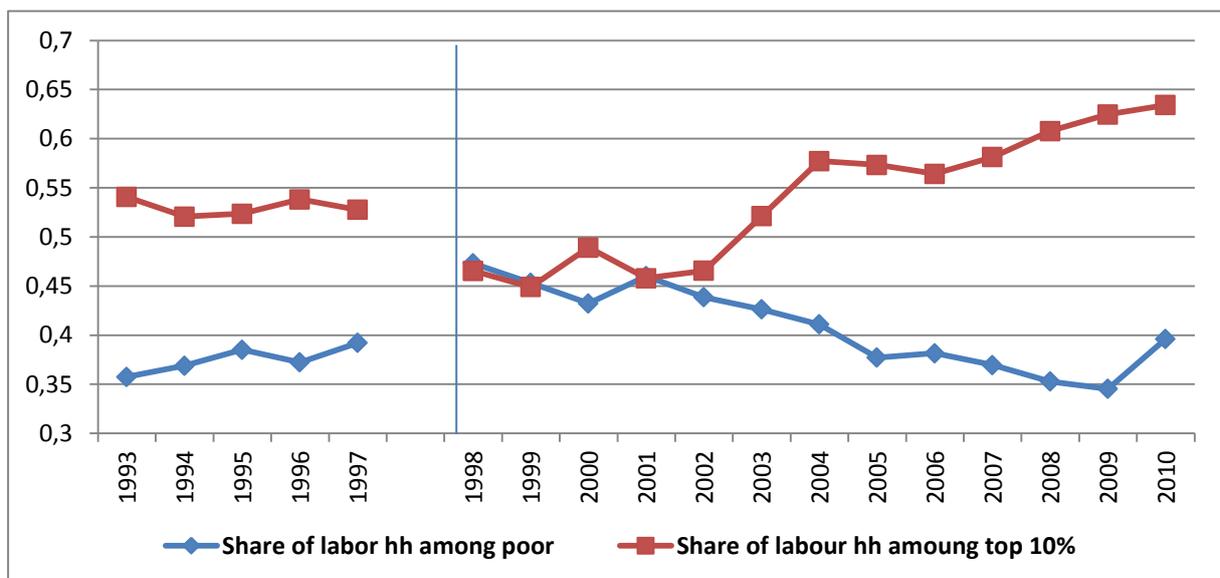
Inequality indices are computed for four income concepts to make analysis comparable to that for all households income inequality (cf. Figure 2.1). The Gini index for net equalized income of labour households increased by 16.3% between 1993 and 2010, which is slightly more than in the case of all households. Other inequality indices were behaving in a similar way. The series for market income shows the highest inequality both in terms of level and the pace of growth. As shown by series for gross income, adding transfers significantly reduces the level of inequality. The growth in gross income inequality for labour households was, especially in recent years, smaller than the growth in market income inequality, which suggests that the Polish transfer system is quite effective in keeping income inequality in check (for further discussion, see Chapter 5). Deducting taxes and moving to net household income makes little difference to the trend of income inequality. This conclusion is similar to that for all households (cf. Figure 2.1) and it suggests that the Polish tax system has little effect on income inequality. Finally, moving to net equalized household income, we see that for most of inequality measures the level of inequality is slightly higher for this welfare concept than for gross or disposable income. However, the evolution of inequality using this concept is very similar to inequality trends for gross or disposable income.

Figure 2.9. Inequality of market, gross, net and net equalized income for labour households



Finally, Figure 2.10 shows the shares of labour households among the poor and “rich” households. The share among the poor households has fallen substantially over 1998-2010 by 16 per cent. The proportion of labour households among the top 10% households has increased over the same period by as much as 36%.

Figure 2.10. Share of labour households among poor and top 10% households



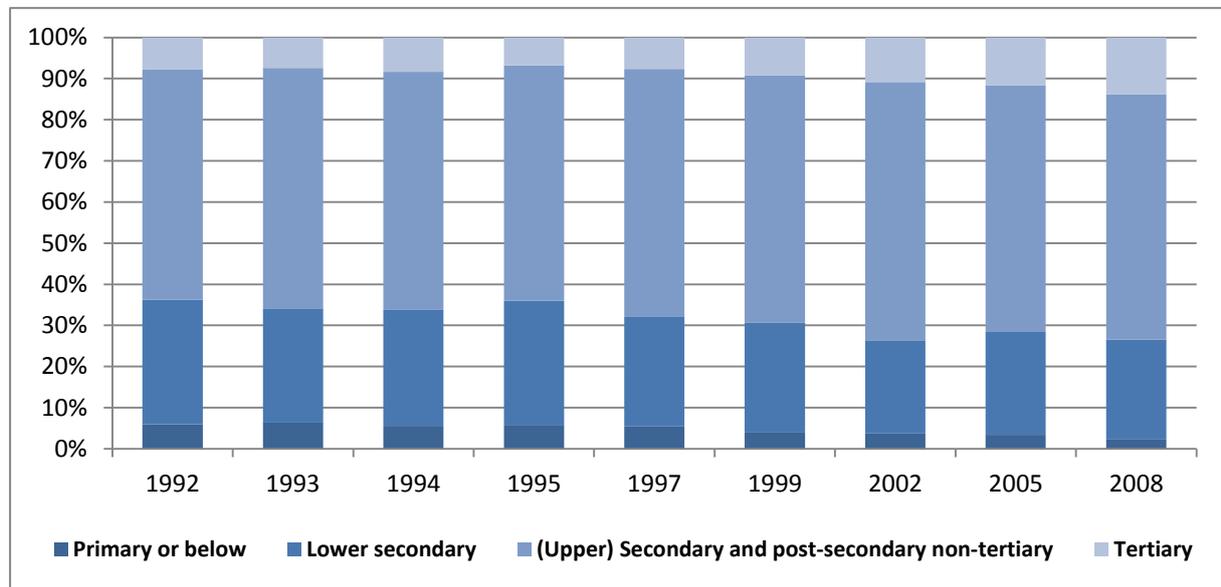
2.1.4 Educational inequality

Educational attainment in Poland has improved significantly over the last decade. The share of tertiary graduates almost doubled since 1997 (rising from 7,7% to 13,8% in 2008), although it was relatively steady in earlier years (Figure 2.11). After the transition to market economy the need for highly skilled employees increased sharply. This, combined with an earlier baby-boom, led to a radical expansion of private higher education sector. Influence of this expansion might not yet be clearly visible in the data, since it concerns mostly young people that only recently entered the workforce or are still in education.

A rapid growth in the education level of the youngest generation is more clearly visible when we take a cohort approach as in data prepared by Meschi and Scevini (2010), as presented in Figure 2.12. Such visualisation gives an additional insight, showing that the improvement of population’s educational attainment started, in fact, long before the economic transition. Changes in educational attainment are, therefore, a combination of long-term trend of increasing educational attainment,

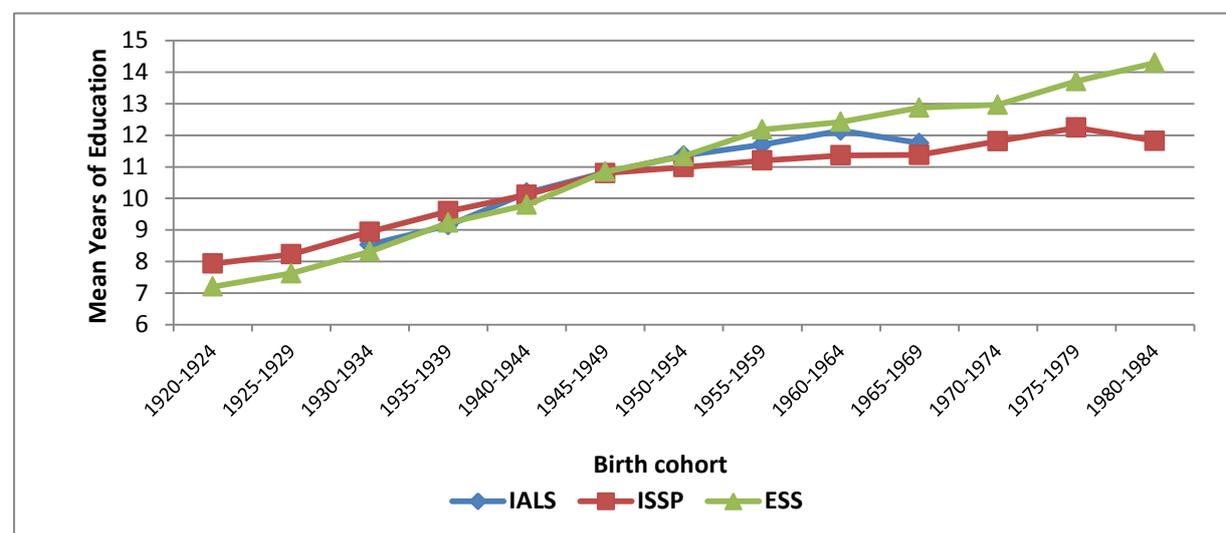
mirroring changes happening in other countries (Domański 2008) and short-term changes (such as changes in market demand for skills and educational system reforms) (Fulton 2007, OECD 2011).

Figure 2.11. Educational attainment: 25-64 year-old population



Source: PGSS

Figure 2.12. Average years of education by birth cohorts



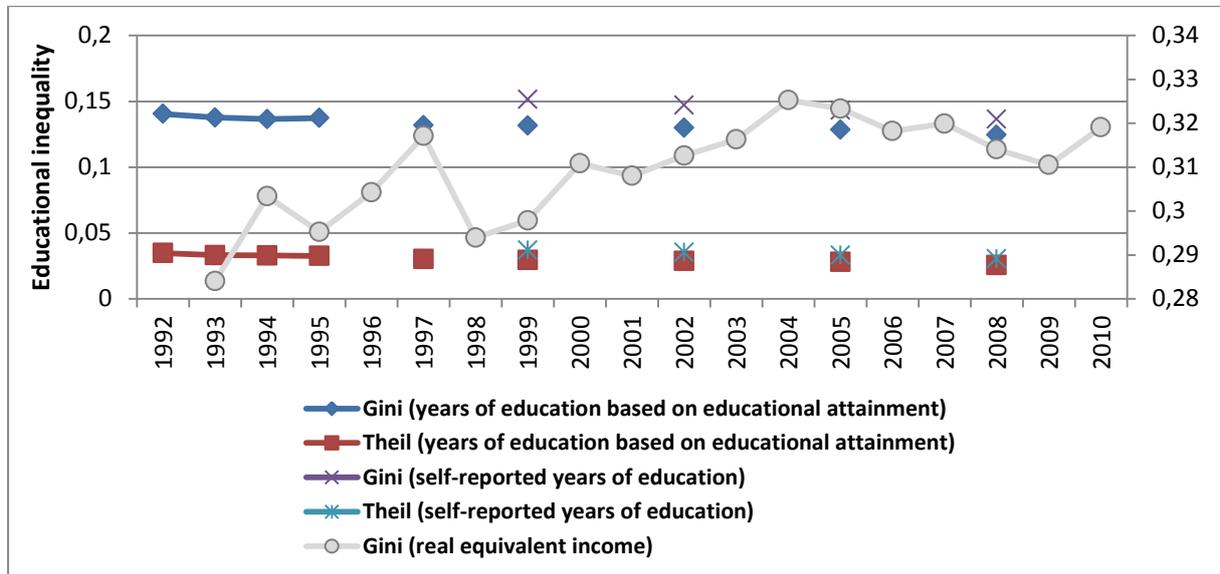
Source: Meschi and Scevini (2010)

Indicators of educational inequality

Increasing levels of education of Polish people was accompanied by a decrease in educational inequality. This process is visible both when using years of education estimated from educational

attainment and self-reported years of education. Figure 2.13 shows that increasing income inequality is accompanied by slightly decreasing educational inequality. Between 1992 and 2008 Gini index for educational inequality fell by 1.3% percentage points; the values of the Theil and Atkinson indices (e=1) did fall as well.

Figure 2.13. Educational inequality: 25-64 year-old population



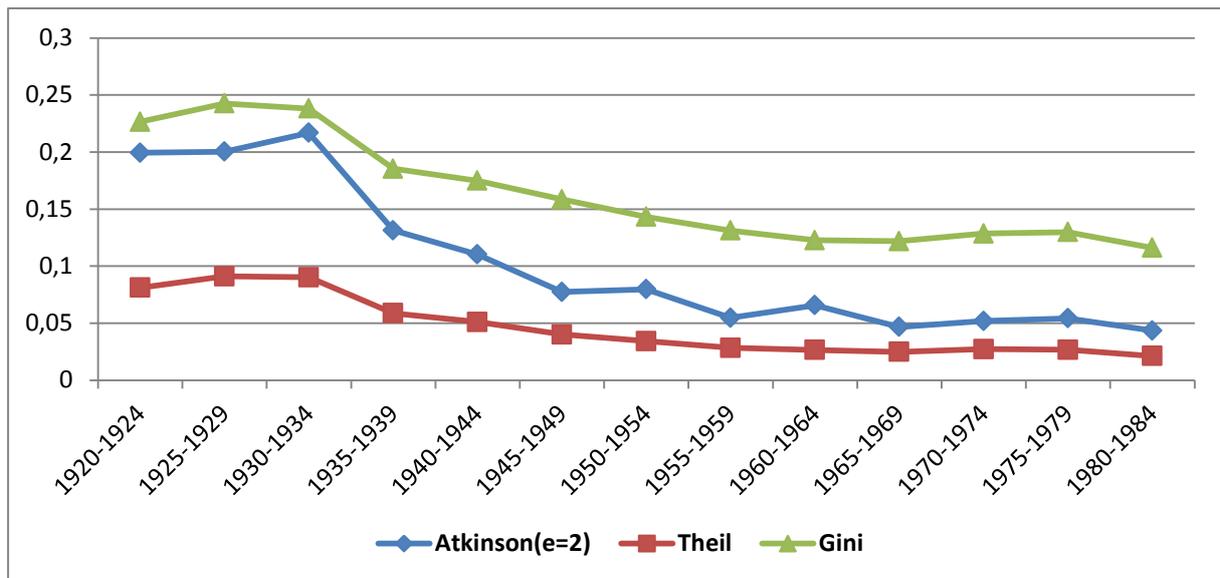
Source: PGSS

Note: Atkinson index (e=1) is not displayed because it overlays with the Theil index.

Data from ESS by birth cohort show that not only were generations that matured after World War 2 better educated than their predecessors but, more importantly, they were educated less unequally in terms of years of education (Figure 2.14). This equalization continued for some years, yet it gradually lost its impact and stabilised. Subsequently, educational inequality for those born between 1965 and 1979 rose slightly. Data presented in Figure 2.13 show a more gradual equalization of educational attainment among 25-64 year-old population since 1992 than when looking at birth cohorts. This might be due to the oldest and most unequal cohorts reaching 65 years, leaving production age and people from other cohorts achieving additional education later in their lifecycle. Educational inequality among the youngest cohort shown (1980-1984) decreased radically and judging by the current governmental policy that promotes higher educational attainment, we can expect that new cohorts will continue this trend.

At the same time, educational inequality in terms of dependency between one's background and achieved level of education did not decrease after the economic transition (Domański and Tomescu-Dubrow, 2008). It suggests that even though there has been an equalisation in terms of years of education, it does not necessarily mean a significant change in the structure of educational chances.

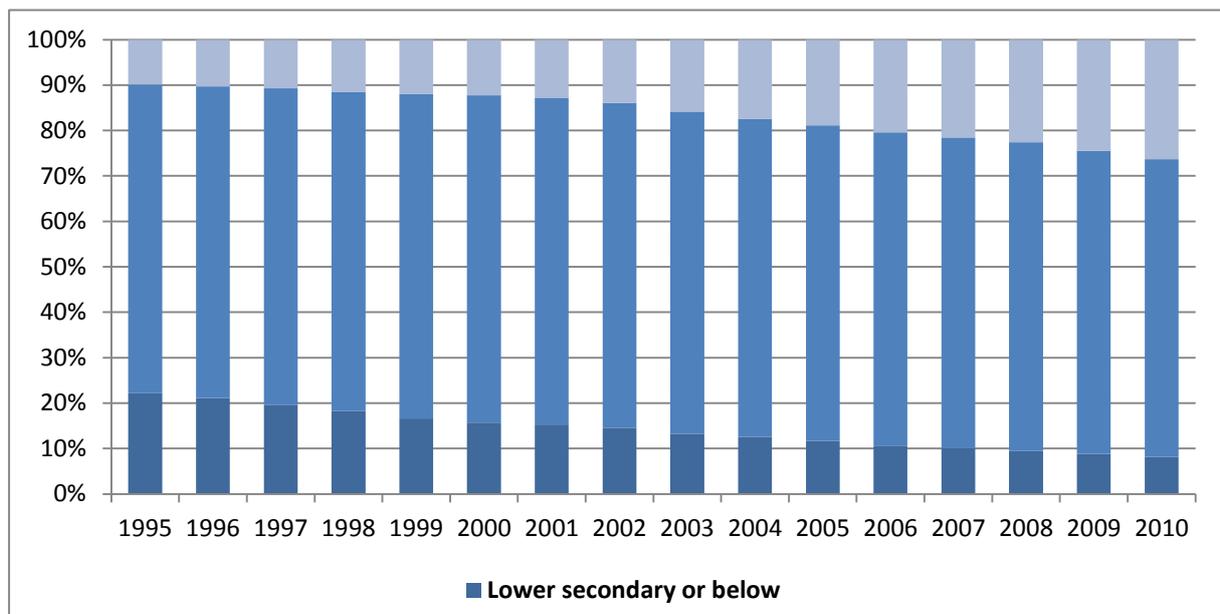
Figure 2.14. Educational inequality: 25-64 year-old population



Changes in educational attainment in labour force

Changes in educational structure of the Polish population is also visible in the labour force, which is becoming better and better educated (Figure 2.15). The biggest growth since 1995 in the share of working population with tertiary education started after the beginning of the new millennium and this trend continues.

Figure 2.15. Educational attainment in the workforce



Source: LFS

The increase of percentage of people achieving tertiary education has been visible among both sexes, yet the numbers have been noticeably higher for women (Figure 2.16). In 2003 15% of men in the workforce had tertiary education while the corresponding percentage for women was 21%. Since then, both shares have steadily grown resulting in an 7% increase for men (reaching 21%) and almost twice as big an increase for women (reaching 34%). Simultaneously, according to the LFS data, much more women (51,7%) than men (35,8%) have been economically inactive. Many women choose to stay at home with children especially when childcare cost exceeds the wage they can achieve.

Drop-outs

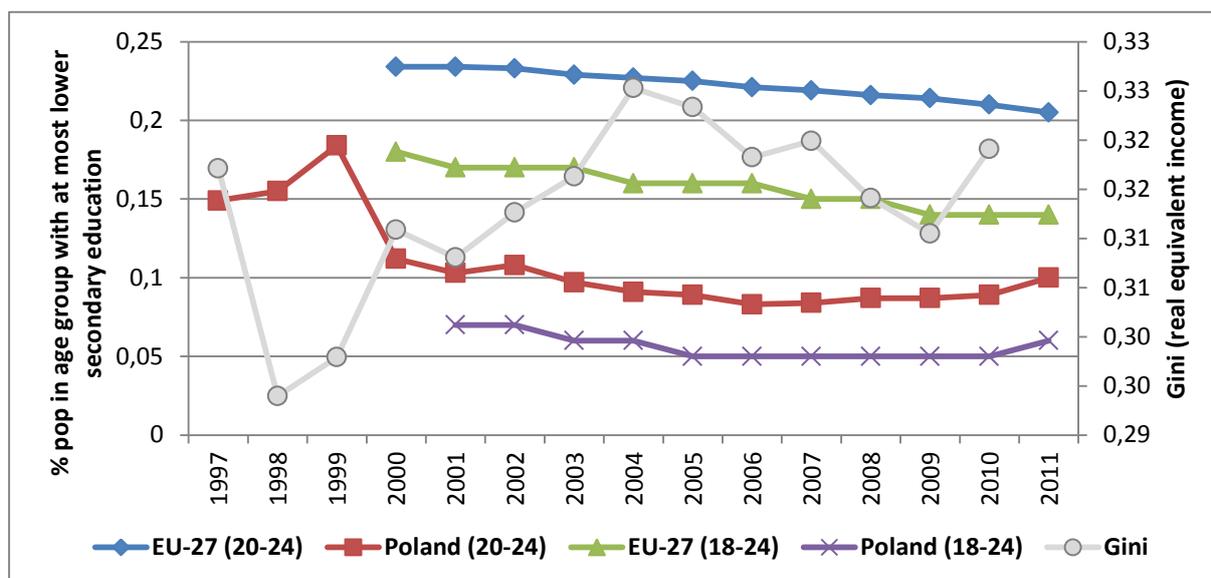
The problem of drop-outs is neglected in Polish literature and research, mainly because their share is commonly believed to be negligible. No educational institution collects administrative information about early school leavers (Mikiewicz, 2010), but data about educational attainment and age can be used for an estimation.

Education in Poland is compulsory between the ages of 6 to 18. Achieving lower secondary education is obligatory (ISCED 2, 8-year primary school for cohorts born before 1986 and gymnasium for younger cohorts). Finishing all stages of education in time brings a 16-year old to an ISCED 2 level. Then they are obliged to still attend an upper secondary or higher education institution, but finishing them is not obligatory, as it would require staying at school one year longer than the mandatory schooling age. As a result, someone who did not achieve ISCED 3 by the age of 20 either disobeyed obligatory schooling, or started school, but did not finish it, or was delayed in the education process enough to turn 18 before entering upper secondary education.⁶ A similar situation arises when a person aged 18 or more does not achieve an upper secondary education level and does not attend any school or training (early leavers from education and training according to Eurostat definitions). The number of people in this situation is taken as a lower bound for the number of all drop-outs, because those who are in education while turning 18 still can become drop-outs.

Figure 2.16 shows that the proportion of young people who did not achieve upper secondary education in time fell in recent years, reaching its lowest value in 2008 (8,7% in the case of population aged 20-24 and 5% when considering only those who are no longer in education or training and aged 18-24). Since then we can see a very slight increase in numbers, yet these statistics for Poland are still lower than 50% of the European Union's (27 countries) average.

⁶ If a person turns 18 before entering upper secondary education, they are not required to continue their education.

Figure 2.16. Share of population that is either a school dropout or was significantly delayed in educational process.



Source: Eurostat

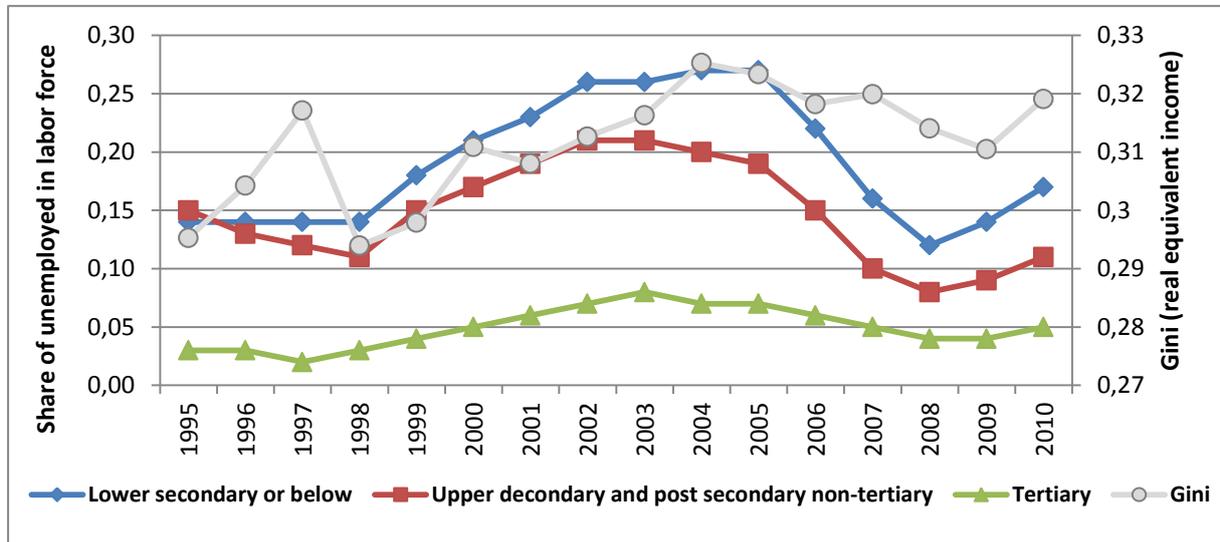
Employment chances depending on educational attainment

In the 1990s, the average wage of workers with tertiary education was substantially higher than that of others, and their unemployment rates were significantly lower. Even though the labour market situation of higher education graduates is now still better than that of other groups, changes in the educational structure of the labour force led to the decrease of their average wage and higher unemployment rates (Gajderowicz et. al 2012). Figure 2.17 shows how the gap in unemployment share between people with upper secondary and tertiary education first increased between 1999 and 2003 (reaching 14%), and then rapidly shrunk in recent years, leaving only a 4-6% difference. It seems, though, that the most noticeable changes in unemployment chances since the 90ties are related to the upper secondary education. From the perspective of unemployment shares, upper secondary education in 1995 was identical with lower educational levels, while now it is located between the lower and higher educational levels.

We can also see that the patterns of unemployment rates for particular educational levels are remarkably similar to changes in income inequality. It is possible that economic turbulences are most hurtful to those with low education. When unemployment rises those with least education are most at risk of losing work and so the gap between those with different educational attainment increases. Similarly, one can expect that worsening of economic situation might lead to significant income reduction of those with small employment chances, since they have limited options, forcing them to agree to lower wages. It is also possible that when the crisis comes those who earn the least lose the

most (either through lowering income or losing work altogether) leading to increased income inequality.

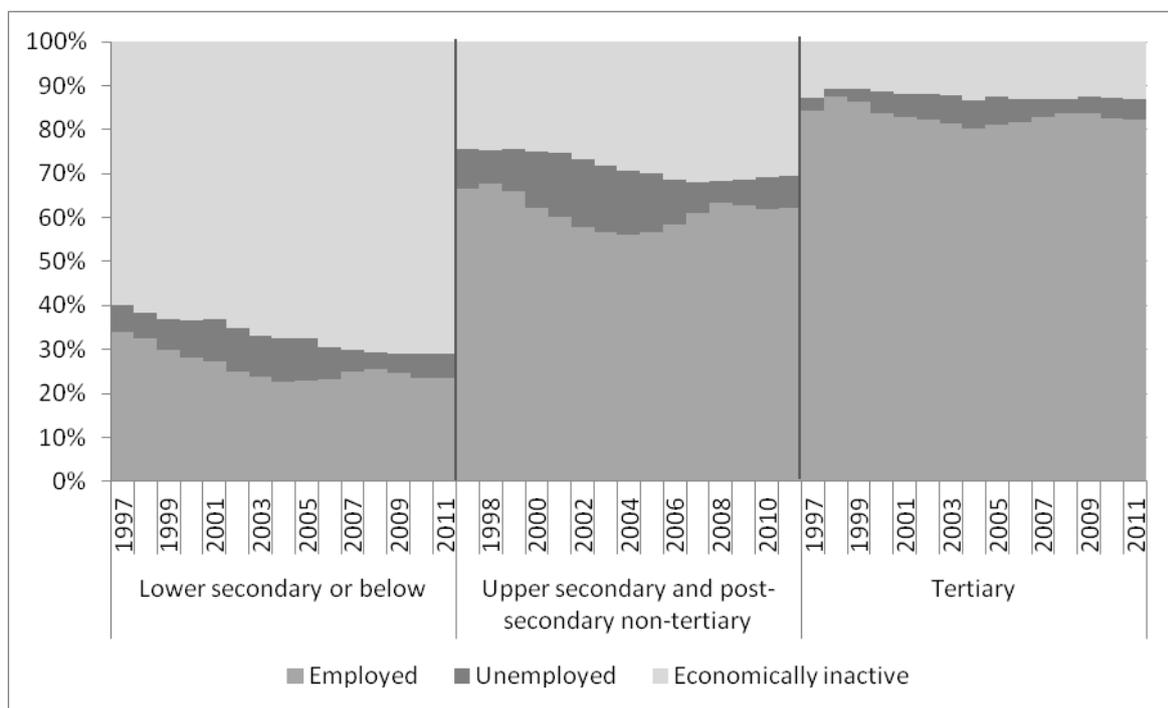
Figure 2.17. Share of unemployed in the labour force depending on educational attainment



Source: LFS

The situation looks slightly different when looking at the unemployment of not only those who are economically active (labour force), but of the working-age population. The activity rates both of those with the lowest and secondary (even upper) education have fallen significantly since 1997 (Figure 2.18)⁷, while among the better educated they have stayed roughly the same. The highest percentage of unemployed relating to the working-age population is constantly among those with upper secondary and post-secondary non-tertiary education. We can also see that after periods of high unemployment, activity rates fall. Those who failed to find work within a reasonable time often just stop searching. There are gaps between those with the highest educational attainment and other groups both in terms of unemployment and inactivity.

⁷ The activity rate has fallen by 11,1% among those with lower secondary education or below and by 6,1% among those with upper secondary and post-secondary non-tertiary

Figure 2.18. Population activity and employment depending on educational attainment

Source: LFS

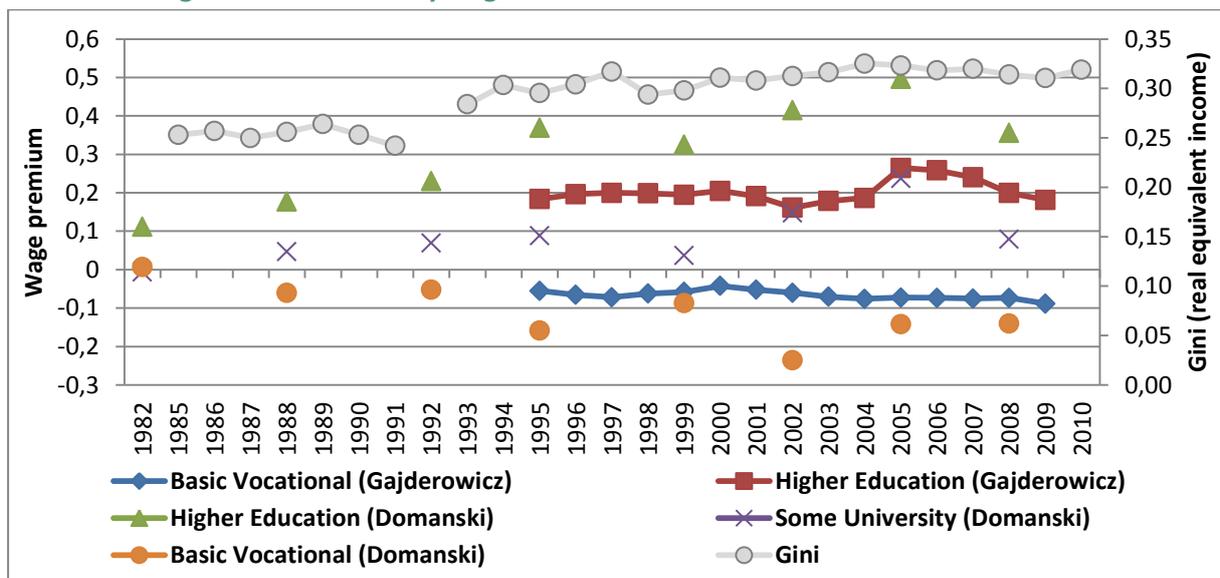
Returns-to-education type measures

Investing in one's education is done mostly in hope for future returns, yet the impact of educational attainment on earnings is hard to assess since earnings depend on many other factors. According to Domański (2011) returns from secondary education have fluctuated around the income average (which is used as a reference) ever since 1982. The economic transition seems to have influenced mostly the incomes of those with higher or lower education. The data show that returns from university education (according to OLS coefficients) have been increasing steadily from 1982 to 2005, only to slightly decline in 2008⁸ (Figure 2.19). After the economic transition, a growing demand for higher education workers led to an increase of their salaries, which could have been the cause for more people investing in university education. Increase in the share of tertiary graduates combined with the economic crisis of 2008, which slowed Polish economy down, led to lower earnings of people with higher education (especially those who are young and have no work experience). Even though returns from higher education seem to have decreased recently, they are still at a high level, which ensures profitability of investing in achieving a university degree.

⁸ Controlling for the branch of the economy (manufacturing, agriculture, construction, transport, trade, social services, personal services, and administration), age and age squared, sex, class of settlement, and having a supervisory position

According to Gajderowicz et al. (2012) in 1995 there were big differences in higher education wage premiums between those working in the private and public sectors. Originally in the private sector incomes were higher, yet since then they showed a steady decline (except for 1995-1998 and 2004-2007 increases). Wage premium in the public sector was initially lower, but fluctuated significantly: decreasing sharply in 1999-2001, then increasing in 2004-2005 and falling again since 2006. In the end, premiums in both sectors reached similar level in 2009.

Figure 2.19. OLS coefficients from multiple regression of logarithm of monthly incomes and logarithm of net hourly wage



Source: Domański 2011, Gajderowicz et al. 2012

2.2. Whom has it affected?

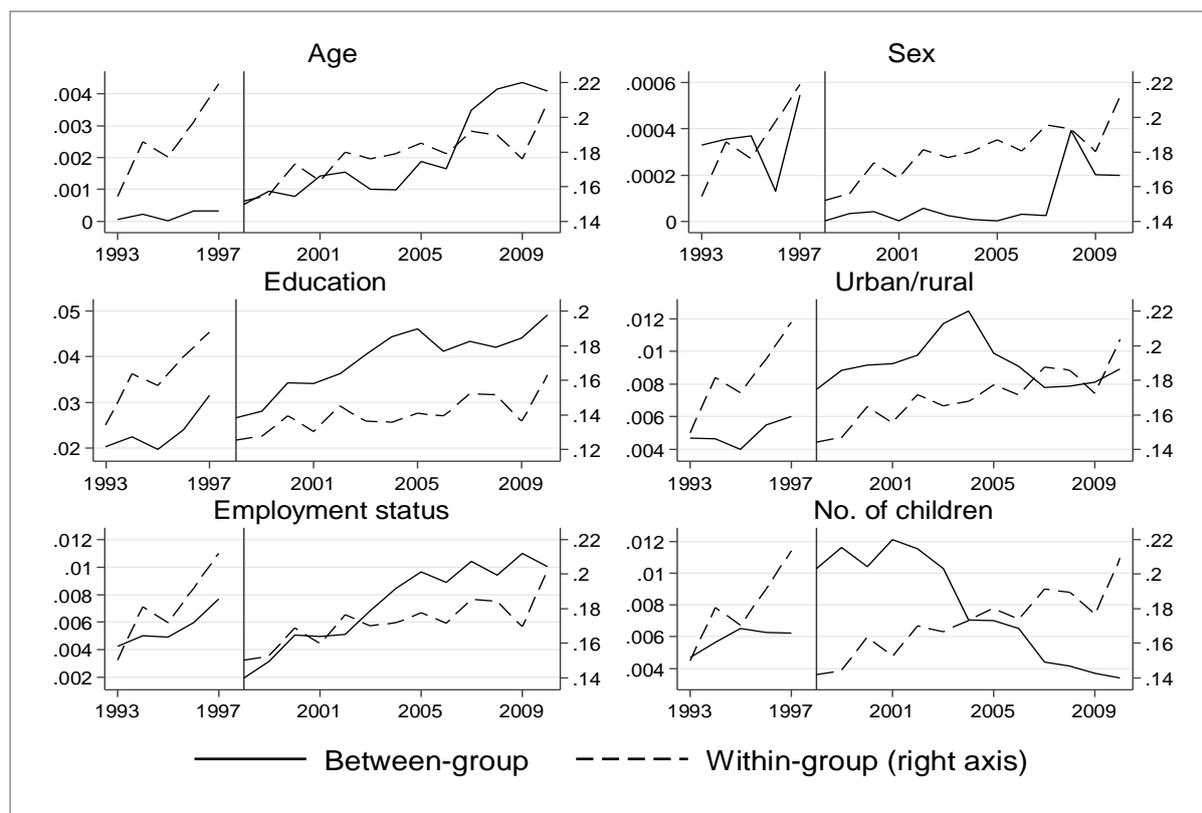
In order to identify which socio-economic groups have been affected most by the increasing inequality, we have performed inequality decompositions by household age, gender, education, type of residence, employment status and the number of children. In particular, the following groupings were used:

1. Age of the household head (below 35, 35-59, 60 and over);
2. Gender of the household head (male, female);
3. Education of the household head (higher, secondary, vocational, primary and less);
4. Type of residence (urban, rural);
5. Employment status of the household head (employed, unemployed, inactive, retired);
6. Number of children (0, 1, 2, 3 and more)

Figure 2.20 presents results of the sub-group decomposition of the Theil index for each of the groupings listed above. The income concept used is household net equivalized disposable income. The most striking conclusion from this figure is that the between-group component is by far the highest for educational attainment decomposition and that it almost doubles between 1998 and 2010. In 2010, it was almost five times larger than the second-largest between-group component, which was calculated for employment status decomposition. The latter increased during 1998-2010 by a factor of five, but it was very low at the beginning so eventually it reached a rather low level (0.01), less than 5% of within-group component. In the case of decomposition based on educational attainment, the between-group component reached as much as 23% of the within-group component. These results suggest that in the case of all assumed partitions with the exception of education most of the inequality changes can be explained by changes in the within-group components. The significance of education for growing inequality in Poland is further discussed in Section 2.1.4, where it is related to the increasing wage premium for better-qualified workers.

It can be observed that within-group components, which in every case beside education account for more than 99% of total inequality in a given year, are all increasing over the period under study. Between-group component increases for age, education and employment status, but decreases for the number of children. It seems that since 1998, when the number of children was the second largest between-group component among all considered partitions, its significance as a determinant of income inequality decreased greatly, becoming the least important factor.

For the purpose of inequality decomposition by income source, we use a generalized entropy measure with the parameter alpha set to 2, $GE(2)$, which is also equal to half of the squared coefficient of variation. This measure has desirable decomposability properties and can be easily used in the presence of zero income values, which often can be found in income data decomposed by sources. We also restrict our analysis to the 1998-2010 period as earlier data for income sources are less reliable. The results are presented in Table 4.

Figure 2.20. Trends in between-group and within-group inequality for the Theil index and net equivalized disposable income, by partition**Table 4. Decomposition of the GE(2) index by income sources, gross income (relative contributions of various income components to the inequality of total gross household income)**

	Variable	Total	EE	SE	AI	II	SI	SAB	OI
1998	Income share (%)	100	48.8	7.6	6.8	0.1	29.7	2.5	4.5
	GE(2)	0.165	0.716	7.715	8.038	61.154	0.607	2.783	3.643
	Relative contribution (%)	100	67.5	16.8	12.8	0.1	-1.0	-0.0	3.7
2002	Income share (%)	100	46.3	7.9	4.4	0.1	29.4	5.9	5.8
	GE(2)	0.176	0.802	7.471	12.126	59.033	0.712	1.993	3.072
	Relative contribution (%)	100	67.8	18.1	7.0	0.2	3.7	-1.0	4.2
2006	Income share (%)	100	48.3	7.9	4.3	0.1	30.0	5.2	5.2
	GE(2)	0.202	0.837	7.890	14.380	69.729	0.742	2.368	3.156
	Relative contribution (%)	100	69.7	17.1	8.5	0.1	2.7	-0.4	2.3
2010	Income share (%)	100	54.4	8.9	3.6	0.2	25.5	3.3	4.1
	GE(2)	0.206	0.703	6.404	18.249	60.965	0.785	3.158	4.101
	Relative contribution (%)	100	75.3	17.3	6.8	0.3	-0.8	-0.7	1.9

Note: Total = total gross household income, EE = employment earnings, SE = self employment earnings, AI = agricultural income, II = investment income, SI = income from social insurance, SAB = social assistance benefits, OI = other income.

Almost all of the inequality increase occurred during the 1998-2006 period. During this period, the contribution of inequality in employment earnings increased slightly (from 67.5% to 69.7%), which was driven by a significant increase in earnings inequality. The increase in income share from self-employment and its inequality was smaller. The role of income from investment is negligible. A factor that noticeably contributed to the inequality growth was an increase in inequality of old-age and disability pensions (social insurance). An equalizing factor during this period was a large drop in the share of agricultural income (from 6.3% to 3.9%), which, despite the sizable increase in inequality of income derived from this source, had brought the contribution of this factor down from 12.8% to 8.5%.

Between 2006 and 2010 inequality in household gross income remained stable. A large increase in the income share from earnings was a disequalizing factor, but it was compensated by a fall in earnings inequality and, more significantly, further decreases in agricultural share of income and a significant drop in income share from social insurance.

Overall, these results confirm the main findings from sub-group decompositions. The major driver of income inequality increase in Poland over the 1998-2006 period was the rise in earnings inequality. The role of income from self-employment was much smaller, while changes in income from investment did not play any role according to our data.

2.3. Why has inequality grown?

Economic inequalities in Poland have increased substantially since the mid-1980s. The major factors that explain this inequality growth are obviously related to the process of transition from socialism to market economy. In general, the topic of inequality growth in transition countries has been a subject of a substantive literature (see, e.g., Milanović 1999; Flemming and Micklewright 2000; Rutkowski 2001; Mitra and Yemtsov 2006; Grimaldi et al. 2009, 2010).

In the case of Poland, it seems that the single most important factor accounting for the inequality rise was the rise in earnings inequality caused by increasing educational premia for highly-qualified workers employed in highly-skilled occupations coupled with the worsening of relative position of workers employed in low-paying occupations (Rutkowski 2001, Keane and Prasad 2006, Newell and Socha 2007 and Sections 2.1.3-2.1.4 and 5.2 of this report). As documented in Section 2.1.4, returns to university education were non-existent or low under socialism and started to grow significantly during the transition period, eventually reaching levels similar to those of advanced market economies. The major underlying causes of inequality growth during transition in Poland are the change from centrally-planned wage setting to decentralized wage setting and radical structural and

technological changes of the economy shifting labour demand from public sector to private sector and from manual workers to professionals and highly-qualified workers (Rutkowski 2001, Keane and Prasad 2006, Newell and Socha 2007).

Changes in income inequality in Poland can also be associated with labour market performance. As shown in the Introduction (Table 1) and further discussed in Chapter 5, in the initial phase of the transition the unemployment rate increased from nearly zero in early 1990 to 14.4% in 1994. It then followed the cyclical behaviour of the economy falling during 1994-1998 to 10.7%, increasing rapidly to 19.9% over the 1998-2002 period, decreasing dramatically to 7.1 in 2008 and slowly rising again since 2008. It may be observed that some of these developments coincided with particularly pronounced changes in income inequality. In particular, much of the inequality growth after 1998 occurred during the period of increasing and persistent unemployment (1998-2005) as well as increasing absolute poverty (cf. Figure 2.4). After 2005, when the labour market situation improved radically, the level of income inequality stabilized.

Some of the factors that could potentially explain recent inequality changes in Poland are related to the Poland's accession to the European Union in 2004. In particular, it is interesting to review the impact of migration from Poland on Polish labour market, unemployment and dispersion of incomes. The scale of post-accession migration has been unprecedented – the number of Polish citizens staying temporarily abroad increased from 1 million in 2004 to 2.3 million in 2007 (6.6% of the population) and 2 million in 2010 (Kaczmarczyk 2012). This migration outflow from Poland coincided with an increase in employment rates (see Table 1 in Introduction). As shown by Kaczmarczyk (2012), changes in the Polish labour market after 2004 were rather driven by business cycle variations than by migration patterns. He concludes that there was little or no impact of migration on the unemployment rate and wage pressure. A possible channel through which increased migration from Poland could affect inequality is through remittances sent to Poland by migrant workers. This problem was recently investigated by Barbone et al. (2012) using the HBS data for 2008. They found that income from foreign sources is reducing the Gini index for household disposable income only by one percentage point from 0.35 to 0.34. It seems therefore that the impact of transfers by migrants on inequality in Poland is rather small.

The relative impact of internal changes versus globalisation factors (e.g. imports, exports, foreign direct investments) on inequality changes in Poland is difficult to measure and has been studied little. Grimaldi et al. (2009, 2010) analyze this issue using a sample of transition countries with Poland included in a sample of 10 former socialist countries (New Member States, NMS) that joined the EU between 2004 and 2007. They found that internal reforms (especially price liberalization) was more important in accounting for inequality growth in NMS than were the

globalization factors. The effects of imports and exports on inequality are positive, but these findings are not robust to all model specifications. On the other hand, their results suggest that foreign direct investments have a robust and fairly strong inequality-increasing effect, which gives some evidence for a skill-biased technological change due to globalization in NMS.

Another group of factors that may be responsible for inequality growth in a transition country are: transfer of assets from public to private sector, growth of self-employment, and increasing shares of property, financial and entrepreneurial income. However, in Poland, the share of entrepreneurial income in total household income increased from 5% in 1987 to 8% in 1994 and remained constant until 2002 (Mitra and Yemtsov 2006). Using inequality decomposition by income sources, Mitra and Yemtsov (2006) show that the growth of entrepreneurial income contributed significantly to the growth of overall income inequality in Poland in the first stage of transition (1987-1994), but had little effect after (1994-2002). Therefore, the growth of alternative income sources is unlikely to explain the observed rise in inequality after 1994.

The social impacts of inequality

3.1. Introduction

In Chapter 2 we have shown that by all accounts, inequality in Poland has grown substantially since mid-1980. In this chapter we look at inequality's likely social impacts (Wilkinson and Pickett 2009). Given relatively short series for most data available, it is not possible to determine precisely whether there is indeed a causal relationship between patterns in inequalities and various social outcomes. We can, however, highlight where such relationships are likely to be occurring,

We combine data from various national and international sources (most notably EU-SILC, CSO, HBS and PGSS). For some indicators, such as EU-SILC data on material deprivation, very short series are available (since 2005 only). For others, we can draw on pre-1989 data (e.g. statistical information on family formation). For most, however, data covers a period from early 1990s till mid/late 2000s. The social impacts of inequality that we analyse concentrate around the themes of material deprivation, changes in family formation, social relations and social cohesion, crime rates, subjective well-being, and intergenerational mobility. Where time series on social impacts are available, we plot them against Gini for the same period, calculated for the equivalised net income.⁹

⁹ Following Brandolini (2007), we use the original OECD equivalence scale, which assigns the weight of 0.7 to every adult household member beyond the first one and the weight of 0.5 to every child. See also Chapter 2 f. 2.

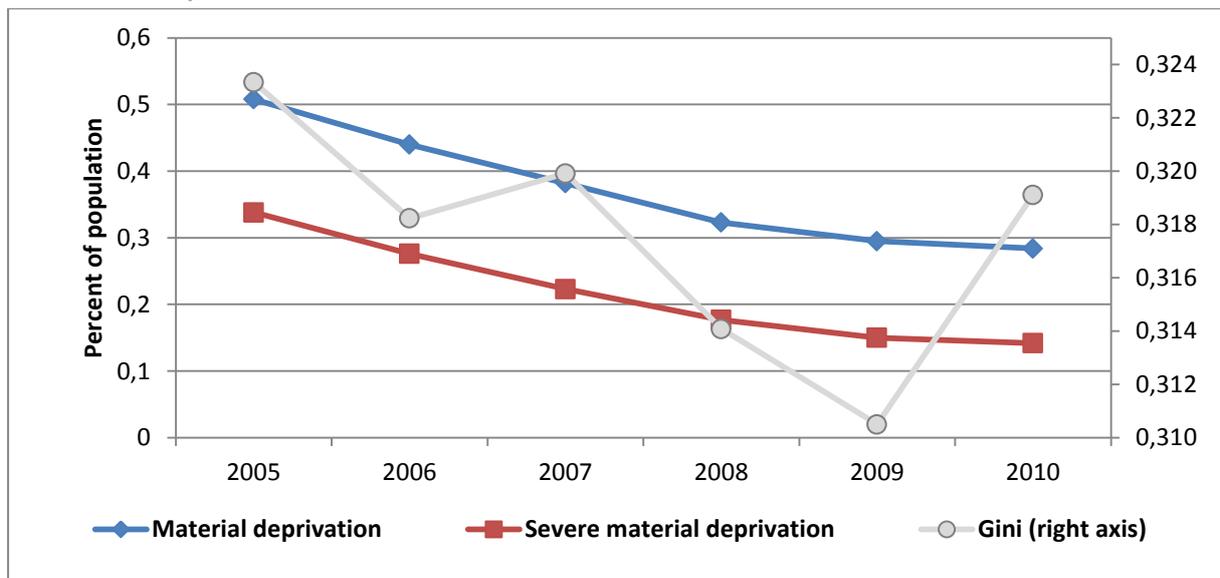
3.2. Patterns and trends in material deprivation

The measurement of material deprivation based on the definition used in EU-SILC is quite new in Poland and has been done mainly by the EU-SILC survey. The idea behind EU-SILC criteria is that not all households with low income really suffer poverty, since its measurement usually does not include savings, possessions and non-monetary transfers. At the same time, there are households with higher income that struggle to get by. According to EU-SILC methodology a household is considered materially deprived if it cannot afford at least three items and severely materially deprived if it cannot afford at least four items from the following list:

- paying rent, mortgage or utility bills;
- keeping their home adequately warm;
- facing unexpected expenses;
- eating meat or proteins regularly;
- going on holiday;
- a television set;
- a refrigerator;
- a car;
- a telephone.

The first measurement of material deprivation based on this definition was carried out in Poland in 2005 and it showed that over half of the population was living in materially deprived households and one third in severely materially deprived households (Figure 3.1). In the following years this situation improved radically and in 2010 these shares were “only” 28,4% and 14,2%, respectively. Even though there has been a great improvement, Poland is still far behind the Euro area countries (17 countries), where only 13,3% citizens were materially deprived in 2005 (13,6% in 2010) and 5,6% severely materially deprived (both in 2005 and 2010). Comparing with 26 other countries researched by Eurostat since 2005, Poland ranked 25th in 2005 and 24th in 2010 in terms of material deprivation, and 26th in 2005 and 24th in 2010 in terms of severe material deprivation. Therefore, there is still a scope of improvement.

Figure 3.1. Percent of households suffering from material deprivation and severe material deprivation



Source: EU-SILC

One might argue that the standards of “being poor” are different in different countries, in one owning a car might be seen as a sign of wealth, in another it might be a necessity. Data about subjective views of Poles concerning their own financial situation (Figure 3.2) show that shares of respondents who see their household as having an insufficient income or income that is much lower than that of an average household, and respondents describing their financial situation as rather bad, bad or very bad decreased substantially since 1992.

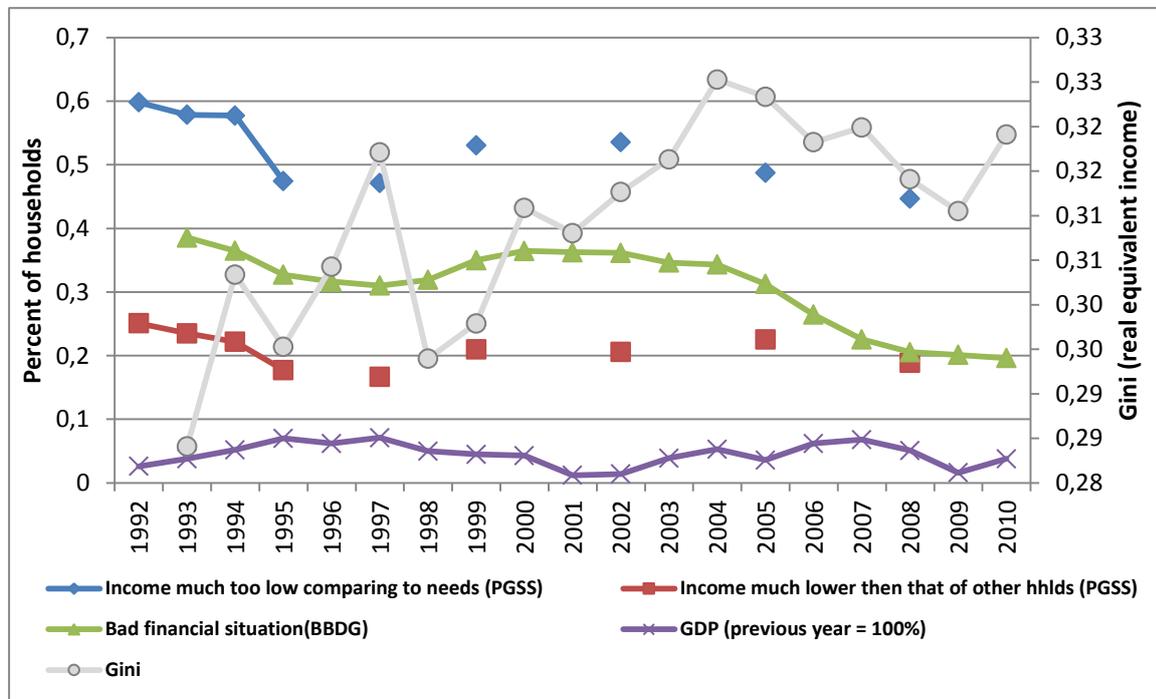
The patterns visible in Figure 3.2 roughly follow the objective measures of Poland’s financial situation, such as the GDP – increasing levels of economic growth (that peaked in 1997 at 6.4%) resulted in fewer and fewer households considering their financial situation as bad.¹⁰ A GDP growth slowdown to 1.2% in 2001, followed by an improvement until 2008 is also reflected in the shares of respondents who feel their households’ needs are not satisfied. Although there has been a noticeable decrease in growth of Polish economy since then, Poles view their current situation as relatively positive – most likely because so far Poland has not been affected by the economic crisis as hard as other countries.

Figure 3.2 also shows that people’s perceptions of household income inequality are changing in accordance to the levels of income inequality measured by the Gini index. Unlike other variables, trend in opinions about one’s household being significantly poorer than most other households (from

¹⁰ The answer categories were changed from ‘bad’ and ‘very bad’ to ‘rather bad’ and ‘bad’. By ‘bad’ we mean respective categories (‘bad’ and ‘very bad’, and ‘rather bad’ and ‘bad’) pooled together.

PGSS) does not mimic the GDP, but income inequality. It shows that Poles are aware of existing inequalities, which influences their perceptions of own income.

Figure 3.2. Households according to their income self-assessment



Source: HBS, PGSS

3.3. Cumulative disadvantage and multidimensional measures of poverty and social exclusion

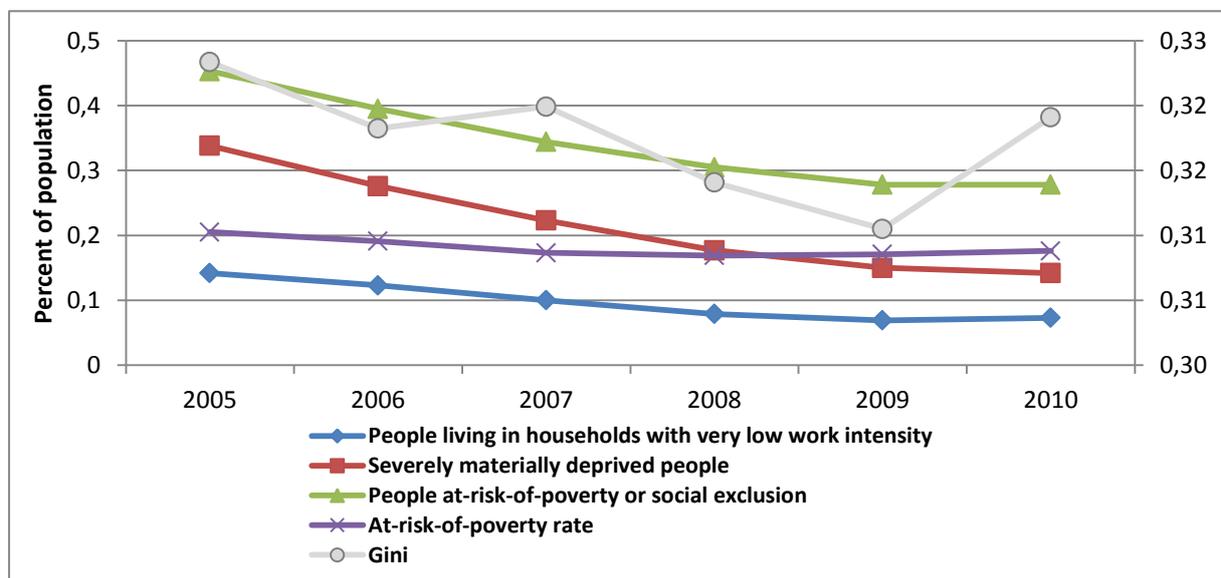
3.3.1. People at-risk-of-poverty or social exclusion

Europe's 2020 poverty target is an indicator consisting of three factors of a person's unfavourable social situation – either poverty in terms of income (discussed in Section 2.1.1.), material deprivation (discussed in Section 3.2.) or living in a household with low work intensity (households where the “ratio of the total number of months that all working-age household members have worked during the income reference year and the total number of months the same household members theoretically could have worked in the same period” (Eurostat glossary) is below 20% - applies only to people aged 0-59). Two of these indicators are quite unique and their measurement in Poland begun as late as in 2005, as part of the EU-SILC research.

In 2005 almost half of the sample was considered at risk of poverty or social exclusion (45.3%), a number which subsequently decreased to 27.8% in 2010 (Figure 3.2). Two out of three indicators

decreased during this period; only the share of at-risk-of-poverty fluctuated, first decreasing by 3.6% by 2008 and then rising again slightly. Considering that the EU2020 poverty target for Poland aims at reducing the number of people at risk of poverty or social exclusion between 2010 and 2020 by 1 500 000, and combining this with information that in 2010 in Poland there were 30 688 896 people aged 0-59¹¹ gives a target 4.9% decline. Although so far the reduction of numbers of people at risk of poverty was of much greater magnitude, this decrease slowed down significantly and practically stopped between 2009 and 2010. An increase in income inequality in 2010 might be one of the reasons for this recent lack of improvement. Reaching the target would require fighting the results of the recent economical crisis and further improvement of population's living conditions.

Figure 3.3. Percentage of population at risk of poverty or social exclusion and relevant indicators



Source: EU-SILC

3.3.2. Housing deprivation

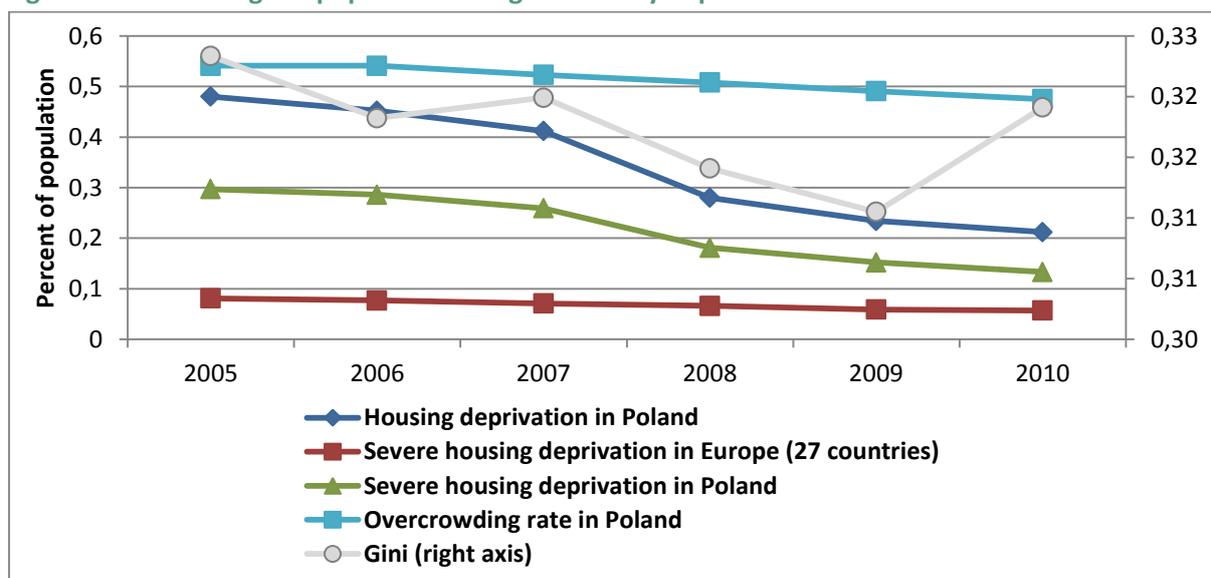
By Eurostat standards one is considered to be experiencing severe housing deprivation if she lives in an overcrowded household, which has either a leaking roof, no bath/shower, no indoor toilet, or which is considered too dark. In 2005, when the EU-SILC survey started in Poland, almost one third of the population was considered severely housing deprived, yet this situation has improved since then. Polish government tried to encourage building of new houses and designed the mortgage program called "Family on its own". Introduction of this policy in 2006 caused increased demand for apartments, which resulted in more properties built in the following years, but also a raise in

¹¹ According to CSO, the remaining 7 511 141 people were aged 60 or above.

property prices. Simultaneously, another policy supporting thermo- modernization and renovation of residential buildings was being implemented by the government. Between 2005 and 2010, the share of population living in severely deprived houses fell by 16.4% reaching only 13.3% and narrowing the gap between Poland and Europe's average to only 5%.

Figure 3.4 shows trends in severe housing deprivation in Poland between 2005 and 2010. It is clear that the decline of severe housing deprivation is mostly due to the improving technical condition of residential buildings. The share of people living in overcrowded houses fell only slightly from 54.1% in 2005 to 47.5% in 2010. It seems that even though people are interested in buying new properties and renovating old ones, they tend to acquire relatively small apartments, probably because of high real estate prices (Open Finance monthly reports 2008-2012, CSO). This results in many people living in properties that are overcrowded (at least according to Eurostat standards) but new or well maintained. This fall in housing deprivation is also simultaneous with changes in income inequality, suggesting a dependency.

Figure 3.4. Percentage of population living in severely deprived houses and relevant indicators



Source: EU-SILC

Severe housing deprivation affects mostly people under 18 years old (17.3% in 2010), while older people (over 64 years old) seem to suffer from it much less (9.7% in 2010 according do Eurostat). Possibly, older people remain in the apartments they used to occupy when they were younger, and after their children moved out. In addition, having several young children is often correlated with low disposable income, which reduces opportunities for buying or renting a larger property.

3.3.3 Persistent poverty rate

Persistent at-risk-of-poverty rate is the percentage of country's population that has been at-risk-of-poverty in two out of three preceding years. Its measurement requires a panel study covering at least 3 consecutive years, and as a result there is very little data concerning such persistent poverty available for Poland. First EU-SILC survey showed that 10.4% of Polish population was persistently at-risk-of-poverty between 2005 and 2008, and this rate did not change significantly in the next two years. At the same time, Europe's average (27 countries) rose from 8.7% to 9.7% in the same period. While currently this indicator might tell us little about changes in Poland, with longer measurement period it might be a good indicator of long term changes in poverty.

3.4. Social cohesion

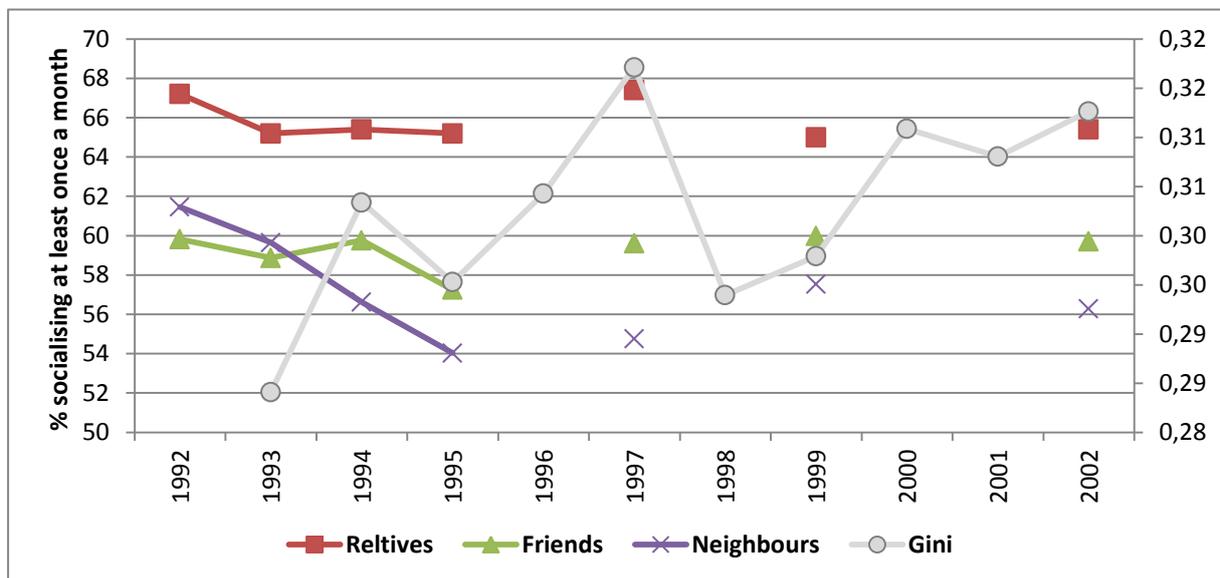
One of the negative aspects of rapid social and economic transformation, such as the processes taking place in Poland since 1989, is the breakdown of social ties. Due to a rapid differentiation of social structure, people are expected to withdraw from social life, losing social and support networks (Rose-Ackermann 2001, Goodwin et al. 2001). Economic insecurity resulting from high unemployment and low wages makes people focus predominantly on satisfying economic needs, at the expense of their informal social ties. Therefore, societies in transition, such as Poland, are expected to be poor in terms of social capital and to experience decline of social cohesion.

To capture the degree of social interconnectedness we look at how often Poles socialise with various groups of people (Figure 3.5). Sociability, as the key dimension of social capital, is expected to be particularly adversely affected by social/economic polarization (Uslaner and Brown 2005, Wilkinson and Pickett 2009). Data series for this indicator in Poland is short, covering only 10 years from 1992 to 2002. There is a visible relationship between frequency of socialising with relatives, friends and neighbours, where more frequent contacts with family mean fewer contacts with friends and neighbours. Only socialising with neighbours, however, declined between 1992 and 2002, by under 5%. This could be attributed to the pressures of everyday life, where the radius of contacts decreases to include only the closest family and friends.¹² It could also be linked to increasing spatial mobility, where ties with one's old neighbourhood are broken, and new ties have not yet been established.

¹² Since respondents were asked about their contacts with friends in a separate question, we assume that neighbours in this item are those who have not been included by respondents as friends.

It seems, therefore, that if there is a decline in informal sociability concurrent with the increase of income inequality, it affects only the more loose ties (i.e. not with one's family). Family ties remained the most popular type of social connection in the life of Polish citizens, while it had been expected that family ties would gradually become less important, giving space to weak ties (Völker and Flap 1995). This seems highly relevant for understanding the effect of inequality on social ties and social cohesion in Poland: it confirms that polarisation of society, such as in the case of rising inequality, makes formation of weak ties particularly difficult (Pitchel and Wallace 2007, Letki and Mierina 2012).

Figure 3.5. Informal sociability.



Source: PGSS 1992-2002.

3.5. Patterns of family formation and breakdown, lone parenthood, fertility

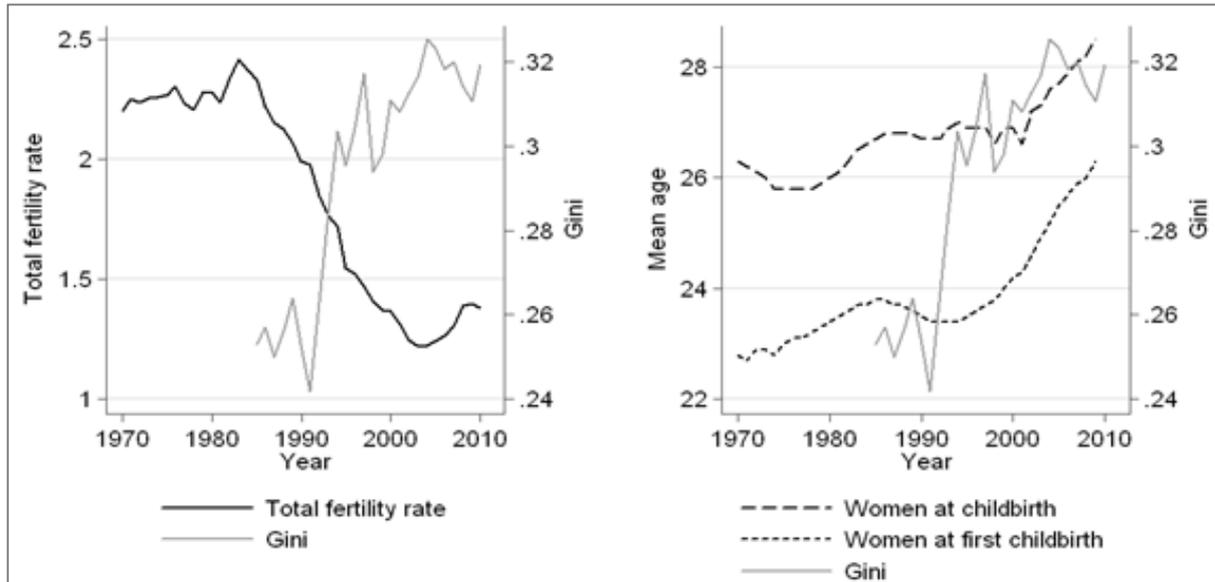
Within the last four decades there has been a great change in Poland's economical, technological and cultural situation and it heavily influenced the trends in family-related behaviour. There has been a significant fall in fertility rates and marriages that seems to follow patterns seen in countries of Western Europe. Many scholars explain this situation in terms of the Second Demographic Transition (Sobotka 2008, Kotowska et al. 2008).

The last "baby boom" in Poland reached its peak of 723,600 in 1983 and until 2003 fertility rates were constantly falling (Pociecha 2003). Most alarmingly, this trend continued even when women born during that "baby boom" reached the age of the highest marital and procreative activity. Since 2003, fertility rate has been growing slightly reaching 1.4 in 2009 (Figure 3.6), mainly due to higher birth rate in urban areas.

Such a fall in fertility can be partially explained by women postponing their decision about having children. Mean age of women in their first childbirth was 23.6 in 1989 and rose by 2.7 years within the next two decades, to 26,3 in 2009 (Figure 3.6). Especially in urban areas the average age of women giving birth for the first time rose substantially and now it seems that the rural population is starting to slowly follow that pattern as well (Kotowska et al. 2008). However, postponing motherhood is likely to mean that in the next few years fertility rates will remain the same or even rise thanks to the last “baby boom” echoing slightly later than expected.

Poland’s changes in family policy that took place between 1989 and 2005 did not prevent the natality decline – the previous system that supported every family with children was gradually replaced with the system supporting only poor families. Since 2005 more pressure has been put on family (and fertility) supporting policies. A one-time subsidy of 1000 zloty (around 233 euro) per newly born child called “becikowe” was introduced since 2005. Unlike other subsidies, it is not means tested, although at the moment there are plans to make it dependent on parents’ income. In 2007, parents gained a possibility of a special pro-family tax relief per every child (currently the government discusses the possibility of restricting this relief only to poor families or those with two children or more). Theoretically, parents are allowed parental leaves and a number of other pregnancy or children related benefits, but they only apply to those that are in stable employment. Young people are most often employed on task-to-task contracts that do not offer such benefits.

Public childcare that was widely available under the Communist regime was significantly reduced after 1989, as fewer places at public kindergartens, nursery schools and crèches are available, and their cost to parents is rising. This discourages employment of young women putting them and their families at an disadvantaged position. It also excludes children from poor background from pre-schooling.

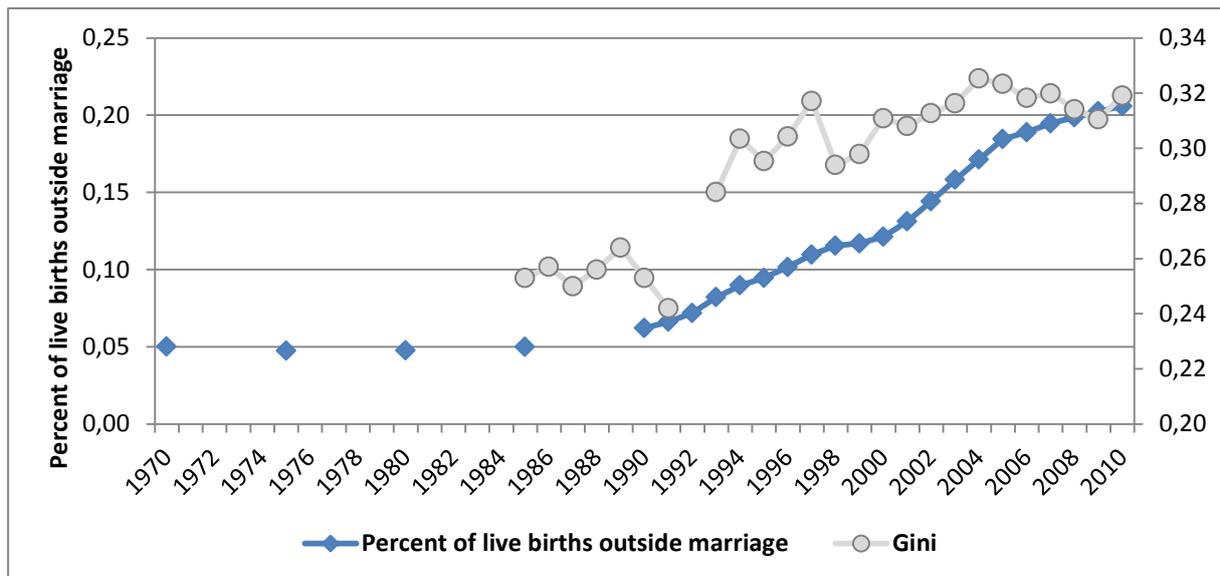
Figure 3.6. Total fertility rate and mean age of women at childbirth and at first childbirth.

Source: CSO

Recent increase in fertility applies mostly to those with tertiary education, as the number of births by mothers with ISCED 5-6 rose between 2008 and 2010. Number of children born in those years by mothers with upper secondary and post-secondary non-tertiary education was bigger but fell from 232 thousands in 2008 to 209 thousands in 2010, while mothers with tertiary education gave 141 thousand births in 2008 and 167 thousand births in 2010. In terms of income inequality this might be a good sign, since it is a divergence from a classic model, where the rich and well educated have few children and the poor and poorly educated have many, causing the inequality to rise.

For many years fertility in Poland was strongly bound to marriage, but this has changed substantially. Before 1989 outside marriage births constituted around 5% of live births, but since then there has been a rapid growth and in 2009 and 2010 one out of five babies was born out-of-wedlock (Figure 3.7). Bolesławski (2001) suggests that the rise of births outside marriage between 1989 and 2000 was mainly due to a drop in marital fertility and a relatively slower decline in extramarital fertility rate (most frequently among urban women aged 30-34 and rural women aged 25-34).

Figure 3.7. Live births outside marriage.



Source: CSO

Postponing of childbearing is partially connected with prolonged education and postponing marriage. Since 1989, the average age of females at their first marriage rose steadily from 22.8 to 24.7 in 2004 and the most common age of marrying couples shifted from 20-24 to 25-29 years (Kotowska et al. 2008).

While the crude rate of marriages has been constantly falling since 1975 till 2002, the rate of divorces fluctuated – it was the lowest early in the economic transition (0.7 in 1993), and later rose, reaching its highest value of 1.9 (per 1000 inhabitants) in 2006 (Figure 3.8). In comparison with Western Europe, cohabitation and divorces seem to be rather infrequent and we can conclude that marriage is still the most popular way to form a family.

It is worth noting that the fall in fertility rates began long before the economic transition, but the strongest increase in women's age at childbirth and percentage of births outside marriage took place after 1989.

Figure 3.8. Marriage, divorce and birth rates.



Source: CSO

Composition of households (effects on income equalisation) and lone parenthood

Disposable income used in many inequality and poverty statistics is equalised “in order to reflect differences in a household's size and composition, the total (net) household income is divided by the number of 'equivalent adults', using a standard (equivalence) scale: the modified OECD scale; this scale gives a weight to all members of the household (and then adds these up to arrive at the equalised household size):

- to the first adult;
- 0.5 to the second and each subsequent person aged 14 and over;
- 0.3 to each child aged under 14.” (Eurostat glossary)

As we can see in Table 5, in 2010 households' composition was positively correlated with disposable income (unequalised, Pearson's rho 0,2717). In general, households with larger financial needs (according to equalisation) have higher mean income than other households. On average, the more adults in the household, the more disposable money there is. Households with children have, according to mean income, more than those without children, but families with 3 or more children had slightly less money than those with one or two.

Dividing income by equalised household size has an equalizing effect on disposable income, which leads to lower inequality in terms of equalised income than unequalised (Table 6).

Table 5. Average disposable income (not equivalised) in zloty depending on the number of adults (14 years old or older) and children (averages counted only for categories that constitute 0,5% or more of all households) in 2010.

Adults \ Children	0	1	2	3
1	1585	2323	-	-
2	2887	3819	3988	3745
3	3472	3702	3675	3515
4	4022	4039	4171	-
5	4205	4464	-	-

Source: HBS

Table 6. Average equivalised disposable income in zloty depending on the number of adults (14 years old or older) and children (averages counted only for categories that constitute 0,5% or more of all households) in 2010.

Adults \ Children	0	1	2	3
1	1585	1548	-	-
2	1698	1736	1477	1170
3	1446	1277	1081	901
4	1297	1122	1017	-
5	1107	1038	-	-

Source: HBS

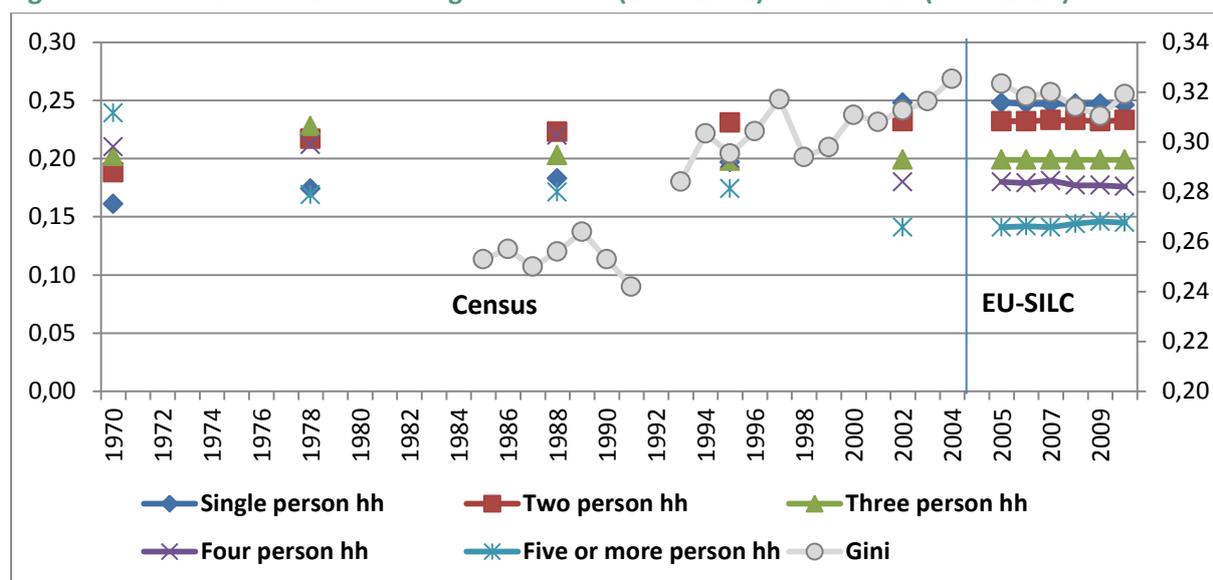
Changes in household size influence the equivalised income inequality and other measures, yet data collected in EU-SILC show that since 2004 there has been very little change in household size structure (Figure 3.9). Results obtained from EU-SILC are very similar to those from the Polish census of 2002:¹³ single-person households constitute one fourth of all households, 23.2% are two-persons, and households of 5 or more people are the least popular (around 14.1%). Lack of significant change in household size since 2002 is highly relevant for results obtained from annual HBS surveys that are the basis of our income analysis, as more recent data are weighted according to household size and area of residence (urban/rural) based on the most recent census.¹⁴ Most significant changes in household size structure seem to have taken place before 2002, when the share of five or more-person households fell from 23.9% in 1970 to 16.9% in 1978, and then again between to 14.1% in 2002. The share of three and four-person households has also been subject to decrease, yet this trend has been more subtle. Two- and single-person households have become more and more popular. These changes are likely to be caused by changes in family structure on one hand, and by changes in property ownership on the other. Before 1989, living with one's parents even after

¹³ Data from the most recent 2011 micro census have not been released yet.

¹⁴ In earlier HBS surveys, weights were based on household size and main income source according to results from introductory questionnaire filled for all sampled households (not all of them agreed to participate in the full survey).

getting married was common (especially in the urban areas), because apartments were owned and built by the state and there was a huge undersupply of domestic properties. After 1989 the situation improved, as apartments could now be bought on the market, and the supply increased (yet still not reaching the population's needs, according to Western standards).

Figure 3.9. Households size according to censuses (1970-2002) and EU-SILC (2005-2010).



Source: CSO, EU-SILC

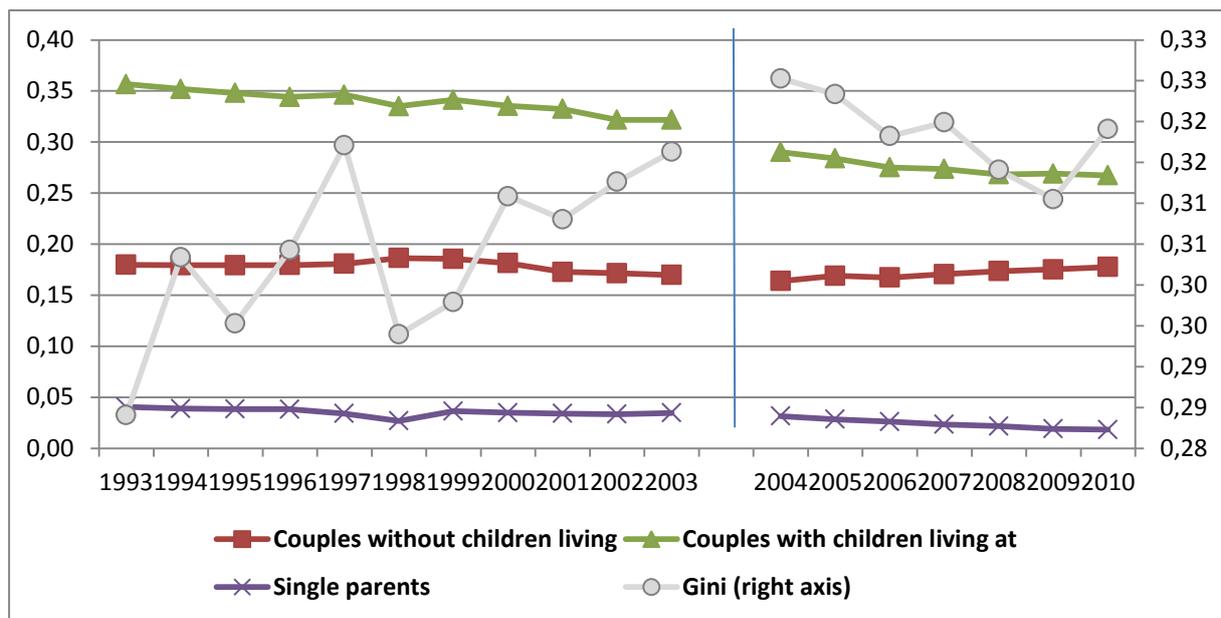
According to the HBS data, since 1993 the share of households consisting only of couples with dependable children¹⁵ kept declining from 35.7% in 1993 to 26.7% in 2010 (Figure 3.10).¹⁶ Percentage of single-parent households seems to have declined as well, but given data on divorces and extramarital births, this most likely means that single parents less often form a separate household. The decline in share of households with children (living only with their parents) is consistent with the fertility trend: children born during the “baby boom” (1979-1983) are not classified as dependable anymore.¹⁷

¹⁵ Dependable child is a biological or adopted child until it either reaches the age of 25, or gets married or becomes financially independent.

¹⁶ Households consisting of a couple with children and someone else (for example family or friends) and similar more complex household structures were classified into different categories that were changing in time, so they are excluded from this comparison.

¹⁷ They reached 18 by 1997-2001 or 25 by 2004-2008, and some of them already created their own households, became financially independent or got married.)

Figure 3.10. Households by family type.



Note: Since 2004 data were weighted according to household size

Source: HBS

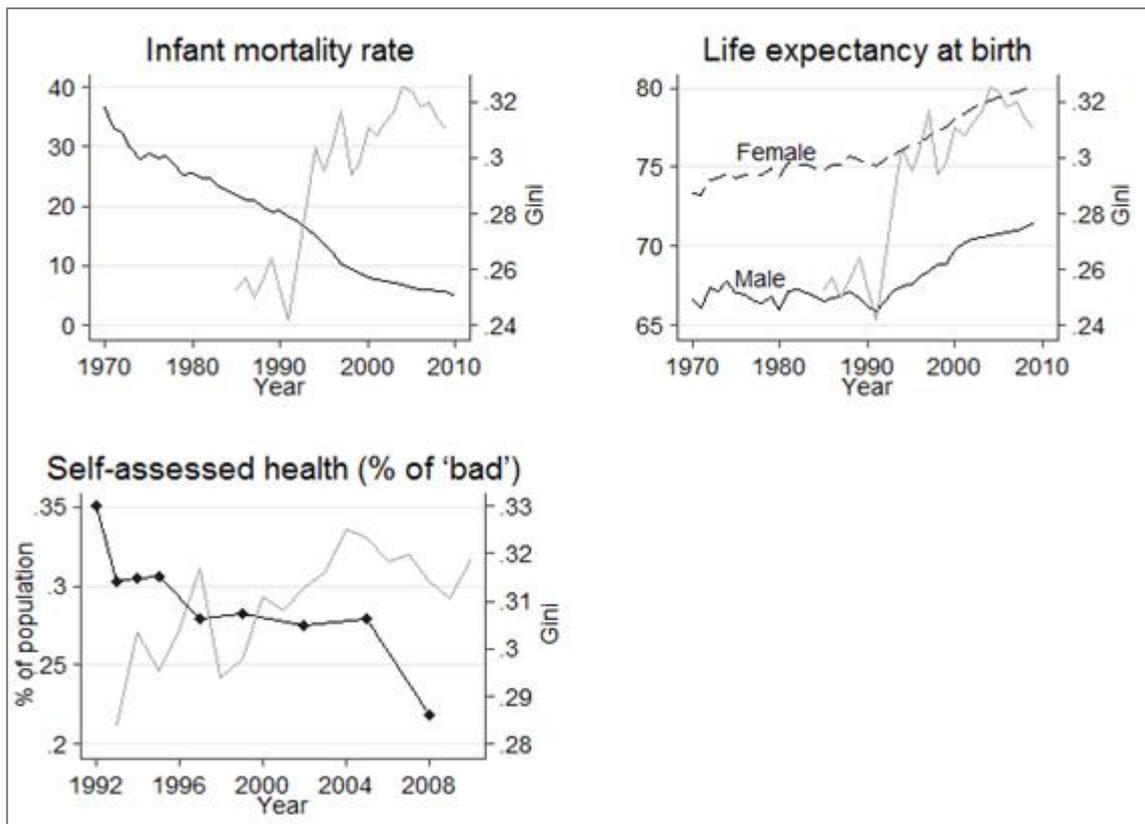
3.6. Levels and trends in health inequalities with objective and self-reported measures

Main health indicators in Poland show a significant improvement during the last few decades. Since 1970, we observe a decreasing infant mortality rate. Since 1991, after the economic transition, we have also experienced a rapidly growing life expectancy of both men and women (Figure 3.11).

We can see a similar, yet slightly weaker, trend in people's self-assessed health status – the share of people rating it as rather bad or very bad declined from 35.1% in 1992 to 21.9% in 2008.

Health inequality is a difficult subject, because of endogeneity: it results from differentiation of lifestyle, wealth and social standing, but also biological variations, which in turn influence one's income, social status and education. Research shows that one's health is correlated with income, but their influence on educational attainment is partially independent of each other (Deaton and Paxson, 2001).

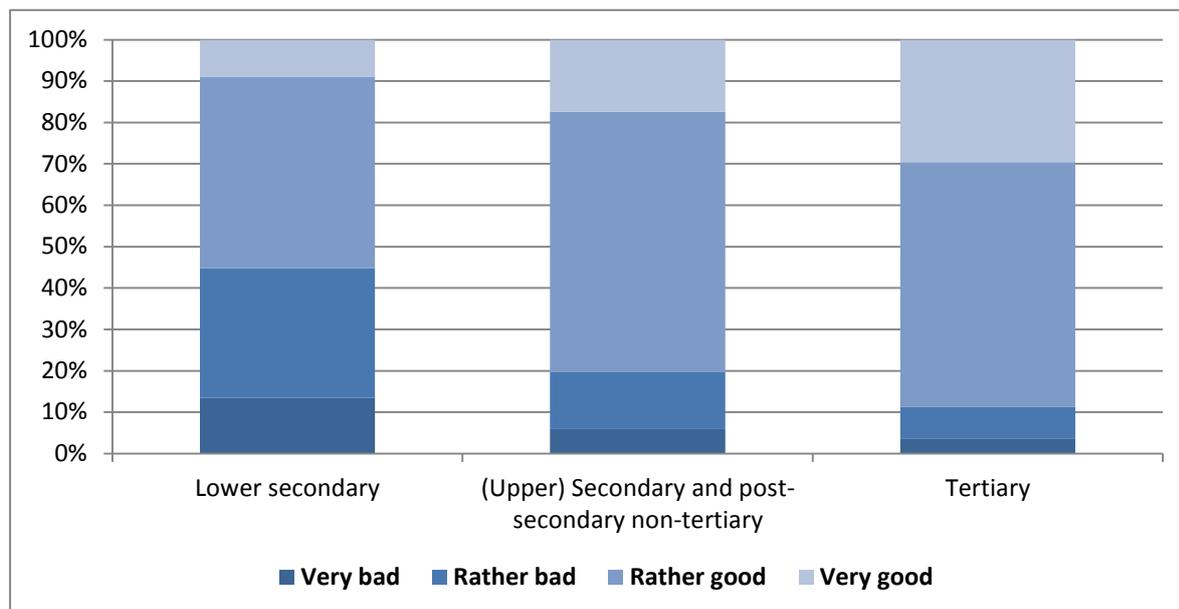
Figure 3.11. Life expectancy at birth and infant mortality rate.



Source: CSO, PGSS

In 2008, educational attainment differentiated responses concerning one's health quite significantly (Figure 3.12). 44.8% of people with lower secondary education declared their health as rather or very bad, while these answers were given by only 19.6% of respondents with upper secondary or post-secondary non-tertiary education (ISCED 3-4), and by 11.2% with tertiary (ISCED 5-6). This means that since 1992 reported health status improved radically, but the magnitude of discrepancies between respondents with different educational attainment remained at a similar level. If in 2008 the answers of people with lower secondary education were to mimic those of people with tertiary, then 33.2% of respondents with lower secondary education would have to change their health status answers. In 1992 it would have to be a similar percentage of 33.6%.

Figure 3.12. Answers to question “How would you rate your health?” by educational attainment in 2008 (population of 25 or more years).

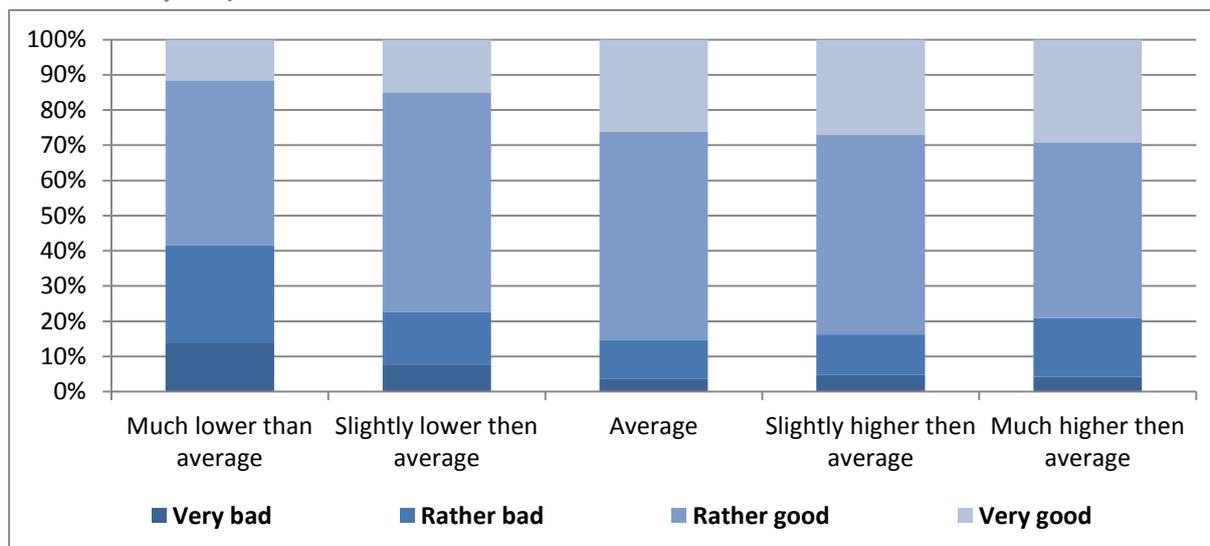


Note: Primary education or below is not included because of low frequency and a very strong correlation with age (and, as a result, health). The relationship between education and health self-assessment does not change even when controlled for age.

Source: PGSS

Self-rating of health seems to depend also on income (Figure 3.13). The most distinct category is those who consider their income as “much lower than average”: as many as 42% of them view their health as “rather bad” or “very bad”, in comparison with 22% or less for the remaining self-rated income categories. People considering their income as average or slightly above the average view themselves as the healthiest, while a small group of those who consider their income as “much higher than the average” assess their health in a similar way to those who are slightly below the “standard” income. This dependency may be due to the fact that wealthier people can afford to care for their health more, but on the other hand, it is natural for people who are ill to work less or stop working at all, or to stop taking care of one’s investments, which results in lower income. Panel data would be necessary to answer the question about causality; such data are not available.

Figure 3.13. Answers to the question “How would you rate your health?” by rating of one’s financial situation comparing to other households in 2008 (population of 18 or more years).

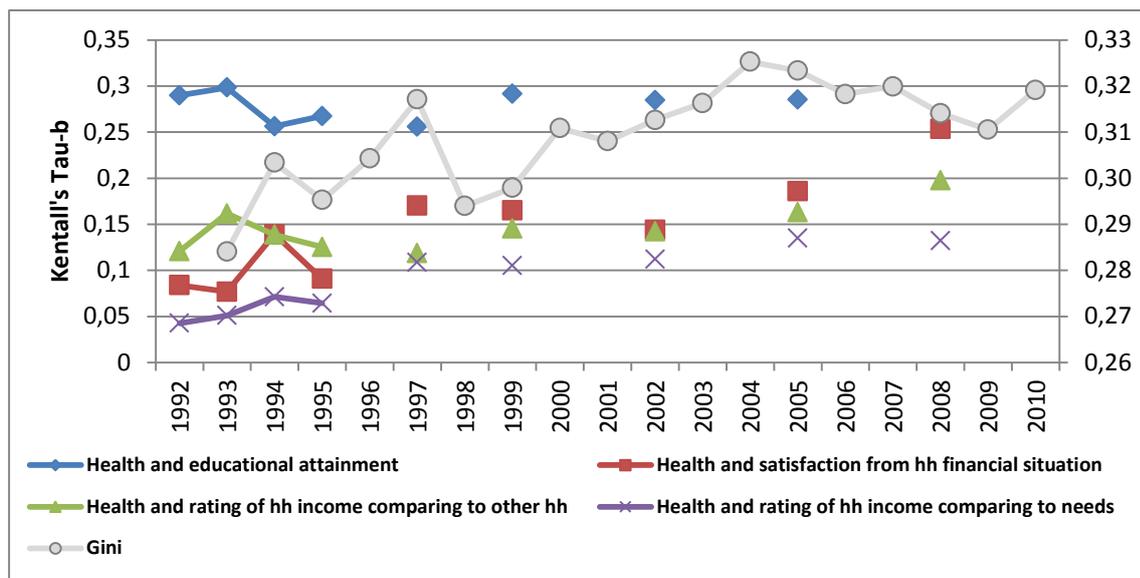


Source: PGSS

Although there has been a significant improvement in overall levels of Poles’ health since 1989, we suspect that health inequalities deepened due to rising income inequality, partially because of the expansion of private healthcare sector. First private health clinics were created in 1990s and soon they started introducing private health insurance that was bought by private firms for their employees. Since then, the range of services available in private clinics widened significantly. At the same time, some public hospitals introduced additional paid services for their patients. For example, in some hospitals a woman in labour can have a chosen midwife take care of her throughout the entire stay in hospital. As a result, range and quality of healthcare services available differs significantly depending on one’s income position.

Figure 3.14 shows that the relationship between educational attainment and self-assessed health fluctuated throughout the 1992-2008 period without a clear trend. Financial situation on the other hand (also self-assessed) seems to have a weaker influence on one’s health self-assessment, but this relationship changed more significantly (becoming stronger) over time. In the beginning of 1990s, changes in the correlation between satisfaction from household’s financial situation and health status seemed to follow strongly changes in Gini coefficient for income. This suggests that the larger income inequalities, the stronger one’s perceived health was bound to their satisfaction from their household’s financial situation. In general, all rank order correlation coefficients between health status and perceived financial situation (satisfaction with financial situation, self-rated income position comparing to other households and in reference to household’s needs) seem to be getting stronger with time.

Figure 3.14. Kendalls Tau-b between self assessed health status and other variables.



Source: PGSS

3.7. Housing tenure

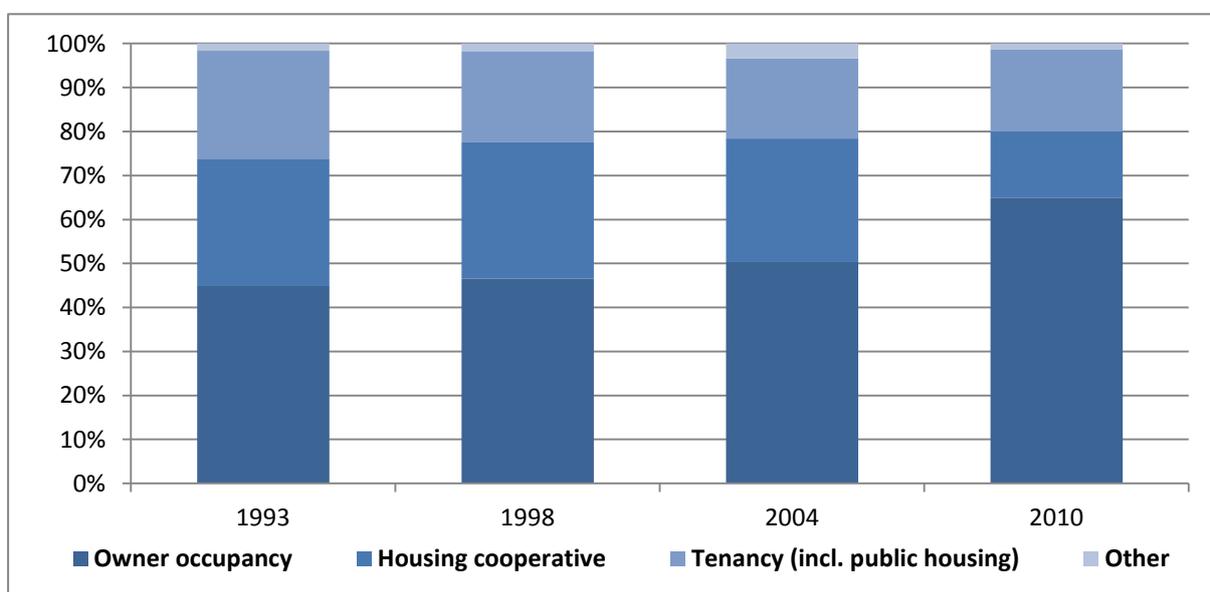
During the Communist times, public housing in Poland was strongly developed. Housing costs (including household bills, maintenance) were low (below 10% of household income according to the NBP report (2010)). After the transition, the government withdrew most of its financing of housing development. Simultaneously, many of public housing tenants were given the possibility of buying out the apartments they were living in for a discounted price, which led to a significant privatisation of social housing stock. Development of the financial sector toward an increasing availability of mortgage loans followed, enabling many to buy their own apartments. Young families were encouraged by the government to buy new apartments and fund it with subsidised mortgage loans. For those reasons, an increase in the share of households living in their own apartments or houses is not surprising. In 1993, 44.9% of households owned apartments or houses they occupied. Seventeen years later, this figure reached 65%. Simultaneously, housing costs (bills, maintenance) increased significantly (up to 17%-18% of household income in 2008), so those who were additionally burdened with a mortgage loan (which was estimated to take on average 18% of a household's income in 2008) dedicated considerable share of their expenditures to sustain the property they were living in (NBP report 2010).

The second most popular tenure status in 1993 was a membership in a housing cooperative – it used to be a common form of “owning” an apartment (Figure 3.15). Recently its popularity decreased, partially due to the possibility of turning a share in a housing cooperative into a full ownership of one's apartment, and government policies promoting this. The share of households that were renting

properties fell from 24.56% in 1993 to 18.71% in 2010 – probably because many people decided to buy a property of their own instead. This fall was most significant in the recent years (Figure 3.16).

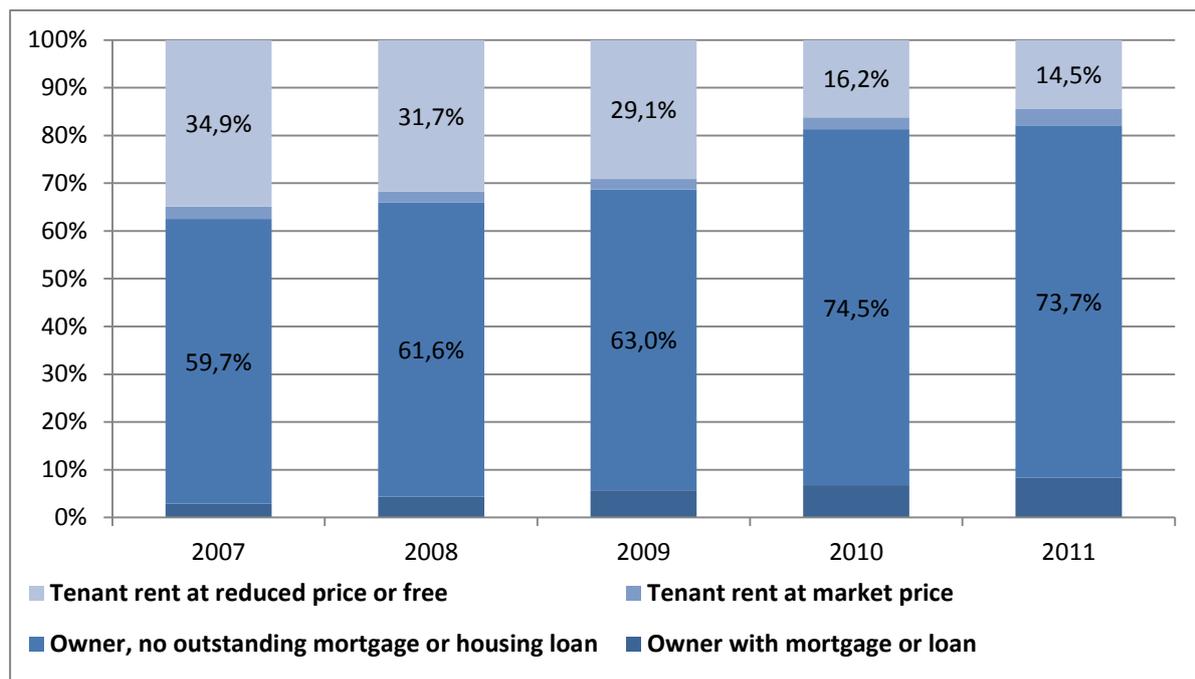
Since 2002, house prices changed dramatically. In 2006-2008, Polish real estate market experienced a boom that resulted in rapid increase in prices. It was caused both by the demographic situation (many new young households) and increased availability of mortgage loans. According to the NBP report, house prices (offers) in the primary market of ten biggest Polish cities almost doubled between 2006 and 2008. Economic crisis of 2008 made banks restrict their loan policies, which resulted in a lowered demand for houses and apartments and started a gradual decrease of real estate prices that still continues in 2012.

Figure 3.15. Households' tenure status.



Source: HBS

Percentage of owners who are burdened with a mortgage or a loan increased from 2.9% in 2007 to 8.4% in 2011 (Figure 3.16). Most significant increase concerned owners without outstanding mortgage or housing loans – according to Eurostat their share rose from 59.7% in 2007 to 73.7% in 2011. Many of these households might have bought their apartments from the state for a substantially reduced price, turning from tenants to owners.

Figure 3.16. Tenure and financial status

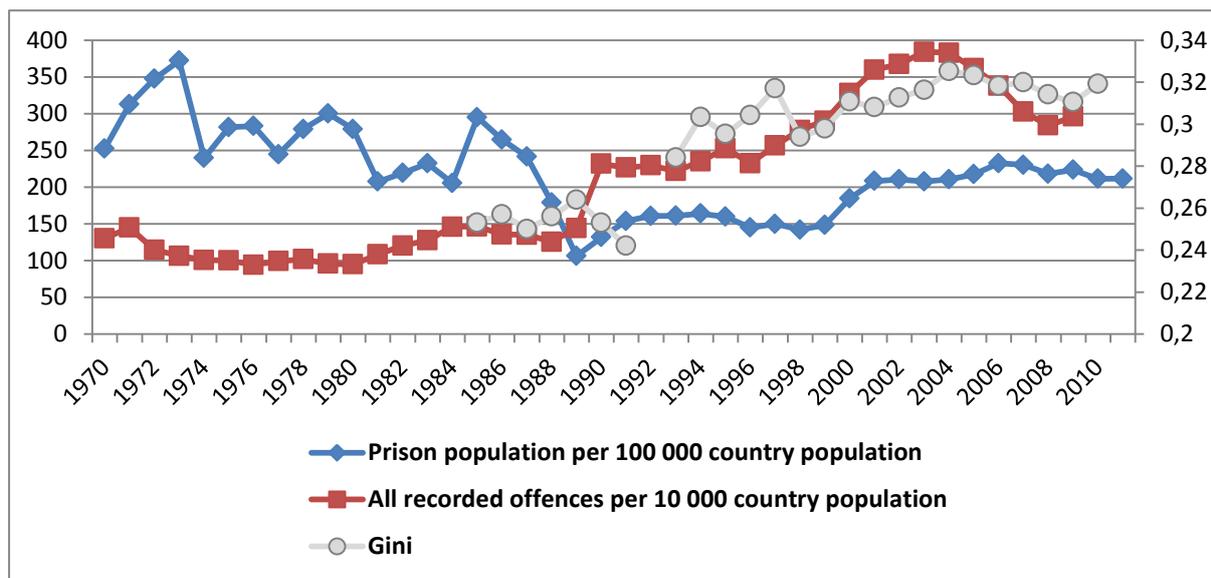
Differences between those below and above poverty line in terms of shares of tenants are relatively small. In 2007 there were slightly more homeowners among the poor but shares of owners rose faster among those with higher incomes and in 2009 the situation reversed. In 2011 83.3% of those above the poverty line owned their apartments, while the corresponding percentage for the poor was 76.5%. Currently this difference is small, yet we can expect it might increase in the nearest future.

3.8. Patterns and trends in crime and punishment

The change of political system marks itself clearly on the patterns of prison population and the number of recorded crimes. During the Communist time, the number of inmates fluctuated strongly, partially due to mass protests, militia actions and amnesties (1974, 1977, 1983 and 1984 after the period of martial law in Poland, 1986 and 1989). High prison population was accompanied by a low number of recorded crimes (Figure 3.17). After the transition, the situation changed dramatically: the number of crimes rose rapidly and the prison population diminished. In the last two decades, the number of inmates corresponded to the number of recorded crimes, which can be considered as a normal situation.

Between 1988 and 1990, the number of recorded crimes “jumped” by 106.2 crimes per 10 000 inhabitants and temporarily stabilized. Another rise began in 1997 (though the underlying trend might have begun slightly earlier, since in 1996 the value of stolen or destroyed items to be registered as a crime and not just an offence, was raised 10-fold and it might have artificially decreased the number of recorded crimes in 1996 and in the following years) reaching its peak of 383.99 offences per 10 000 inhabitants in 2003 (some part of the increase in 2001 might be due to the fact that that year drunk driving was classified as a crime). Since then we have seen a significant decrease, though not to the levels from the beginning of the 1990s, and stabilization slightly below 300 crimes per 10 000 inhabitants in years 2008-2009. Those fluctuations were more prominent in the urban than in the rural areas (Siemaszko 2009). Income inequality does not seem to be the cause of changes in crime rates since the main fluctuations in inequality levels happened later than the increase in crime rates. Crimes is also not contributing to income inequality, as crime levels were rising much faster than inequality. It seems that both trends are influenced by similar factors.

Figure 3.17. Number of recorded offences and prison population in Poland, 1970 - 2010



Source: Siemaszko 2009 and Eurostat

A similar picture emerges when we look at statistics for particular types of crime (Figure 3.18). First, in the nineties, there is an increase in the number of law violations followed by a recent decrease. The number of crimes related to property but without personal interaction or violence (domestic burglary, motor vehicle theft) rose first, followed by an increase in robberies and violent crime. The number of less popular types of crime shows yet different trends (Figure 3.19): between 1993 and 2009 the number of homicides declined by 45%, while detected drug trafficking has been on the

constant increase (from 228 in 1993 to 3975 in 2009). It is hard to tell to what extent the latter trend is a genuine reflection of an increasing popularity of drug trafficking, or whether it is influenced by an improvement of police activities related to this type of crime. It might seem that crime, especially property related, should be somehow correlated to income inequality, yet the data do not suggest any straightforward dependencies.

Figure 3.18. Number of crimes by type.

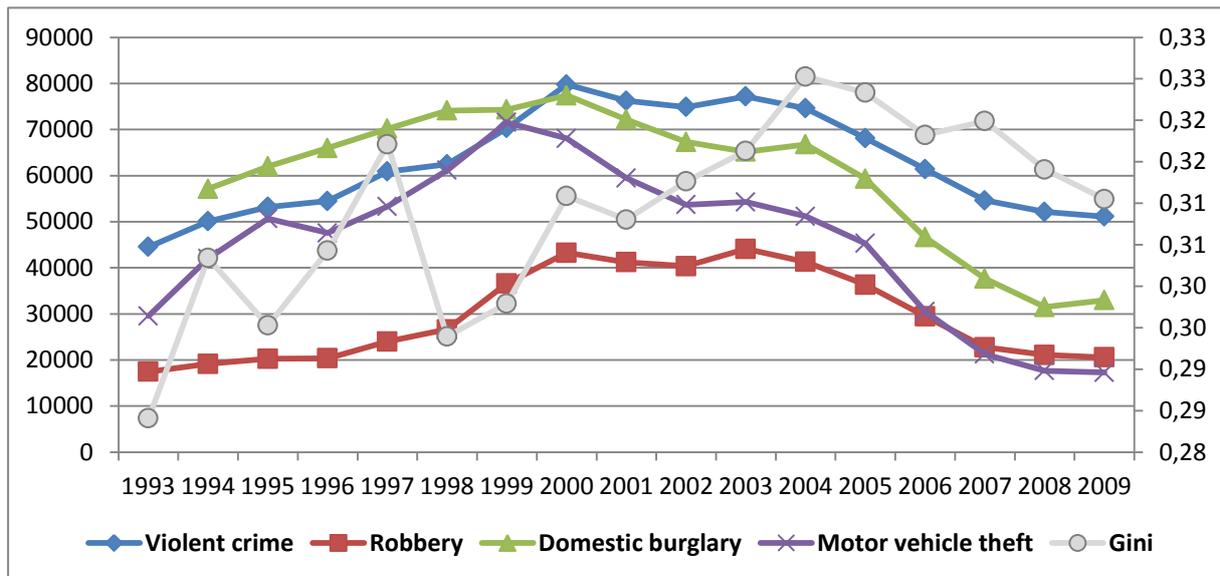
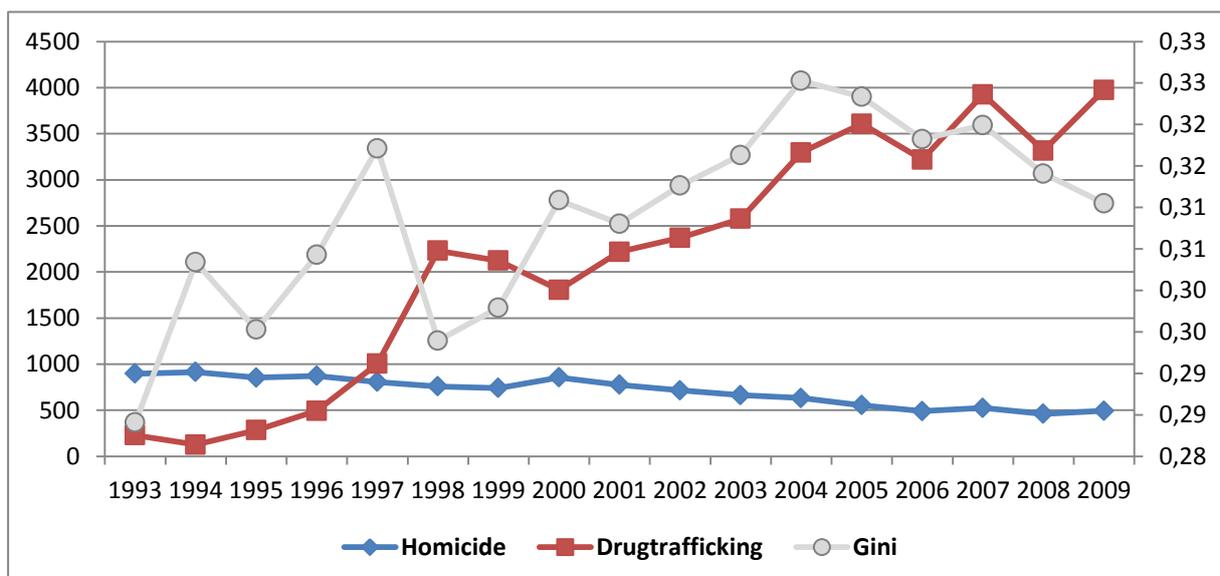


Figure 3.19. Number of homicides and drug trafficking.

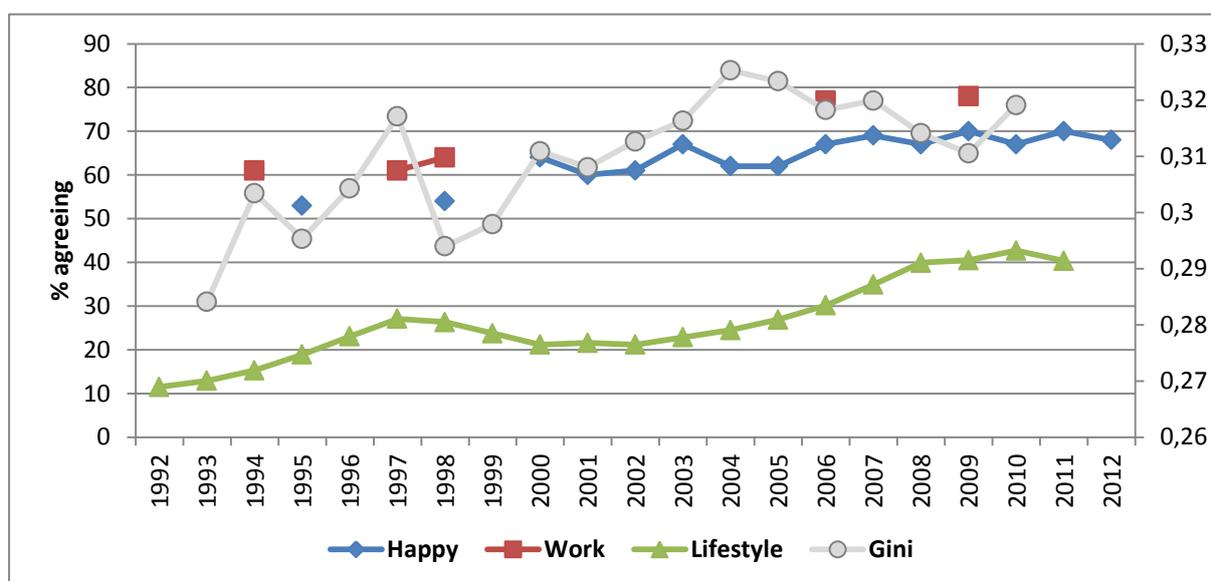


Source: Eurostat

3.9. Patterns and trends in subjective measures of well-being, happiness and satisfaction with life.

Figure 3.20 presents data on several dimensions of happiness and well-being: satisfaction with one's life, satisfaction with one's work and satisfaction with the life/lifestyle of one's family. All three series show an upward pattern, although there are clear differences between the levels of satisfaction with particular aspects of one's life. Poles have been satisfied the most with their work; the share of those who claim they are happy with their work increased from 61% in 1994 to 78% in 2009. General satisfaction with life was also rather high, and the number of respondents declaring they are happy with their life increased from 53% (in 1995) to 68% (in 2012). Finally, the economic dimension of well-being assessments – satisfaction with the lifestyle of one's family - increased as well, as in 1992 only 11.5% of respondents declared that their family lives well or very well, while in 2001 this group of respondents was as large as 40.3%. These trends, combined with the strong increase in the quality of self-assessed health (c.f. Figure 3.11), show a radical improvement in self-assessed well-being of Poles during the 1990s and 2000s, despite the rise in inequalities. It is difficult to find a mechanism that would allow to link increase in inequalities with increase in life satisfaction other than that both trends result from some other social and economic processes leading to an increased sense of control over ones' life and from objectively rising living standards.

Figure 3.20. Dimensions of happiness and well-being.



Source: CBOS BS/06/2011, CBOS BS/156/2009, CBOS Trends.

There seems to be no strongly pronounced relationship between educational inequalities and various aspects of life satisfaction. Based on PGSS data (1992 to 2008) we observe that satisfaction with work

and with life in general increase among respondents with the lowest (primary or less) and highest (university) educational level alike, from 72.5% to 77.6% for work satisfaction and 68% to 72.6% for general life satisfaction among the worst educated, and from 81.1% to 91.1% and 86.1% to 94.2%, retrospectively, among the best educated. Overall, those with better educational skills remained more satisfied throughout the period under investigation, but the difference between them and those with the lowest educational qualifications is not becoming more pronounced over time.

3.10. Intergenerational mobility

We define absolute occupational mobility as the percentage of people who have a different occupation than their father did when they were 14. Sometimes such mobility does not result from the “opening” of an occupational structure, but from changes within it. For example: with evolution of agricultural techniques, the number of farmers might decline and more qualified and unqualified workers appear, resulting in high absolute occupational mobility, but this does not mean that the occupational structure is truly more open. In order to achieve a more accurate view on intergenerational mobility, we can compare data about absolute occupational mobility with a measure of occupational structure change – divergence index is the minimal share of people who would have to change their occupational group to construct an overall identical occupational structure as generation of their fathers.

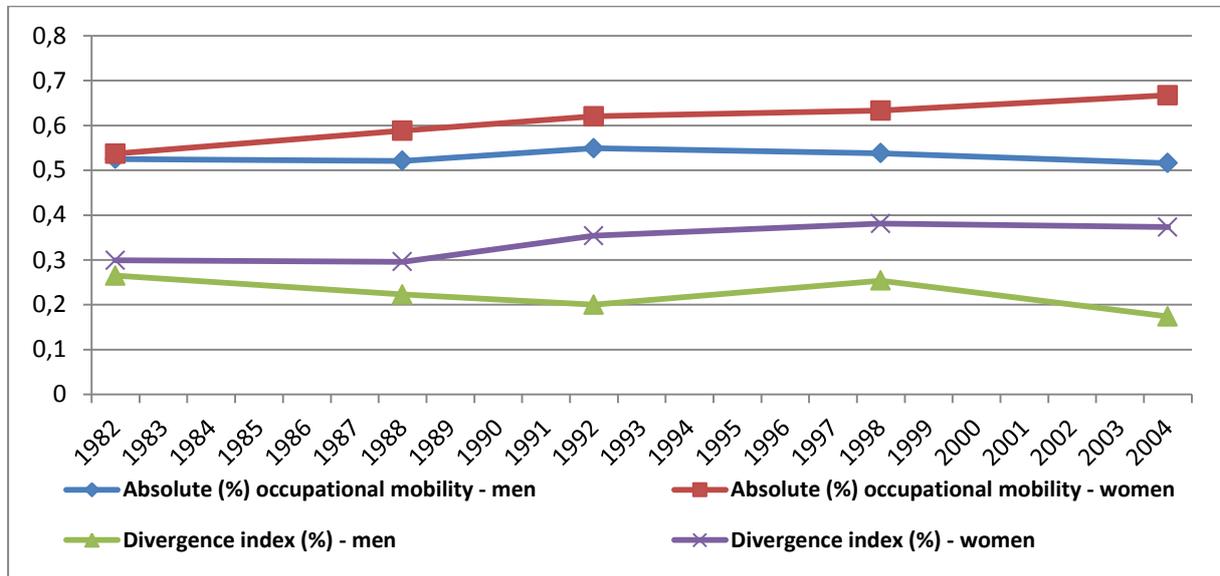
Figure 3.21 shows the results of a comparison of respondent’s occupation with that of their father at the time when the respondent was 14 years old, based on occupations divided into four broad groups:

- Higher managers and specialists
- Lower non-manual categories
- Skilled and unskilled workers
- Farmers and agricultural labourers

There are significant divergences between the occupational structure among fathers (when respondents were 14 years old) and occupational structure among their sons/daughters. In 1982 at least 29.9% women would have to change their occupation for the society to obtain an identical occupational structure as among their fathers. This percentage rose to 38.1% in 1998-1999 and 37.3% in 2004-2006. The divergence index for men equalled 26.5% in 1982, and since then that percentage fell to only 17.4% in 2004-2006. At the same time, absolute occupational mobility among women increased from 53.7% in 1982 to 66.7% in 2004-2006. There seems to be a slight upward trend even when one takes into account changes in occupational structure. Absolute mobility among men is rather stable, but considering a decreasing trend in mobility resulting from changes in

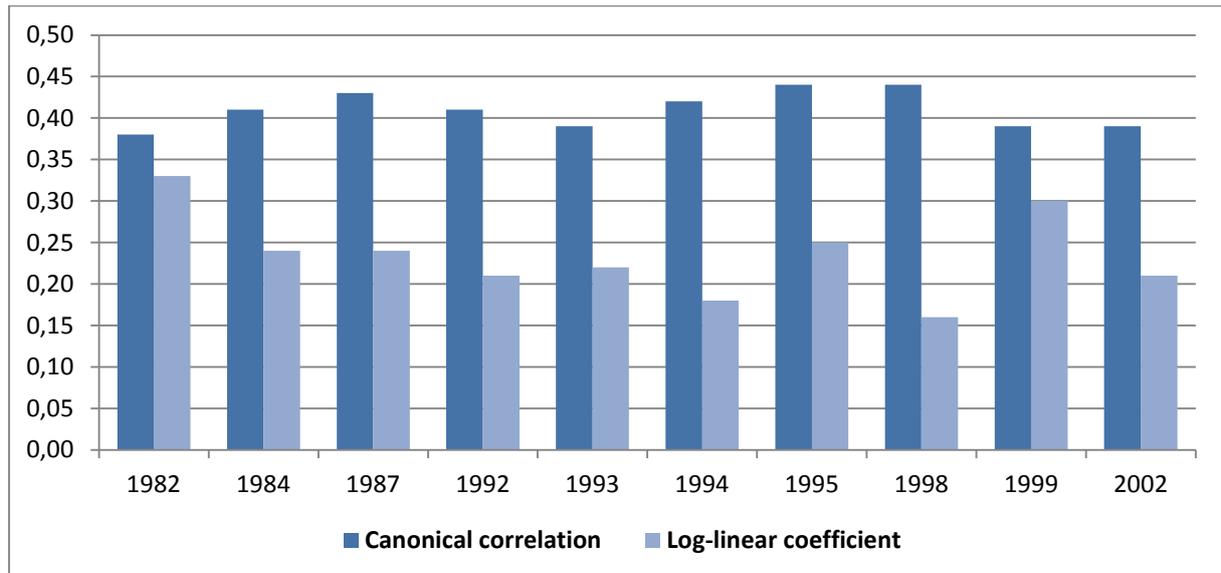
occupational structure (divergence index), one can interpret it as a sign of slightly increasing mobility as well. In general we can see signs of slightly increasing occupational mobility since 1982.

Figure 3.21. Absolute intergenerational occupational mobility and divergence of occupational structure.



Source: Domański et. al. 2008

Dependencies between father's and child's occupation were analysed by Domański (2004) by means of canonical correlation and log-linear analysis (Figure 3.22). The analyses revealed that the economic transition did not cause a dramatic increase in intergenerational mobility; there were some fluctuations with peaks before and after 1989.

Figure 3.22. Dependencies between child's and father's occupation.

Source: Domański (2004)

Note: Occupational categories used were: intelligence, lower intellectual workers, proprietors, skilled manual workers, unskilled manual workers, farmers and farm workers.

Log-linear analysis of relative mobility among men performed by Domański et al (2008) shows that in terms of classic origin-education-destination triangle, the significance of education declines, especially among men with post-secondary and tertiary education (ISCED 4-8), and within this group the influence of origin occupation became stronger since 1982 than among men with lower education. This would suggest that the role of education as the means of achieving occupational promotion declined. One of several possible explanations for this fact is that the oversupply of people with tertiary education increased rivalry among well educated people that is most often won by those with well positioned parents. In terms of inequality this means an increase, since achieving a better occupational position by investing in education became harder.

According to Domański (2004) intergenerational mobility in Poland is at the similar level to other European countries. Unfortunately, all of his analyses are based on categorisation of occupational groups, since data on income of one's parents are unavailable or unreliable.

3.11. Conclusions

There are several dimensions to the Polish story of inequality's social impacts. Some conclusions are positive (at least given the data that are currently available), i.e. despite the growth of inequalities there was no growth of its negative impacts, while others lead to the opposite conclusions. Below,

we first summarize those trends that lead to optimistic conclusions, and follow with those that are the cause for concern.

First, combining evidence from EU-SILC and from public opinion surveys we have shown that there had been a significant decline in material deprivation in Poland, both by objective and subjective (self-assessed material situation) standards. However, the numbers of people who are materially deprived or at risk of deprivation are still high. The quality of housing has improved significantly, mostly due to increased spending on property modernization. As a result, the number of Poles living in deprived accommodation halved since 2005 (when it was as much as 30%).

Second, despite the growth of inequalities, subjective measures of well-being show that health quality in Poland has significantly improved, and life expectancy increased. However, the strength of dependency between education and health remained similar since 1992, and the relationship between self-assessed income (comparing to needs) and health increased over time, closely following changes in Gini index.

Also despite the increase in inequalities in the 1990s and 2000s, Poles have become significantly happier with their life in general, their work and their family's lifestyle.

Patterns of family formation and breakdown, however, do not lead to optimistic conclusions. Changes that Polish society has undergone since 1970s have been so dramatic that they are labeled as the second demographic transition. The significant fall in fertility rates, postponing of marriage and the fall in marriage rates started even before the economic transition. Postponing childbearing and an increased percentage of out-of-wedlock births took place mostly after the system change. Most significant changes in household composition took place in the periods of 1970-1978 and 1995-2002. In general, there has been an increase in single and two-person households, accompanied by a significant decrease in the number of households with four or more people. Since 1993, the percentage of households with dependable children has fallen steadily, mirroring the falling fertility trend in Poland.

Occupational mobility seems to have slightly increased between 1982 and 2006, yet more detailed analysis shows that the in fact significance of education for achieving higher occupational status slightly declined.

Indicators relating to social cohesion are rather difficult to interpret. First, crime and punishment rates increased significantly since 1989. This, however, despite temporal concurrence, should be linked to reporting policy rather than changes in inequalities. Second, over-time patterns in informal sociability suggest that the effect of income inequality on social ties is limited to weaker ties (if any at all).

Political and cultural impacts

4.1. Introduction

This chapter analyses the effect of income inequality on a range of political and cultural/attitudinal factors. There is a growing body of literature showing that income inequality and social polarization resulting from it have a negative effect on citizens' political engagement and political attitudes, and that the perceptions of excessive inequality undermine political legitimacy and may lead to withdrawal from social and political life (Solt 2008, Uslaner and Brown 2005, Lancee and Werfhorst 2012). In what follows we look whether this has also been the case in Poland over the past 20 years.

The majority of the public opinion data used in this chapter comes from the Polish General Social Survey (PGSS – the Polish edition of ISSP) or from the Center for Public Opinion Research (CBOS) reports. As before, to make the relationship between income inequality and political and cultural factors easier to analyse, we plot political and cultural indicators against Gini calculated for the equivalised net income.

4.1. Perceptions of income inequality

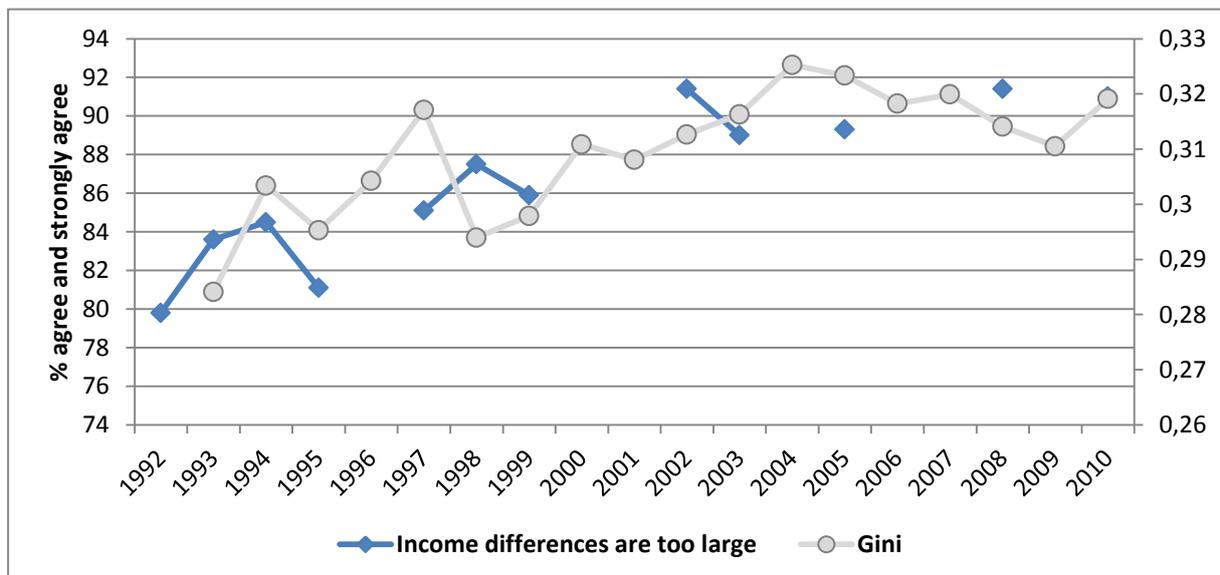
The point of departure for this chapter is an analysis of the relationship between changes of inequality levels and Poles' perceptions of them. Existing literature is mixed on whether changes in macro-level indicators have an impact on individual attitudes and behaviour; this is perhaps best visible in research on economic voting, where it has been shown that economic growth is too abstract a concept to have a direct and stable effect on political attitudes and political choices. However, if changes in inequality were to affect political and social behaviour and attitudes, this would be happening via perceptions of those changes.

Early literature on the link between rise of inequalities and political and economic transformation in Central-Eastern Europe posed that increase in inequalities may be welcome by the post-Communist citizens, who see such changes as carrying legitimacy (Kelly and Zagórski 2004). However, Loveless and Whitefield (2011) have found, on the basis of data from post-Communist Europe, that the objective measures of income inequality (Gini) have only a very weak impact on perceptions of inequalities.

We do not have data over time on perceptions of *levels* of income inequality in Poland, i.e. whether there is little or much inequality. We do, however, have data on whether Poles believe there is too much, just about right or too little income inequality. Figure 4.1 below plots percentages of people who strongly agree or agree with the statement "Income differences in Poland are too large" against

Gini. These data show that not only have Poles been aware of increasing income inequalities, but also they have perceived their level as too high. Percentage of respondents who believe that income inequalities in Poland are too large has been rising from 80% in early 1990s to 91% in 2010. The pattern of the plot of this variable follows Gini very closely; this is best visible when the independent variable is lagged by 4 years (not shown here).¹⁸

Figure 4.1. Income differences in Poland are too large



Source: PGSS.

This is hardly consistent with expectations that income inequality will be a welcome and popular outcome of economic transformation; proportions of respondents who see “too much inequality” have been rising steadily through an entire period under observation. It also runs contrary to findings by Loveless and Whitefield (2011), as in Poland levels of income inequality do affect perceptions of it.

In early 1990s perceptions of inequalities were strongly influenced by education, but over time, with increase in income inequalities, these differences disappeared. PGSS data show that in 1992 80.6% of respondents with primary education or less agreed that income differences in Poland are too large, in comparison with 63.6% of respondents with university education. Over time both groups became more critical of inequality levels in Poland, and in 2008 they converged at around 90%.

Given that there is a clear pattern between levels of income inequality in Poland and people’s perceptions of it, we can now move on to investigating whether inequality has affected attitudes and participatory behaviour of Poles.

¹⁸ To explore the causality between income inequality and political outcomes, we have employed various lags of Gini. Whenever there seems to be a relationship visible, it is always for a 3 or 4 years lag, suggesting, that changes in income inequality take about 3 to 4 years to have an effect on political outcomes.

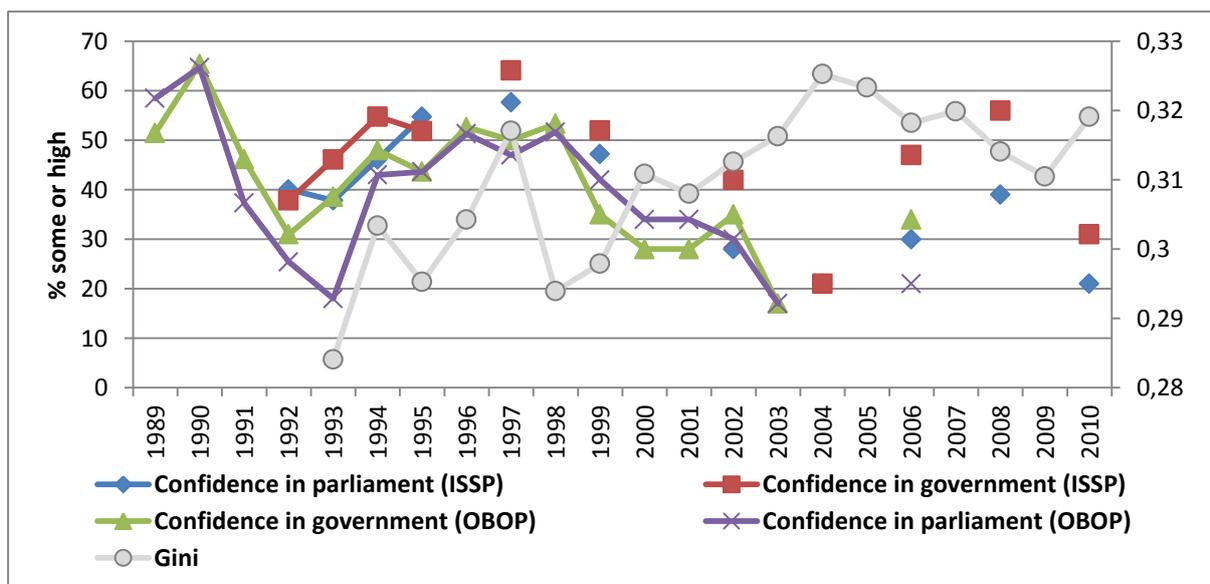
4.2. Trust in others and in institutions

4.2.1. Political trust

Confidence in political institutions has been defined by previous research as the key aspect of system legitimacy, which is likely to suffer when citizens experience declining economic returns, or when they perceive the dominant economic order as unjust (Kluegel and Mason 2000). Given the patterns presented above – increase in income inequality and rising levels of disapproval for this – we should expect a strong negative relationship between Gini levels and confidence in political institutions.

We have data on confidence in government and parliament from two sources: public opinion research centre OBOP and ISSP. The former source covers an earlier period (1989-2006), the latter – 1992 – 2010. As above, confidence in political institutions is plotted against Gini. First, it is clear that confidence in government and parliament display an almost identical pattern, and that applies to data from both sources. Secondly, despite slightly different wording used by respective surveys, the patterns of political confidence (i.e. confidence in government and parliament) are very similar. Thirdly, there seems to be a reversed relationship between Gini and political confidence. While we cannot determine the exact lag of the effect of inequality on confidence in parliament and government, it seems clear from Figure 4.2 that the relationship between them is negative, and it is particularly pronounced since late 1990s, when an increase in inequality is accompanied by a steady and significant decrease of confidence in political institutions.

Figure 4.2. Income inequality and confidence in parliament and government

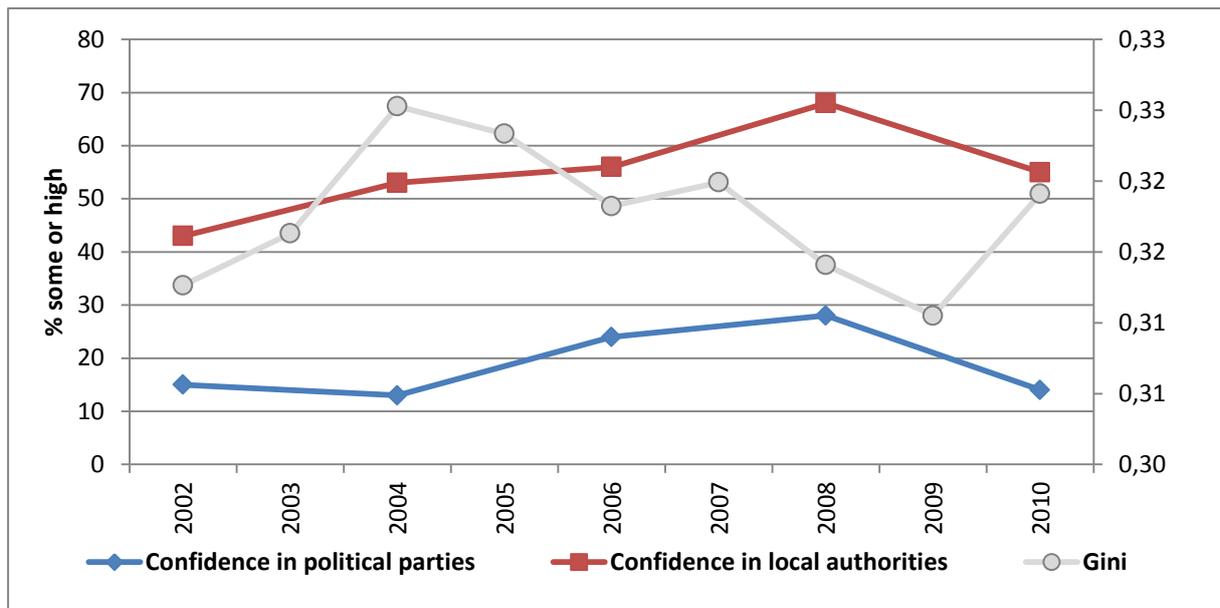


Source: OBOP (data points represent yearly averages from monthly polls); ISSP

PGSS data indicate that confidence in government and parliament is stratified by education, and that changes in levels of institutional trust are of a different magnitude depending on the educational level. For example, in 1992 43.3% of respondents with the lowest education level (primary or less) indicated lack of trust in the parliament and 41.1% of them indicated distrust towards the parliament.¹⁹ In 2008 35.3% and 41.4% of the same educational groups indicated distrust towards the government and parliament, respectively. During the same time distrust towards the government among respondents with university education decreased from 60.3% to 33.8%, and distrust towards the parliament decreased from 54% to 39.8%. This shows that while respondents with low educational qualifications were initially more trusting towards the government and parliament than those with high educational qualifications, their attitudes changed very little (in the case of government) or not at all (in the case of parliament), while political distrust among respondents with university education declined radically between 1992 and 2008, resulting in the convergence of attitudes towards national authorities.

Data on confidence in political parties and local authorities covers only the 2002-2010 period. In the case of both indicators levels of confidence fluctuate during this period, but there is neither a strong increase nor a decline of confidence. During the 2002-2010 period Gini is also fluctuating rather than moving in any particular direction, thus plotting indicators of political confidence against Gini shows little relationship. This suggests that income polarisation is perceived as a national government affair, which local authorities or party members can do little about.

¹⁹ Because of the change in wording of answers to these questions, 'distrust' part of the scale is used. This 'end' of the scale allows for a direct comparison of pre- and post-2002 answers, while the 'trust' end of the scale was modified significantly. Comparison of the data for the overlapping period (2002 and 2005) gives us confidence that the 'distrust' answers from before and after 2002 are directly comparable.

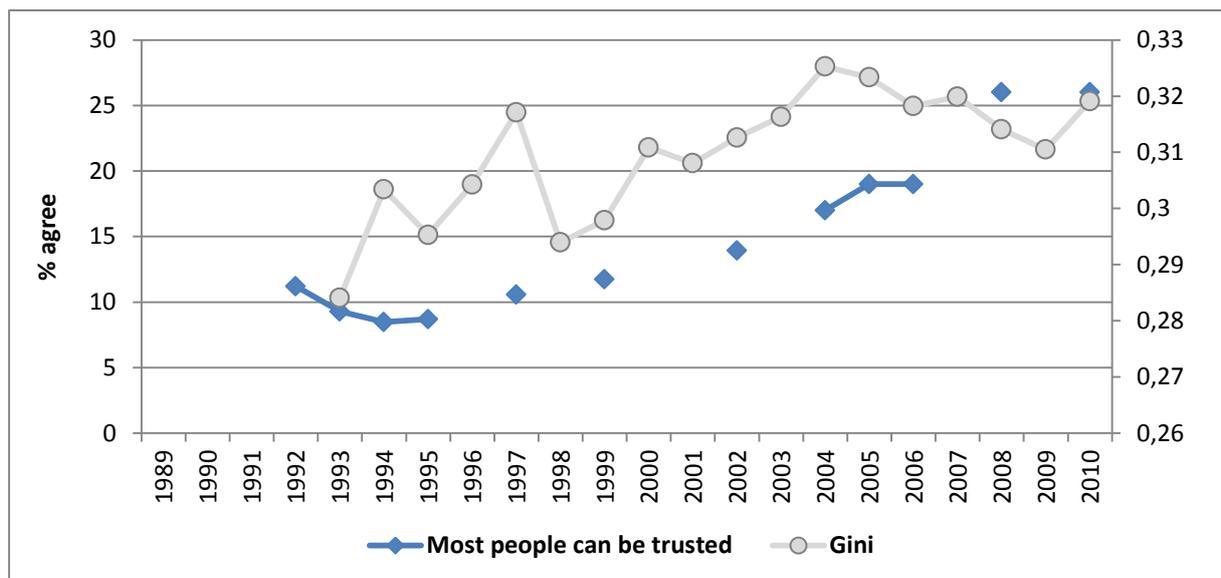
Figure 4.3. Income inequality and confidence in political parties and local authorities.

Source: PGSS.

4.2.2. Trust in other people

Generalised trust, however, shows a pattern that implies a positive relationship with income inequality (Figure 4.4). First, contrary to confidence in political institutions, after an initial decline in early 1990s, social trust has been steadily rising. Secondly, in Poland growth of income inequality has been accompanied by an increase in trust in others, which is in stark contrast with findings from stable western democracies (Rothstein and Uslaner 2005, Uslaner and Brown 2005). As with happiness and well-being (Figure 3.19), it is difficult to propose mechanisms linking increasing social polarization with rising levels of social trust, other than to refer to processes concurrent with the growth of inequalities under conditions of political and economic transformation. The most probable explanation points to economic growth and a rise of living standard associated with it, as it is widely acknowledged that wealthier countries have happier and more trusting citizens, providing they are democracies (Inglehart and Welzel 2005).

Figure 4.4. Generalised trust



Source: PGSS (1992-1999), CBOS BS/29/2010 (2002-2010).

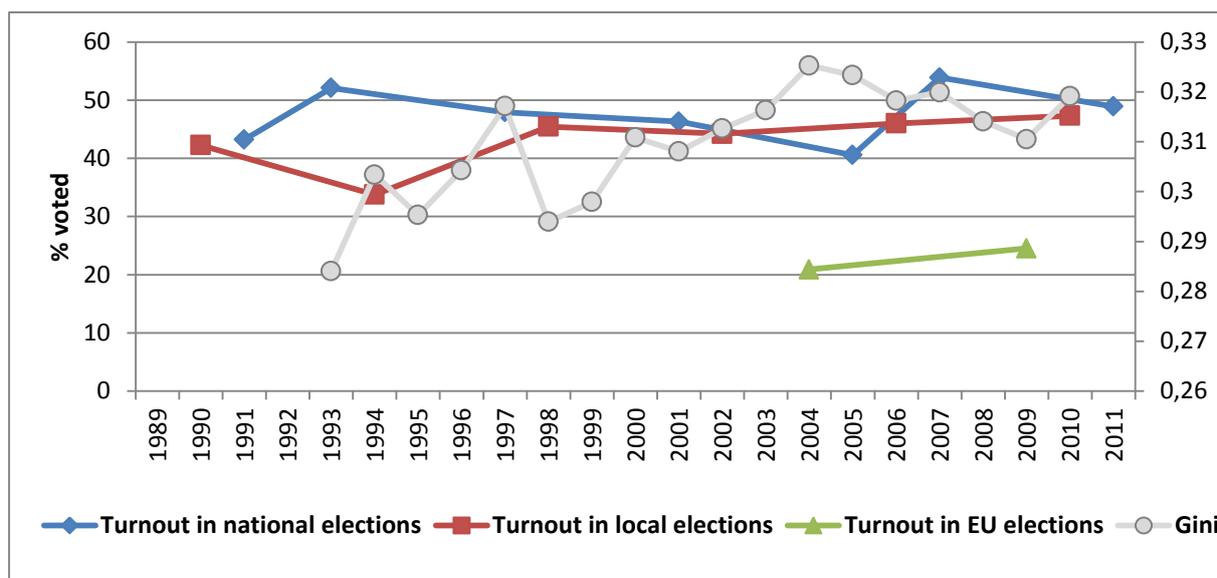
4.3. Political and civic participation

4.3.1. Voting turnout

Increasing social and economic polarization is expected to erode all dimensions of political legitimacy. We have already shown that it does undermine confidence in political institutions (section 4.2.1). Political participation forms a behavioural dimension of system legitimacy (Gilley 2006); based on literature on stable Western democracies, we should observe an inversed relationship between Gini and voting turnout.

Figure 4.5. plots voting in the national, local and EU elections against Gini index. Voting turnout since 1989 has been low in Poland; national election mobilised more voters than local elections and EU elections, but even in national elections turnout has never exceeded 54%. It is clear, however, that there is a reversed relationship between national and local election turnout; their plots seem to form almost mirror images of each other. Interestingly, the national election vote seems negatively correlated with income inequality, as proposed by literature (Solt 2008, Lancee and Werfhorst 2012), but local elections turnout is increasing as inequality is increasing. This confirms our earlier conclusions from the analysis of political confidence: income inequality is perceived as a country-level rather than local-level phenomenon, thus it has little effect on local elections.

Figure 4.5. Voting turnout



Source: Polish Electoral Commission.

Table 7. Declared voting turnout in parliamentary election by educational group (lowest vs. highest).

Election year	Primary or less	University education (incomplete and a degree)
1991	40.5	80.9
1993	49.2	85.1
1997	48.6	77.1
2001	53.5	75.8
2005	71.1	83.3

Source: PGSS 1992, 1994, 1997, 2002 and 2008.

Educational inequality has a visible effect on voting turnout: based on PGSS data (using the survey that was the nearest in time following the election), we can see pronounced differences in declared voting turnout between respondents with the lowest (primary or less) and university education. Table 7 shows that as little as 40.5% of the former and as much as 80.9% of the latter group declared voting in the 1991 election. This difference was declining over time, however, not counting the 2005 election, the difference in declared turnout between these two groups was about 20%.

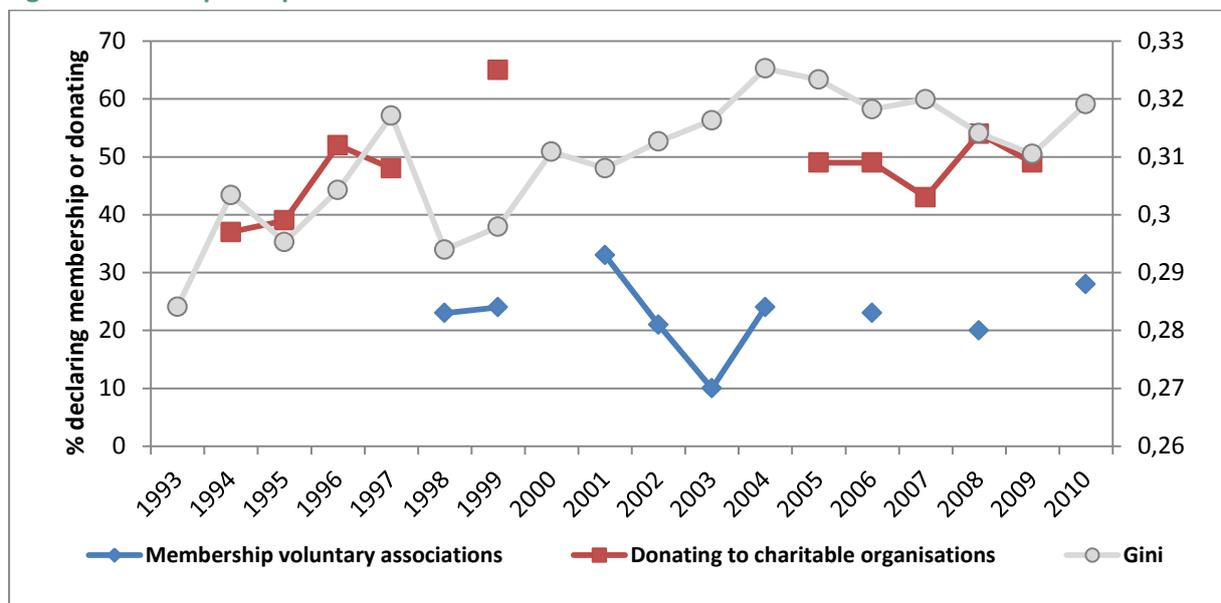
4.3.2. Civic participation

Similarly to political participation, in the previous research civic participation has been shown to be negatively affected by income inequality (Solt 2008, Uslaner and Brown 2005). However, growth of inequalities and marginalisation of certain groups is likely to stimulate charitable behaviour and participation in at least some types of associations. Those initiatives that focus on supporting people

in need are likely to grow and expand as there is a growing demand for them. Therefore, the trend of rising civic participation and charitable donations as a result of increasing income inequality could be explained by reference to mechanisms linking charity-oriented civic participation with a growing number of people in need.

Figure 4.6. plots levels of participation in civic associations and charitable giving (estimated on the basis of survey data) against Gini. Donating and Gini have an almost identical pattern (which is best visible when Gini is lagged by about 4 years), while associational membership remains at a lower level than donating, and fluctuates around 20% for most of the period. This suggests that financial contributions are indeed directed largely at those in need, while associational membership is mainly focused on Poles' own social needs and as such is independent of the patterns in income inequality.

Figure 4.6. Civic participation



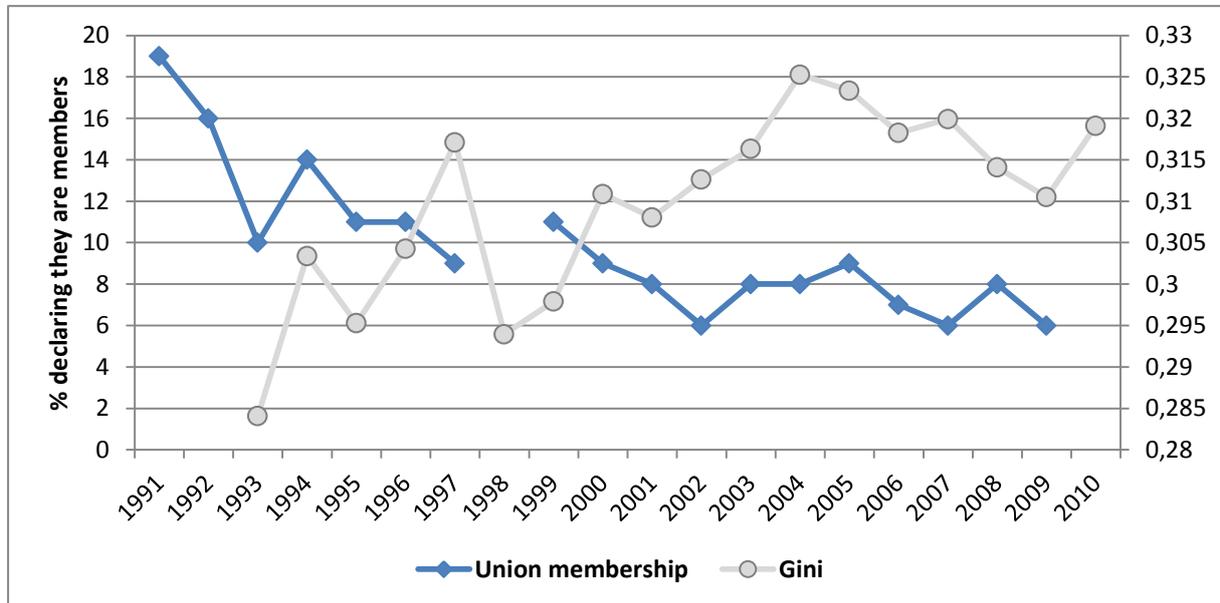
Source: CBOS BS/16/2010.

4.3.3. Union membership

Unlike in the case of civic participation, union membership shows a clear negative relationship with income inequality. Between 1991 and 1997 declared trade union membership fell from 19% to only 10%; as inequality was raising in 2000s, membership was falling further to as little as 6% in 2009. There are several possible factors explaining this decline, which are also linked to inequality. First is growth of the private sector, where levels of unionisation are significantly lower than in the public sector. The second relevant factor is the change in the prevalent stable full-time employment to

other, more temporary and more flexible forms of employment. Finally, growing long-term unemployment also depresses unionisation rates.

Figure 4.7. Union membership



Source: CBOS BS/109/2010.

4.4. Political values and legitimacy

4.4.1. Voters' and parties' ideological position

Growth of inequalities makes voters' policy expectations gradually shift to the left. Increasing social polarization in terms of income leads to a polarization of lifestyles and life chances. Society becomes gradually more pyramid-shaped, with the bottom part becoming a left-wing electorate. Whether increase in inequalities shifts position of the median voter to the left and whether political parties follow this movement is likely to depend on a number of additional factors (see Pontusson and Rueda 2008, Tavits and Letki n.d.). Nevertheless, median voter and party position shifts over time may be instructive as to how growth of inequalities affects voters' expectations. Table 6 below presents entries for 1991-2007 parliamentary elections.

Median positions of parties and voters have been calculated for the economic issues only, and they are based on manifesto ideological scores from Manifesto Research Project (Volkens et al. 2011). The first column lists median voter position for each election year, calculated based on the ideological scores of party manifestos taken from the MRP and the distribution of votes among parties. Contrary to expectations, as inequality is growing, voters shift to the right rather than to the left. Given the

trend in perceptions of levels of inequality in Poland presented in Figure 4.1 this is unlikely to mean that Poles expected more liberal economic policies.

The second column displays parties' median position on the economic dimension: here, a significant shift to the left is observable in the 1990s, followed by parties' move back towards the centre between 2005 and 2007. The last column presents proportions of votes that were cast on radical right parties which subsequently entered the parliament; classification of parties into party families is based on MRP. The numbers of voters choosing extreme right parties in 1991 and 1993 were quite substantial: 7.7 and 5.8 respectively, however, after that no radical right party has entered Polish parliament. These results would suggest that Polish politics is free of xenophobic and nationalist elements. In fact, appeals of that sort have been popular both among parties and voters throughout the entire period, yet parties reverting to such appeals are usually classified as Christian Democratic (e.g. the League of Polish Families).

Table 8. Median party and voter position and support for radical right parties, 1991-2007

	Median Voter on the Economy	Median Party Position on the Economy	% of votes to extreme right
1991	-5.06	-7.37	7.7
1993	-9.66	-16.84	5.8
1997	1.77	-15.26	na
2001	-0.35	-12.39	na
2005	1.48	-19.49	na
2007	2.45	-9.91	na

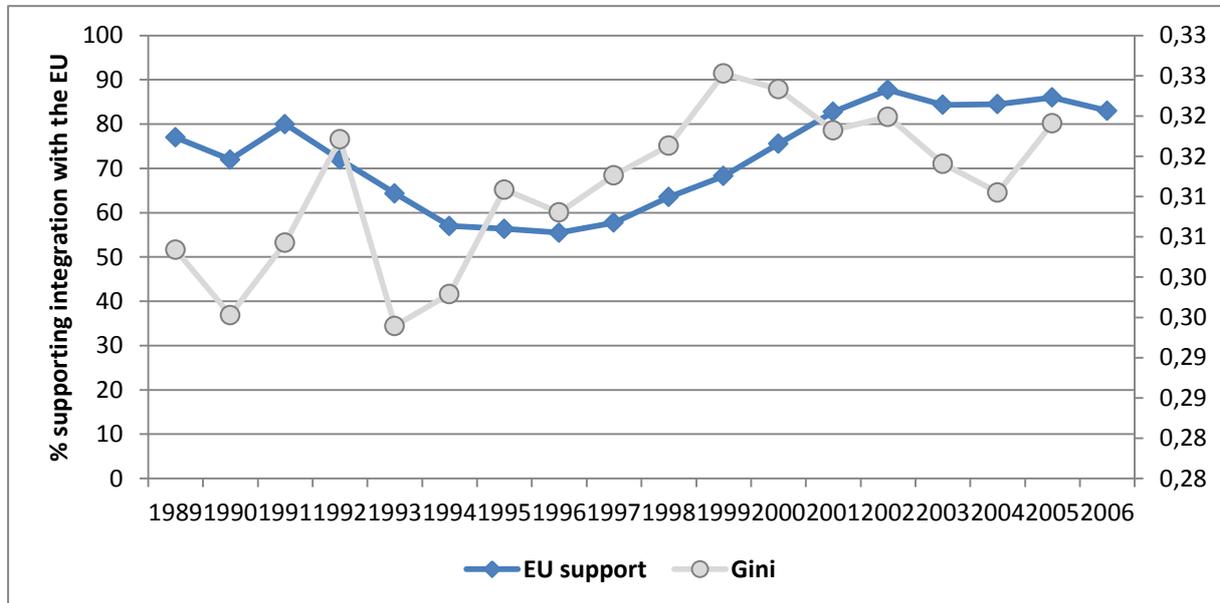
Source: Manifesto Research Project

4.4.2. EU membership

Since joining the EU in 2004 Polish society has been consistently expressing an overwhelming support for the idea of the integration with the EU. EU represents expanding life opportunities for Poles and increasing living standards in country and abroad, but also symbolises the end of transition from a Communist state to a modern Western-style democracy. Also in the 1990s integration with the EU was perceived as an opportunity to improve Polish domestic economic and international political situation; the idea of an EU membership declined in popularity in late 1990s/early 2000s as a result of mobilisation of anti-EU sentiments by right-wing parties in the time preceding the EU membership referendum. Figure 4.8 shows that there is a clear positive relationship between levels of economic inequality and support for Poland's integration with the EU. Since growing inequality, poverty and other economic ills have been usually associated with the actions of Polish government and political

elites, EU membership is in this context perceived as an external source of economic stability and a remedy to social and economic problems.

Figure 4.8. Support for Poland's integration with the EU



Source: CBOS BS/52/2011.

4.4.3. Attitudes to immigration

Contrary to most of Western Europe, the issue of immigration does not enjoy a particularly high saliency in Poland. Since it is not a socially and politically significant issue, very little data has been collected on it.²⁰ Table 7 below shows levels of support for the very radical statement that foreigners should not be allowed to take up work in Poland. The proportion of Poles who would like to ban employing foreigners in Poland almost halved between 1992 and 2004, which points to a significant liberalization of attitudes towards foreigners. Since Poland's accession to the UE, large numbers of Poles moved abroad in search of employment and better life chances. This movement has not been paralleled by an influx of immigrants willing to work in Poland. As a result, there was no economic reason for Poles' attitudes towards immigrants to become more negative.

²⁰ We have decided against quoting relevant question from European Social Survey, because their wording was inadequate for the Polish context, capturing saliency rather than attitudes to immigrants and minorities.

Table 9. Attitudes to foreigners' employment in Poland

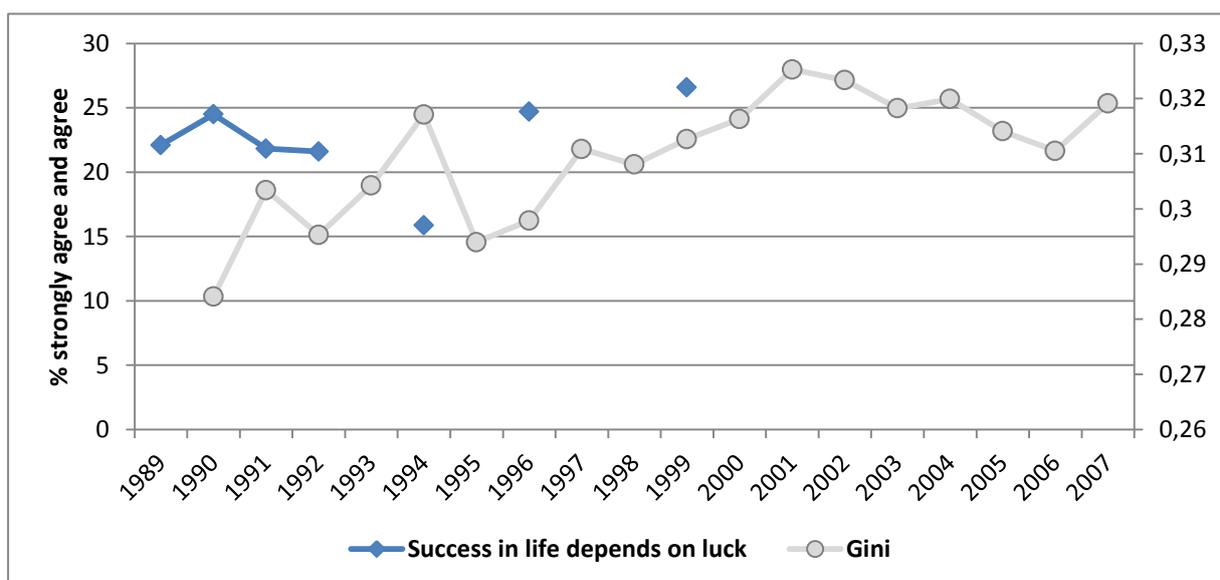
	Foreigners should not be allowed to work in Poland % agree
1992	42%
1999	31%
2004	22%

Source: CBOS BS/141/2004.

4.4.4. Success depends on luck

The sense of control over one's life, which on one hand contributes to the feeling of satisfaction with life, and on the other is a source of legitimacy for the existing social order, suffers in times of rapid social, political and economic change, such as the transformation period in Poland since 1989. Moreover, belief that success in life depends on luck (or other factors) rather than on merit has been shown to significantly effect attitudes towards income inequality (Kaltenhaler et al. 2008: 235, Loveless and Whitefield 2011).

To capture the degree to which Poles believe they can have an influence on their own life we plot data on belief that success in life is down to pure luck. Series for this item is relatively short and incomplete, covering only 7 years in the 1992-2002 period. With the exception of 1997, when only 15.8% of respondents agreed that success in life is down to luck, the levels of agreement with this statement seem to be relatively stable, ranging from 22% to 26% in particular years, which suggests that there is a negative relationship between levels of inequality and belief in meritocracy.

Figure 4.9. Success in life depends on luck

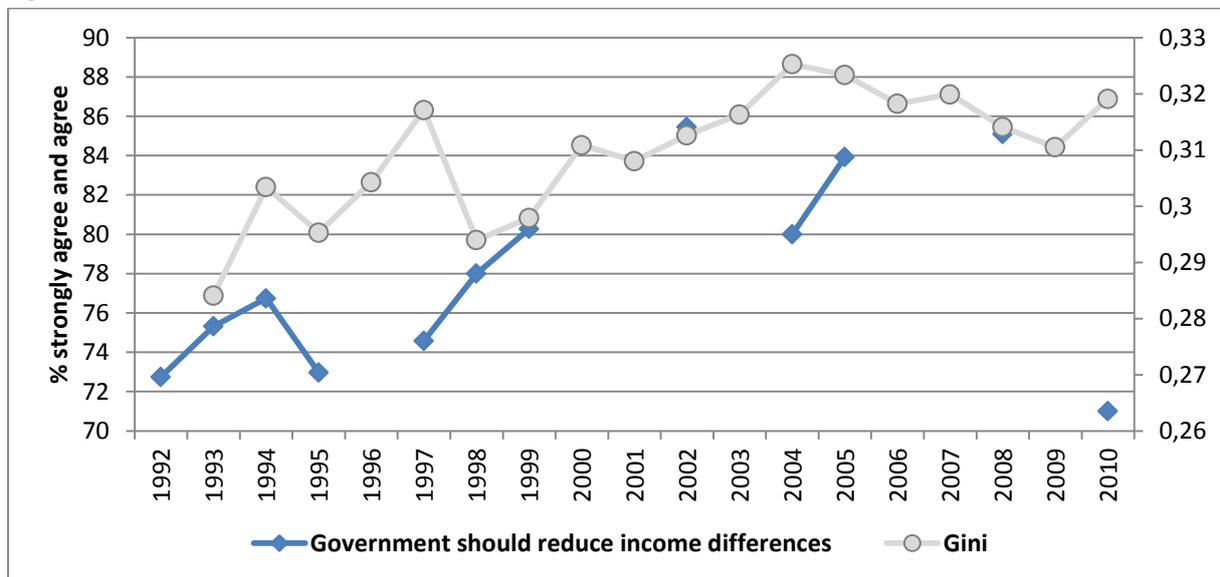
Source: CBOS BS/52/2011.

4.5. Values about social policy and welfare state

4.5.1. Opinions about social policy

Typically for a post-Communist society (Gijsberts and Nieuwberta 2000), Poles express high levels of support for governmental regulation and redistribution. As inequalities were increasing, support for government intervening in the distribution of income in Polish society grew from 72% in 1992 to 85% in 2008. There was a subsequent drop between 2008 and 2010 back to the level from early 1990s; it is too early to say whether this is just a short reversal, or a longer-term trend. Polish Electoral Survey results suggest the former, as in 2011 80.9 % of respondents agreed that “Government should undertake actions to reduce income differences”.

Figure 4.10. Government should reduce income differences



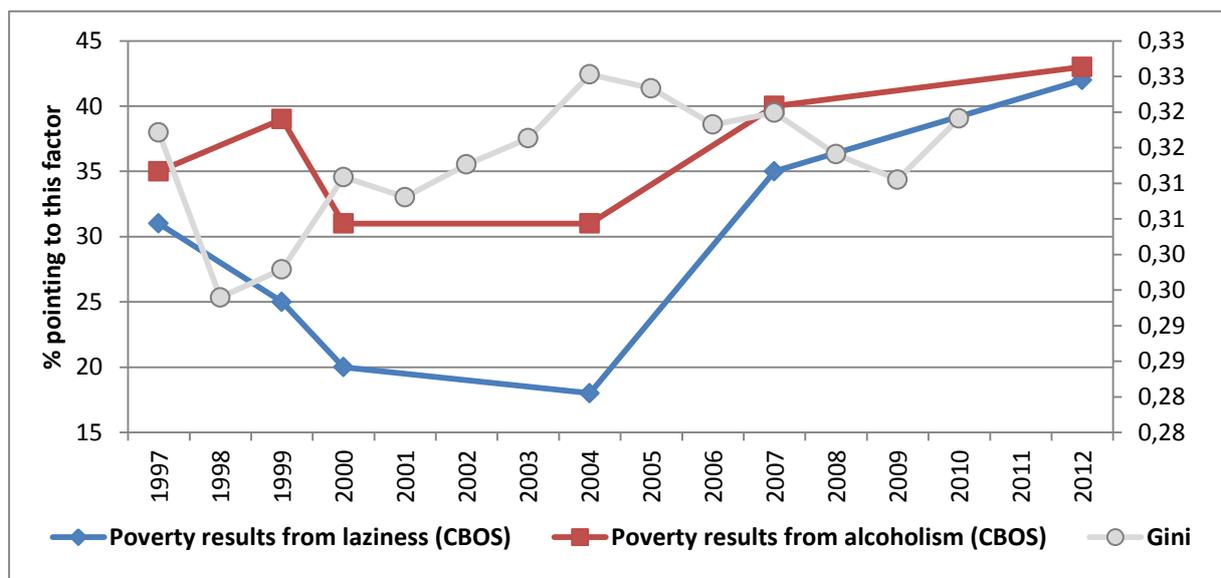
Source: PGSS.

Support for government intervention is radically differentiated by educational level. In 1992 as many as 81.1% of respondents with the lowest (primary or less) educational qualifications supported the idea that the government should reduce income differences, in comparison with only 45.1% of the respondents with the university education (source: PGSS). However, over time support for government intervention grew in both groups, albeit more slowly among those with the lowest education, and reached 92.1% in 2008 for this group, and 71.3% among the respondents with the university education (source: PGSS).

4.5.2. Sources of poverty

Data on laziness and alcoholism as the reasons for poverty is presented in Figure 4.11. The series is relatively short and incomplete (covering only 1997, 1999, 2000, 2004, 2007 and 2012), but it shows the pattern that is inconsistent with growing support for government intervention to reduce income differences (see above). First, Poles tend to see alcoholism as a more significant reason for poverty than laziness. Second, in the 1990s there was a decline in support for the statements that poverty results predominantly from alcoholism and laziness: respondents were pointing more often to unemployment as the main reasons for poverty (data not shown here).²¹ Finally, when Gini is lagged by about 3-4 years, an inverse relationship between inequality levels and attributing poverty to laziness and alcoholism emerges, where increased inequality levels seem to result in fewer people linking poverty to laziness and alcoholism.

Figure 4.11. Reasons for poverty: laziness and alcoholism



Source: CBOS BS/51/2012

4.5.3. Ethnic tensions

Ethnicity issue does not enjoy a high saliency in Poland, there are generally no ethnic tensions because there are very few minorities. Therefore, there is no data collected on this issue.

²¹ PGSS asked about laziness as the reason for poverty only in 1997, 1999 and 2002. Even just these three data points confirm that there was a drop in the proportion of respondents attributing poverty to laziness, from 77.7% (combined 'very often' and 'often' answers) in 1997, through 62.8% in 1999, to 54.5% in 2002.

4.6. Conclusion

In this chapter we have looked at the cultural and political correlates of inequality. In particular, we have placed emphasis on political issues, and how they are shaped by inequality. We have also looked at dimensions of social cohesion and political behaviour. Period under observation is relatively short (20 years at most), and data series are often incomplete. Changes in inequality levels have been concurrent with some other major structural changes, such as the rapid democratization, economic liberalization, growth of unemployment and, finally, integration with the EU. It may, therefore, be difficult to pin down the precise relationships between inequalities and cultural and political outcomes in Poland. Nevertheless, there seems to be a relatively coherent story emerging from the analyses presented above.

First, Poles have been fully aware of the growth of inequalities throughout the period under analysis, and they have been disapproving of these changes. They have expected that the government should reduce income differences, and the more inequalities there were, the more government intervention they expected. Growth in inequalities has been concurrent with the decline of confidence in national, but not local institutions, suggesting that a) increasing inequalities have undermined political legitimacy of the new Polish democracy, and that b) rise in inequalities is associated with national, rather than local authorities. Increase in inequalities and decline of political confidence have been accompanied by low levels of political participation, and radically declining levels of unionization.

Secondly, contrary to expectations built on research from Western democracies, growth of inequalities is associated with a steady rise of trust in other people. It is difficult to explain this by a direct mechanism linking these two variables; theoretical expectations suggest that increasing social polarization, such as in the case of growing inequality, should lead to less rather than more social trust. Interpreting this finding we have therefore referred to the stabilizing institutional setting, where higher predictability and reliability of, e.g., the legal system and police make trusting others less and less risky a strategy (c.f. Letki and Evans 2005). Also economic growth and rising living standards encourage positive outlook on life, including trust in other people. Charitable giving behaviour seem to be strongly driven by income inequality: as inequality was growing, more and more people were declaring they have supported others or institutions through donations. Membership in associations, on the other hand, remained independent of inequality, as it was trendlessly fluctuating at low levels through the entire period.

Summing up, growth of income inequalities in Poland between 1989 and 2012 has been reflected mostly in citizens' political attitudes and their declining confidence in national government. Poles have been disapproving of increasing economic polarization, and expecting the government to

prevent it. They have also, it transpires, been trying to compensate for it individually, supporting those in need through charitable contributions.

Effectiveness of policies in combating inequality

5.1. Introduction

In this chapter, we discuss the interrelations between changes in economic inequalities and various socio-economic policies implemented in Poland since the process of transition to market economy started in 1989. We also discuss shortly economic ideas held by policymakers, which motivated policies implemented in Poland. For a few recent years, we support our observations with results from micro-simulation studies designed to study the distributional impact of various tax and transfer policies in a more systematic way. We do not analyze pre-1989 period in this chapter as the nature of political decision-making under the Communism was radically different compared to democratic decision-making.

We start with analyzing how minimum wage policies and collective bargaining might have affected labour income inequalities (Section 5.2). In Section 5.3 we turn to the discussion of tax revenue and its redistributive impact. Section 5.4 focuses on trends in social expenditure, while Section 5.5 reviews educational policies.

The main sources of internationally comparable data for this chapter are the databases of OECD, Eurostat, the World Bank and the national Central Statistical Office.

5.2. Labour income (minimum wages and wage bargaining)

5.2.1. Minimum wages

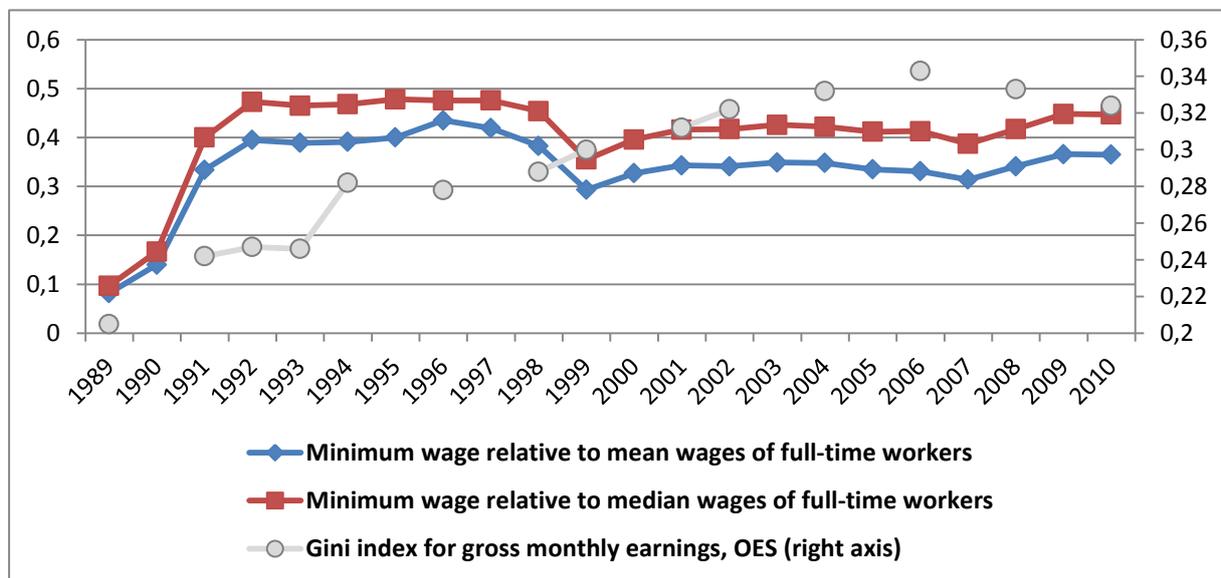
The first minimum wage legislation in Poland was introduced in 1956. Minimum wages served various functions under Communism and the way they were set changed several times. From 1986 to mid-1990s, the minimum wage served as a base for the wage rate schedule for all labourers. For this reason, increases in minimum wages were automatically increasing wages of all labourers earning higher wages. This mechanism was abandoned in late 1990s. Up to 2002, the level of minimum wages was set unilaterally by the government. Since 2003, the minimum wage is set annually in the process of negotiation between the government and the Tripartite Commission for Social and Economic Affairs (TCSEA), which is composed of representatives of the government, employees and employers. The minimum wage level proposed by the government for the following year has to be equal to at least the current minimum wage adjusted by the CPI forecast for the following year plus

the two thirds of the projected GDP growth for the following year. The minimum wage rate is uniform with the exception that workers in the first year of employment receive 80% of the rate.

The evolution of monthly minimum wage in Poland relative to the mean and the median gross monthly wages is presented in Figure 5.1. During the hyperinflation in the early phase of transition (1989-1991), the increases in minimum wage did not catch up with fast rising nominal wages and the relative minimum wage dropped to a very low level. However, it started to recover quickly and in 1992 it reached the level that was maintained till 1998. It dropped significantly in 1999 and started to increase slowly since then, but up to 2010 it did not reach the level of the mid-1990s. The figure suggests that there may be an association between a significant drop in relative minimum wage in 1999 and the steady growth of wage inequality afterwards. This view was expressed by Newell and Socha (2007) and Magda and Szydłowski (2008).

The estimates of low pay incidence in Poland, which is defined as less than two-thirds of median earnings for all full-time workers, show that it has increased steadily from 11% in 1989 to about 20% in 2010 (Rutkowski 2001, Magda n.d., OECD Employment Outlook 2012). The level of low pay incidence in 2010 seems rather high as it is comparable to that of the US and other Anglo-Saxon countries.

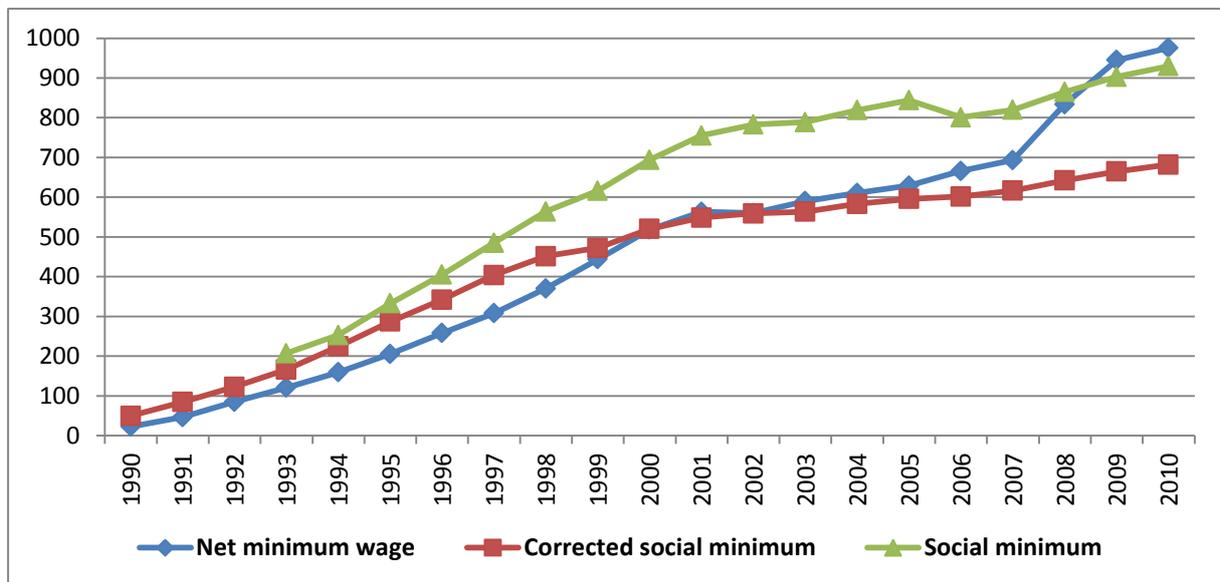
Figure 5.1. Minimum wage relative to the mean and the median of gross monthly wages



Source: OECD and CSO

Figure 5.2 compares changes in net minimum wage (NMW) with the evolution of poverty lines in Poland.²² The social minimum is an absolute poverty line calculated since early 1990s by the Institute of Labour and Social Studies in Warsaw (ILSS). However, as shown by Szulc (2000, 2008) the ILSS social minimum (SM) was seriously biased. We therefore present also his estimates of the corrected social minimum (CSM) for 1990-2003, updated since 2004 using changes in the overall CPI. The major conclusion from Figure 5.2 is that the differences between CSM and NMW were rather small up to 2007, while since 2008 the NMW is significantly higher than CSM. However, NMW is substantially lower than the original SM up to 2008. Overall, it seems that at least until 2008 earning a minimum wage in Poland was equivalent, in the case of a single-earner household, to living in - or on the brink of - poverty.

Figure 5.2 Net minimum wage and poverty lines



5.2.2. Wage bargaining

Collective bargaining in Poland takes place mainly at the level of particular companies. Multi-company or sectoral agreements are significantly less popular. For example, in 2006 almost 40% of employees worked under collective bargaining agreements, but only about 3% under multi-employers or sectoral agreements (Bukowski 2008). In 2009, the collective bargaining coverage fell to about 30% (European Industrial Relations Observatory estimate). In 2006, the wages of employees working under single-company collective bargaining agreements were 7.8% higher than wages set

²² The net minimum wage is calculated assuming that the income taxes and social insurance contributions applying to the minimum wage did not change year 1990-2010.

according to other rules. In the case of multiple-company agreements, this number was as high as 17.5%.

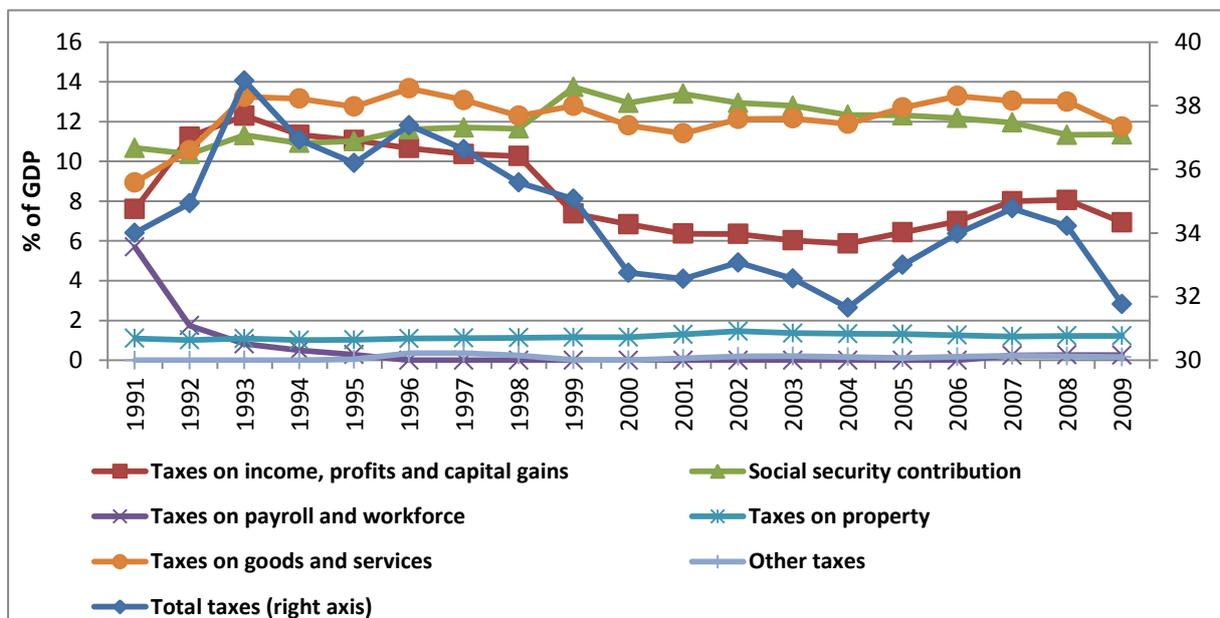
The second pillar of the Polish collective bargaining system is formed by the Tripartite Commission for Social and Economic Affairs (TCSEA), which plays an important role in setting the minimum wage (see Section 5.2.1).

5.3. Taxation

5.3.1. Tax revenues by origin

Poland introduced a modern tax system in early 1990s. Before that most of the budgetary revenues were collected from publicly owned companies. Personal income tax (PIT) and corporate income tax (CIT) were introduced in 1992 and the value added tax (VAT) was introduced in 1993. The evolution of tax revenue by tax categories is shown in figure 5.3. The total tax revenue declined by as much as 7 percentage points between 1993 and 2009. This was due to the decreasing tax rates for PIT and CIT. The CIT rate has gradually fallen from 40% in 1992 to 19 in 2004 and after. The case of PIT rates is discussed in more detail below.

Figure 5.3. Tax revenue by origin as percentage of GDP



Source: OECD Tax database

In 2009, the total tax revenue was about 31.8% of GDP, which is noticeably lower than the average for the OECD countries (33.8%). The main sources of tax revenue in 2009 were VAT (36.8%), social

security contributions (35.7%) and taxes on income, profits and capital gains (21.8%). The most significant difference between Polish tax revenue structure and the OECD average is a much smaller contribution of income taxes, which is 11 percentage points lower for Poland.

5.2.2. Redistributive effect

We start with the discussion of the redistributive effect of income taxes. As discussed above, the CIT tax rate has fallen radically between 1992 and 2004. PIT tax rates have been decreasing as well, although more slowly. Table 8 shows personal allowance levels, PIT thresholds, marginal and effective tax rates and shares of taxpayers facing different marginal tax rates. The level of personal allowance has been very low over the period under study and has not played an important redistributive function.

There were two main changes in the structure of marginal tax rates. First, after a temporary increase in the rates over 1994-1997, they have returned to the initial level in 1998 (with the small reduction for the lowest bracket). Second, there was a major change in 2009 – the number of brackets was reduced to two with a very significant reduction (8 percentage points) of marginal tax rate for the richer.²³ The top marginal tax rate set in 2009 is among the lowest in the OECD group. Turning to effective tax rates, we can observe even smaller progression in the Polish personal income tax system. The top effective tax rate has dropped from 29.4% in 1994 to 22% in 2010. In 2010 the difference between effective tax rates paid by persons facing different tax brackets was only 8 percentage points.

A significant role in reduction of effective tax rates has been played by various tax deductions and credits. The most notable examples of inequality-affecting tax reliefs included the so-called “big” building relief, modernization relief, “small” apartment relief, education relief, and health expenditure relief. Most of these reliefs were applied more often by the wealthier persons as they could afford buying new properties or modernizing the old ones, purchasing private health care and education. For example, in 1997 only about 39% of taxpayers facing the lowest tax bracket used tax deductions, while the numbers for the second and the third brackets were 81% and 90%, respectively. This is the main reason for the fact that the difference between marginal and effective tax rates has been the highest for the third tax bracket and the lowest for the first bracket. Since the

²³ Morawski (2009) uses a tax-benefit microsimulation model to show that this reform has primarily benefited the richest households, while the incomes of many low-income households have not changed. Domitrz et al. (2012) using the same approach estimate that in effect of 2009 reforms income inequality as measured by the Gini increased in 2009 by 0.4 percentage point. The inequality-increasing effect of tax changes in this year was somewhat reduced by inequality-decreasing effect of growing family benefits (see Section 5.4.6).

late 1990s, tax revenues from PIT started to decline and in order to reverse this trend most of the existing tax reliefs were taken away between 2002 and 2007.

Table 10. PIT thresholds and tax rates

Year	Personal allowance (PLN)	Marginal Tax rates (%)	Percent of taxpayers (selected years)	Share of tax paid (selected years) (%)	Effective tax rates (selected years) (%)
1992	443,92	20, 30, 40			
1993	328,10	20, 30, 40			
1994	348,15	21, 33, 45	88.3, 9.3, 2.3	62.9, 19.4, 17.8	16.8, 20.0, 29.4
1995	372.22	21, 33, 45			
1996	409.42	21, 33, 45			
1997	453,89	20, 32, 44	94.6, 4.4, 1.0	67.0, 13.2, 19.8	15.0, 18.3, 30.9
1998	491.21	19, 30, 40			
1999	536.95	19, 30, 40			
2000	538.83	19, 30, 40	94.6, 4.1, 1.3	52.2, 15.8, 32.1	13.5, 17.3, 26.7
2001	577.62	19, 30, 40	95.2, 3.8, 1.0	51.2, 15.8, 33.0	13.3, 17.4, 29.1
2002	595.39	19, 30, 40	95.1, 3.8, 1.1	49.6, 16.0, 34.5	12.9, 17.4, 27.8
2003	604.26	19, 30, 40	94.7, 4.1, 1.2	51.6, 18.6, 29.7	14.1, 19.3, 29.2
2004	583.82	19, 30, 40	94.8, 4.4, 0.9	59.5, 20.3, 20.2	13.5, 18.6, 28.7
2005	571.81	19, 30, 40	94.5, 4.7, 0.9	57.5, 21.0, 21.6	13.6, 18.7, 29.7
2006	566.16	19, 30, 40	93.3, 5.5, 1.1	56.2, 21.5, 22.3	14.6, 19.5, 29.6
2007	596.59	19, 30, 40	94.7, 4.5, 0.9	59.5, 20.6, 19.9	13.5, 18.7, 29.1
2008	586,85	19, 30, 40	92.2, 6.5, 1.4	52.3, 23.2, 24.5	13.9, 18.7, 29.0
2009	575.48	18, 32	98.4, 1.6	77.0, 23.0	13.9, 22.8
2010	590.44	18, 32	98.1, 1.9	77.3, 22.7	14.1, 22.0

Source: Ministry of Finance reports.

A tax change with an important redistributive consequences occurred in 2007, when a non-refundable and rather generous child tax credit was added to the PIT system. The credit is available to all families paying PIT, irrespectively of their income. The amount of the tax credit in 2007 was about 1145 PLN (ca 273 Euro) per each dependent child. The policy introduced was not intended as a redistributive mechanism, but rather as a tool to “counteract the approaching demographic crisis” (Morawski and Myck 2011). Because the credit is non-refundable (that is its amount is limited by the amount of income tax paid) and available to all families, the biggest relative gains from it go to middle-class families in deciles 5-7 (Morawski and Myck 2011). The families in the first decile gain only about 4.7 PLN per month or 0.4% of their disposable income.

Despite a positive rate of economic growth and frozen tax thresholds (over 2001-2006 period), the share of taxpayers in the highest tax bracket and their share of tax collected did not increase between 2004 and 2007. The reason for this was a 2004 tax reform, introduced by a post-Communist left-wing party, which lowered the CIT rate from 27% to 19% and introduced a flat 19% PIT tax rate for persons who had already been conducting non-agricultural business activities or who wanted to

start a new business. Effectively, the PIT taxpayers were offered a choice between standard progressive rate system and a new flat rate tax. In effect, in order to avoid higher standard PIT tax rate many high-earners moved to self-employment. This explains why the share of tax paid by persons facing the highest tax bracket has fallen so much (about 9 percentage points) in 2004.

In principle, the progressivity of income taxes could be visually assessed comparing trends in the inequality measures for gross and disposable household income computed using the HBS data (Figure 2.1 from Chapter 2 of this report). However, as stated previously, the level and distribution of PIT data collected in the HBS is seriously distorted. This is due to underreporting and to the fact that the reporting period in the HBS is only one month. For these reasons, the analysis of the redistributive impact of PIS using raw HBS data is misleading. For example, Figure 2.1 suggests that since 2006 the Polish tax system has in fact become regressive as the inequality for disposable incomes is higher than inequality for gross incomes. This is, however, caused rather by inaccurate PIT data than by real changes in the underlying distributions.

In order to overcome these deficiencies, Aksman (2010) uses a simulation method to correct PIT values in the HBS. Using corrected PIT data, she provides a comprehensive analysis of the redistributive impact of tax and transfer system in Poland between 1995 and 2007. Among the various measures of the redistributive impact, she uses a proportionate difference of the Gini index calculated for net disposable incomes and the Gini index calculated for gross incomes (D). The results show that the redistributive effect of PIT is progressive but rather small. The D index varies from 2.4% in 1997 to 6.3% in 2004, which means that income inequalities as measured by the Gini were reduced by 2.4% and 6.3% in 1997 and 2004, respectively. The trend in D index was increasing over the 1996-2004 period and decreasing since 2004, which is a reflection of 2004 tax reforms described earlier.

Overall, the redistributive effect of PIT in Poland has been low both due to low average effective tax rates and low progression of tax rates. Policymakers, even from the left-wing parties, have rarely considered PIT as a redistributive mechanism. Rather, a flat (or proportional) income tax system has been advocated, which according to its supporters would enhance the rate of economic growth. These ideas motivated the 2009 tax reform, which brought the progression of PIT to a very low level.

The VAT was introduced in Poland in 1993. The standard rate was set to 22% with the main reduced preferential rates set to 0%, 3% and 7%.²⁴ The redistributive impact of VAT has been recently analyzed by Dobrowolska and Cmela (2012) using the HBS data for 1995-2010. The study concludes

²⁴ The standard rate was increased in 2011 (for a period of two years) to 23%, while the two reduced rates (3% and 7%) were increased to 5% and 8%, respectively.

that the Polish tax system is regressive. The ratio of the VAT paid to the net income of households was 5.7% in 1995 and 9.3% in 2010, which means that it grew by 63% over that period. There are, however, important differences for households in different income decile groups. In general, the incidence of VAT (ratio of VAT paid to the net household income) has been declining as we move from the first to the tenth decile group. For example, in 1995 the VAT incidence for the first decile group was 7.1%, while for the tenth decile group it was 5.2%. In 2009, the VAT incidence was 11.6% and 7.9% for the first and the tenth decile groups, respectively.

The preferential VAT rates were increased several times for a number of goods and services categories since 1995, which usually made the system more regressive (Dobrowolska and Cmela 2012). For example, the preferential rate for electricity was increased from 7% in 1995 to 12% in 1996 and to 22% in 1998. In 1998, a 2% VAT rate on pharmaceuticals was introduced, and subsequently it was increased to 7% in 2000. In 2000, a 3% VAT rate on unprocessed agricultural products was imposed, while in 2004 VAT rate on construction materials, children goods and other goods and services was raised from 7% to 22%. Many of these changes affected poorer households to the greater degree than wealthier households as the share of relevant goods and services in poorer households' budgets was greater. This, in turn, contributed to rising consumption inequality.

5.4. Social expenditure

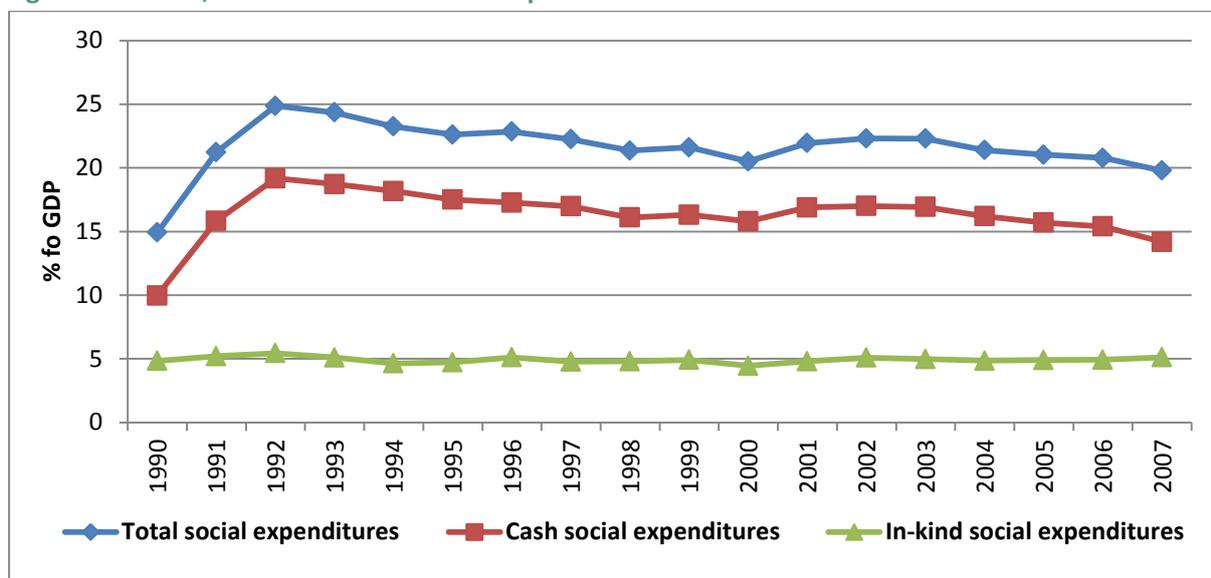
In this part we draw data on social expenditure in Poland from the internationally comparable OECD SOCX database, which for Poland covers the period between 1990 and 2007. The database includes statistics on public and private (mandatory and voluntary) social expenditure broken down by the following categories of spending: old age, survivors, incapacity-related benefits, health, family, active labour market programmes, unemployment, housing and other social policy areas.

5.4.1 Total expenditure

The evolution of social expenditure (total, cash and in-kind) between 1990 and 2007 is shown in Figure 5.4. All three kinds of expenditure rose in the early transition period of 1991-1992. However, their starting level in 1990 was rather low. The rise over the 1991-1992 period was a policy response to the huge drop in real wages, pensions and agricultural incomes when price liberalization, trade deregulation and other free-market reforms were introduced. However, the level of cash social expenditure was gradually decreasing between 1992 and 2000, recovered somewhat during the 2000-2003 period, and has been declining since then. The total social expenditure followed the same pattern as in-kind expenditure, and remained rather stable over the whole studied period. Overall,

total social expenditure decreased by about 5 percentage points between 1992 and 2007. The fall in total level of social spending was in line with the fall in total taxes collected, which decreased by about 4 percentage points between 1993 and 2007 (cf. Figure 5.3).

Figure 5.4. Total, cash and in-kind social expenditure

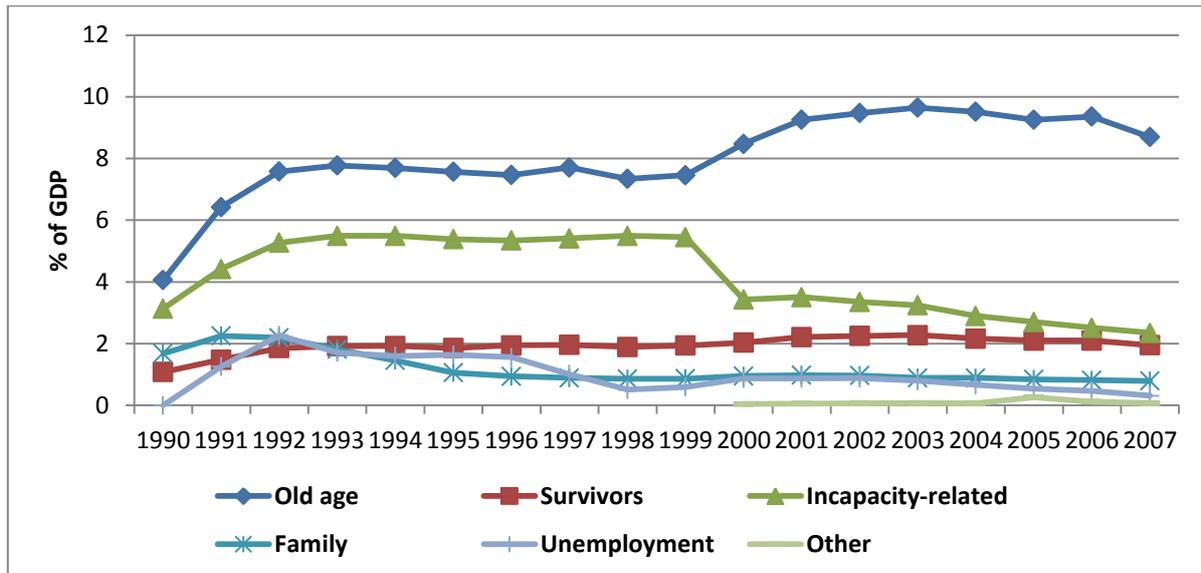


Source: OECD SOCX database

Further insights into the nature of changes in social expenditure can be gained from Figures 5.5 and 5.6, which show the breakdown of cash and in-kind social expenditure by expense category. Figure 5.5 reveals that the major reason since 1992 for the decline in total social expenditure is the decrease in three cash social expenditure categories: incapacity-related benefits, unemployment benefits and family benefits. The biggest decline was noted in incapacity-related expenditure, which include sickness, disability and occupational injury benefits. The reasons for this decline are discussed below in a section devoted to disability benefits.

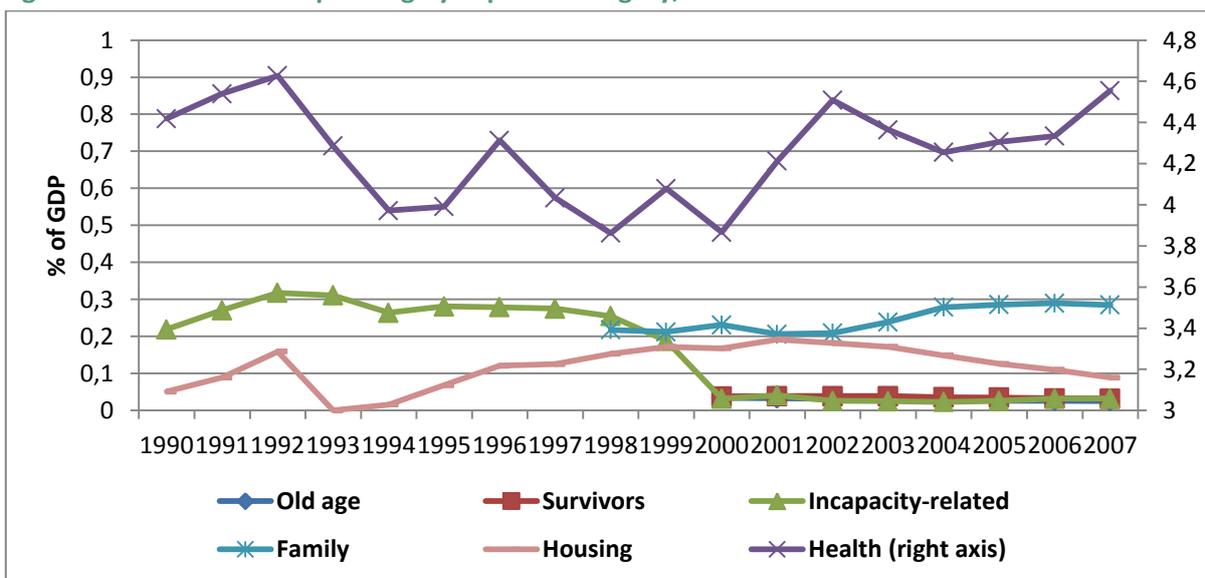
On the other hand we observe a large increase in old-age pensions, especially after 1999. The effect of this increase was, however, erased by the combined effect of decrease in three types of cash benefits discussed above. In-kind social expenses contribute significantly less to the total social expenditure than cash expenses. The most important category of in-kind expenditure – spending on health – declined significantly between 1992 and 2000, but recovered after that and in 2007 returned to its initial level.

Figure 5.5. Cash public expenditure by expense category, % of GDP



Source: OECD SOCX database

Figure 5.6. In-kind social spending by expense category, % of GDP



Source: OECD SOCX database

5.4.2. Unemployment benefits and social assistance

Free market reforms introduced in 1990-91 resulted in large increase in unemployment levels (see Introduction). According to the Act on Employment introduced in 1989, the unemployed were entitled to unemployment benefits if the labour office did not succeed in finding them a job offer or training. The amount of the benefit for the first three months of unemployment was 70% of the last remuneration, 60% over the next six months and eventually 40% after that. Moreover, the benefit could not exceed the average wage and had to be at least equal to the minimum wage. Graduates

who failed to find a job and had never worked were also eligible for the benefit. There was no restriction on the period of unemployment benefit collection. However, the scale of unemployment in early 1990s soon made this generous programme unsustainable. In 1990-92, a series of reforms made the programme significantly more restrictive. The eligible persons should have been working for at least 180 days during the previous 12 months and the amount of the benefit was set to 33% of the average wage with the maximum amount no higher than the minimum wage. The maximum period of receiving the benefit was set to 12 months. The benefit period was also made conditional on the level of prevailing unemployment rate. In the following years, other reforms reduced the amount of benefits and the coverage of the programme even further. The average unemployment benefit was about 33% of the average wage until 1998 and has fallen to about 20% since then. In the mid-1990s, about 50% of the unemployed received the benefit (Podkaminer 2006). In 2004, the share of the unemployed receiving the benefit was 14.4%, while in 2010 it was 16.7%. The reasons for this radical decrease include relatively short period for which the benefit is granted, the ineligibility of inexperienced graduates for the benefit and the relatively permanent nature of unemployment in Poland.

Social assistance system has undergone several changes since 1989. In the early 1990s, the assistance directed to the poor accounted for about 20% of all social expenditure, while in 2003 it was about 10% (Staręga-Piasek et al. 2006). In general, transfers directed to the poor include social assistance benefits, family benefits and housing benefits. In this section we focus on social assistance benefits, while family benefits and housing benefits are discussed in Sections 5.4.6 and 5.4.7, respectively.

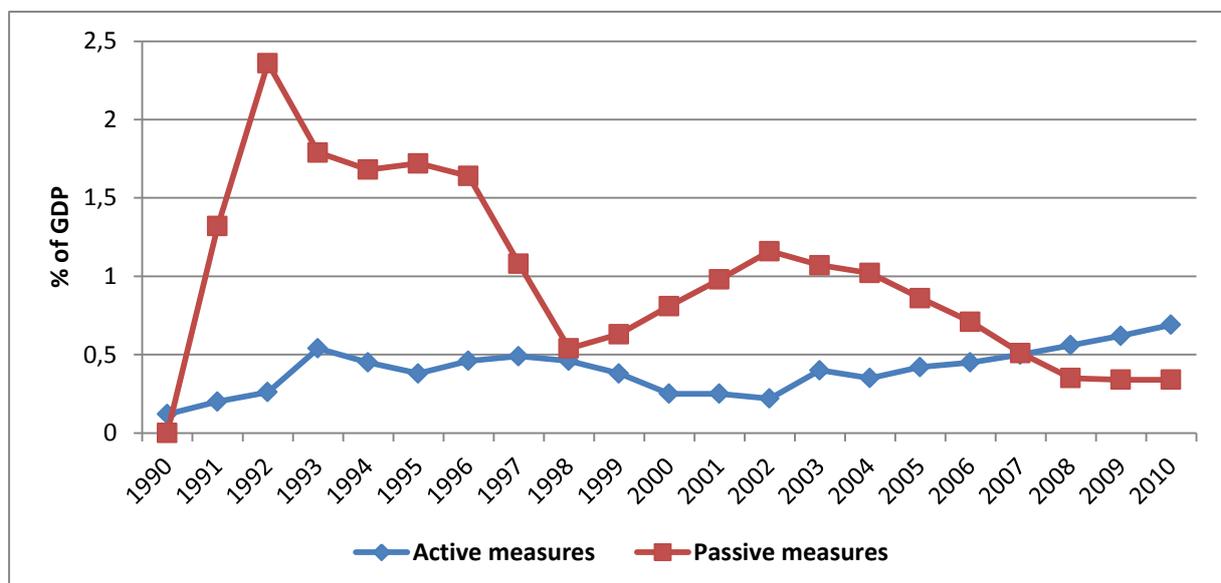
In 1990, a social assistance system was introduced offering three types of means-tested benefits: permanent social assistance, temporary social assistance and social assistance in special circumstances. The permanent allowance was directed to persons unable to work due to old age or physical disability. It was set to the difference between a given income threshold, announced in the social assistance law, and family per capita income. The temporary allowance was directed to persons who became poor due to temporary unemployment or illness, while the third type of allowance was to cover special expenses (e.g. purchases of medicine). The amounts of the two latter allowances were determined by local authorities. Since 2006, the government guarantees that the temporary allowance is at least 50% of the difference between income threshold and total family income.

Despite growing prices and cost of living, the income threshold above which persons and families are eligible for social assistance was not changed between 2006 and 2011. As a result, the coverage of these social assistance programmes decreased substantially. The number of persons receiving monetary social assistance dropped from 2.62 million in 2006 to 1.76 million in 2010. The share of

population receiving monetary or in-kind social assistance fell from 13.2% in 2005 to 9.8% in 2010. The amount of permanent and temporary allowance also remained unchanged over the 2006-2011 period.

Figure 5.7. shows that similarly to many other countries, Poland has gradually shifted its labour market policy from passive measures (unemployment benefits and early retirement programs) to active measures (support for employment and rehabilitation, employment incentives, training, etc.). Since 2002 expenditure related to passive labour market policy has fallen radically so that since 2007 Poland spends more on the active measures than on the passive ones. While the expenditure on the active measures in Poland is close to the OECD average, the expenditure on the passive measures is much lower than the OECD average (ca 1% GDP).

Figure 5.7 Active and passive labour market policy



5.4.3. Disability benefits

As shown in Figure 5.5, incapacity-related expenditure, which includes sickness and disability benefits, accounted for a very significant and stable in time fraction of total social expenditure in 1990s. This reflected the fact that the population of disability benefit recipients in Poland was large and rapidly increasing. Between 1990 and 1999, it increased by about 0.5 million from 2.2 million in 1990 to 2.7 million in 1999. In the face of growing unemployment and economic uncertainty during the early and mid-1990s, disability benefits emerged as a fairly easily available source of low but stable income. Until 1997, the eligibility for disability benefits was decided on the basis of disability evaluation and not on the basis of assessment of incapacity to work. The average age of persons

receiving disability benefits was 54 in 1995. The relatively easy access to disability benefits (and old-age pensions) was provided by early reformers and later backed up by various political parties in order to gain political support of the older electorate, which was perceived to be more disciplined than the younger voters (Golinowska 2010).

In reaction to the high cost of the system, a reform of disability pensions was introduced in 1997. The most important changes included the separation of disability evaluation for non-insurance purposes from evaluation of incapacity to work. The eligibility for the benefits was restricted to persons completely or partly incapable of work. This change reduced the benefit inflow rate by more than 50% in the first six years after the reform. The number of disability pensioners decreased radically, from 2.7 million in 1999 to 1.2 million in 2010.

The mandatory social security contributions to disability insurance were reduced by 7 percentage points over the 2007-2008 period. The employees' contribution was reduced by 4%, while the employers' contribution was reduced by 3%. The uniform rate of reduction resulted in more substantive gains for those with a larger income share coming from earnings. It is, however, difficult to distinguish the distributional effect of this reform from the effects of other tax and benefit reforms implemented in the same period (Domitrz et al. 2012).

5.4.3. Old-age pensions

Figure 5.5 shows that the expenditure on old-age pensions increased substantially in the first years of the transition, then stabilized in the mid- and late 1990s and increased sizeably again over the 1999-2002 period. In early 1990s, old-age pensions together with disability benefits became a safety net mechanism through which older or less fortunate workers, who faced unemployment and economic uncertainty, could secure some stable moderate income flows (Keane and Prasad 2002). The easier access to pensions was provided through granting early retirement for the unemployed. Moreover, in 1995 pre-retirement allowances and benefits were introduced; the allowances were suspended after 2001.

The population of old-age pensioners (excluding farmers, who are under a separate old-age pension system) increased by 4% in 1990, by 18% in 1991 and by 7.5% in 1992. The replacement rate (average pension divided by the average wage) rose from about 52% in 1988-1989 to 65% in 1991 and remained above 60% through to 1997. It may be argued that the old-age pension system played an important role in mitigating inequality growth during early transition years, which did not happen in countries with more restrictive and less generous pension systems (Keane and Prasad 2002, Mitra and Yemtsov 2006). The standard age of entitlement to old-age pensions was 65 years for males and

60 years for females, which was close to the OECD average. However, various special regulations for certain occupational groups (e.g. miners, the military) with usually much lower age eligibility criteria brought the effective retirement age in 1995 down to 59 for men and 55 for women, which was lower than the OECD average by 3 and 6 years, respectively (Jarrett 2011). The overall cost of pension system (including disability benefits) in the mid-1990s was around 10-15% of GDP, which was among the highest in the OECD (Jarrett 2011). The system was based on defined-benefit (benefits are based on a formula taking into account workers' earnings and their overall time of work) financed by Pay-As-You-Go (PAYG) method. The system was redistributive as the formula for calculating the amount of pension contained a "social" component equal for all contributors.

In order to reduce the cost of pension system and to react to worsening demographic trends, the existing system was replaced in 1999 with a three-pillar system consisting of:

- 1) Notional defined contribution plan (with contributions invested in individual accounts funded on a PAYG basis);
- 2) Mandatory system of privately managed pension funds for contributors aged 30 and less with optional joining for contributors under 50 years old;
- 3) Voluntary pillar.²⁵

The replacement rate under the new system is expected to drop on average by one third to about 50% (Jarrett 2011). Another feature of the reform was the elimination of the redistribution in the pension system as the benefit calculated solely on the basis of individual accounts. Also the entitlement to early retirement for persons born after 1948 was to be eliminated, but the decision was postponed until 2007.²⁶ An upper limit on contributions to the first pillar was established, which improved the situation of high-earners, but lowered government revenues in 2002 by 0.4% of GDP. In the following years, the smaller revenues of the first pillar had to be compensated by increasing budget deficit and accumulating public debt. The government reacted to this problem in 2011 by partially reversing the 1999 reform. The contribution to the second pillar has been significantly reduced and the contribution to the first pillar increased by the same amount. The increased amount in the first pillar is to be indexed in individual accounts by the rate of GDP growth. Moreover, the contributions to the third pillar received tax advantages.

The reforms of 2011 are expected to lower public debt, but at the cost of reducing already low replacement rates (OECD 2012). According to the OECD calculations, in the long-run the replacement rates may fall below 50% or, in the pessimistic scenario, below 40% (OECD 2012). That result would require large transfers to the pension system in order to secure minimum social pensions for

²⁵ The third voluntary pillar did not offer any tax advantages and its popularity remained low.

²⁶ Finally, the early retirement pensions were replaced with the so-called "bridging" pensions in 2009.

pensioners falling below that minimum. In the short run, the reforms of 1999 and 2011 may be perceived as inequality-increasing as they reduced system contributions of the wealthier persons and reduced replacement rates for the pensioners in the coming years.

5.4.4. Survivors' pensions

The regulations concerning survivors' pensions did not change much since 1980s. The right to the survivors' pension is awarded to children under the age of 16 or under the age of 25 in the case of children continuing education, or to the spouse aged 50 or more.²⁷ The reform proposed by the government in 2012 aims at increasing the eligible age for a spouse to 60 starting in 2013.

5.4.5. Health care

Public health care expenditure represented 5.3% of GDP in 2009, 1.6 percentage point lower than OECD average, but it was consistent with Poland's level of development (OECD 2012). Until 1999, Polish health care system was fully funded from the general taxes. Decentralized public health insurance system was introduced in 1999 with 16 regional Sickness Funds providing management and finance. Another reform in 2003 merged the Sickness Funds into the National Health Fund (NHF) responsible for financing health care services.

About 98% of the population is covered by public health care insurance (Boulhol et al. 2012). However, accessibility of specialist care is unsatisfactory. The self-assessed quality of care is among the lowest in Europe, probably due to relatively low accessibility of new technologies and lengthy waiting times for specialised care. Other problems include non-means-tested co-payments for medicine and only basic dental care coverage by public insurance (OECD 2012). Private financing of health care (e.g. medicine, appointments with specialists) is done mainly by out-of-pocket expenses since the private insurance market formally does not exist. The share of the private sector in the total health care system grew from 10.6% in 1997 to 22.2% in 2009. It might then be argued that a two-tier health care system operates in Poland, with the public NHF providing medical services for all insured persons and the private sector providing much more accessible, yet much more expensive services to the wealthier persons (Podkaminer 2006). These "large persistent inequalities" (Boulhol et al. 2012) in access to specialist care are likely to affect economic inequalities in income and wealth, both in the intra- and intergenerational context.

²⁷ Before 1999, the eligible age for a widow was 50, while for a widower was 65.

5.4.6. Family benefits

The eligibility criteria for family allowances for families with dependent children have changed several times since 1989. In 1989-1992, the family allowance was not means-tested and initially set to 8% of the average wage. Since 1993, the benefit is conditional on income. The threshold below which a family is eligible for a family allowance was in 1993 tied to the 25% of the average wage. Since 2002, the threshold is regulated by the family benefits law. In 1997-2005, the size of family allowance was determined by the number of children. Since 2005, the eligibility requires the presence of a dependent child, which is defined as follows: 1) aged 18 and less; or 2) aged 21 or less and attending a secondary school; 3) aged 24 and less and continuing education or holding a certificate of disability. From 2006 on, the amount of the benefit depends on the age of the children. This last change raised the average amount of the benefit by about 30% (Domitrz 2012). The threshold below which families are eligible for family allowance was frozen over 2004-2011, which resulted in a substantial decrease (by about 800,000) in the number of children receiving the allowance.²⁸ This main family allowance is accompanied by several additional family benefits. In 2006, a universal grant for each newborn child was introduced.

5.4.7. Housing benefits

Housing benefits are means-tested and granted to households to cover their housing costs. The income threshold below which households are eligible for housing benefits is 125% of the minimum pension in the case of multi-person household and 175% of the minimum pension in the case of one-person household. Moreover, the size of the flat must be smaller than 35 m² for a one-person household with the limit increasing by 5 m² for two- and three-person households, by 10 m² for three- and four-person households and by 5 m² for any additional person. The amount of the benefit is the difference between the actual housing cost per standard area and 10-15% of household income. Housing benefits play a relatively minor role in Polish tax-benefit system. In 2005, about 6% of households received housing benefits. The expenditure of the benefits accounted for about 8% of total social assistance expenditure of local authorities.

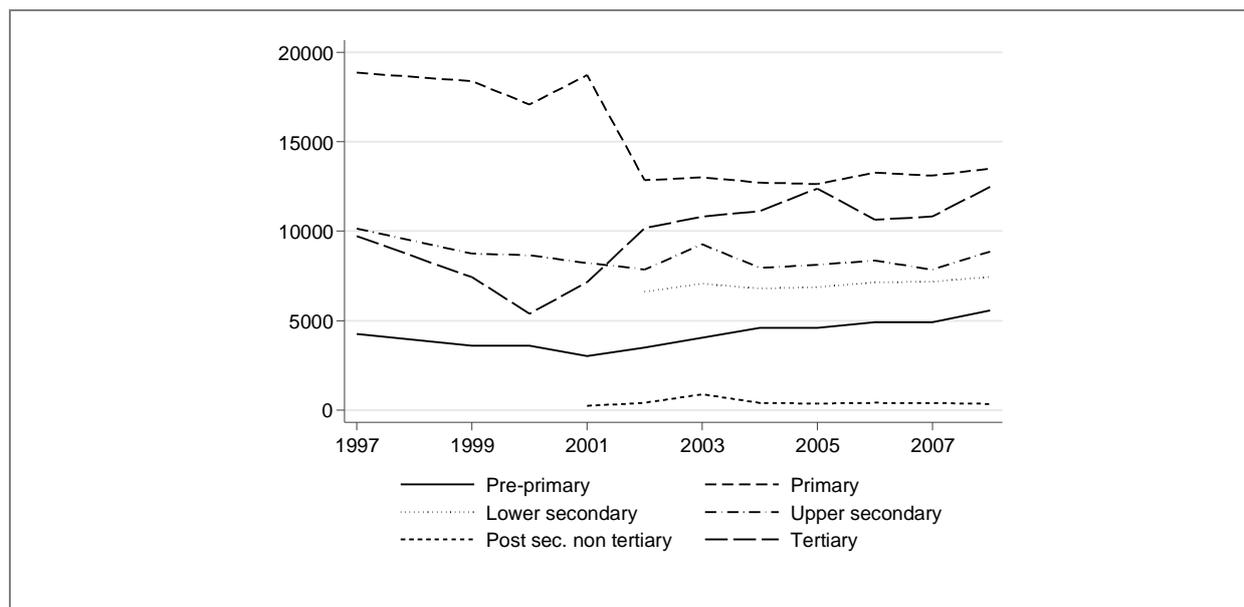
5.5. Education

As documented in Section 2.3, levels of educational attainment in Poland have been growing fast in the recent years. Figure 5.8 shows the total expenditure on education by education level, while

²⁸ Overall, in 2004-2011 the number of children receiving family allowance dropped from 5.5 million in 2004 to 2.8 million in 2011. This resulted from freezing family benefits' thresholds, but also from the growth in households' real incomes due to, among others, growing real gross wages and increased net wages in effect of tax and social security reforms (Domitrz et al. 2012).

Figure 5.9 presents expenditure per student. For most educational levels, total expenditure shows stability or a modest increase. In the case of primary education, a radical drop in total expenditure in 2002 can be explained by the introduction of lower secondary stage of education as a result of the 1999 educational reforms. The highest growth in the total expenditure occurred for tertiary education, especially after 2000. Total expenditure for all education levels has been growing after 2008 as well, although internationally comparable data are not yet available.

Figure 5.8. Expenditure on education by level of education (millions of real PLN, 2000)



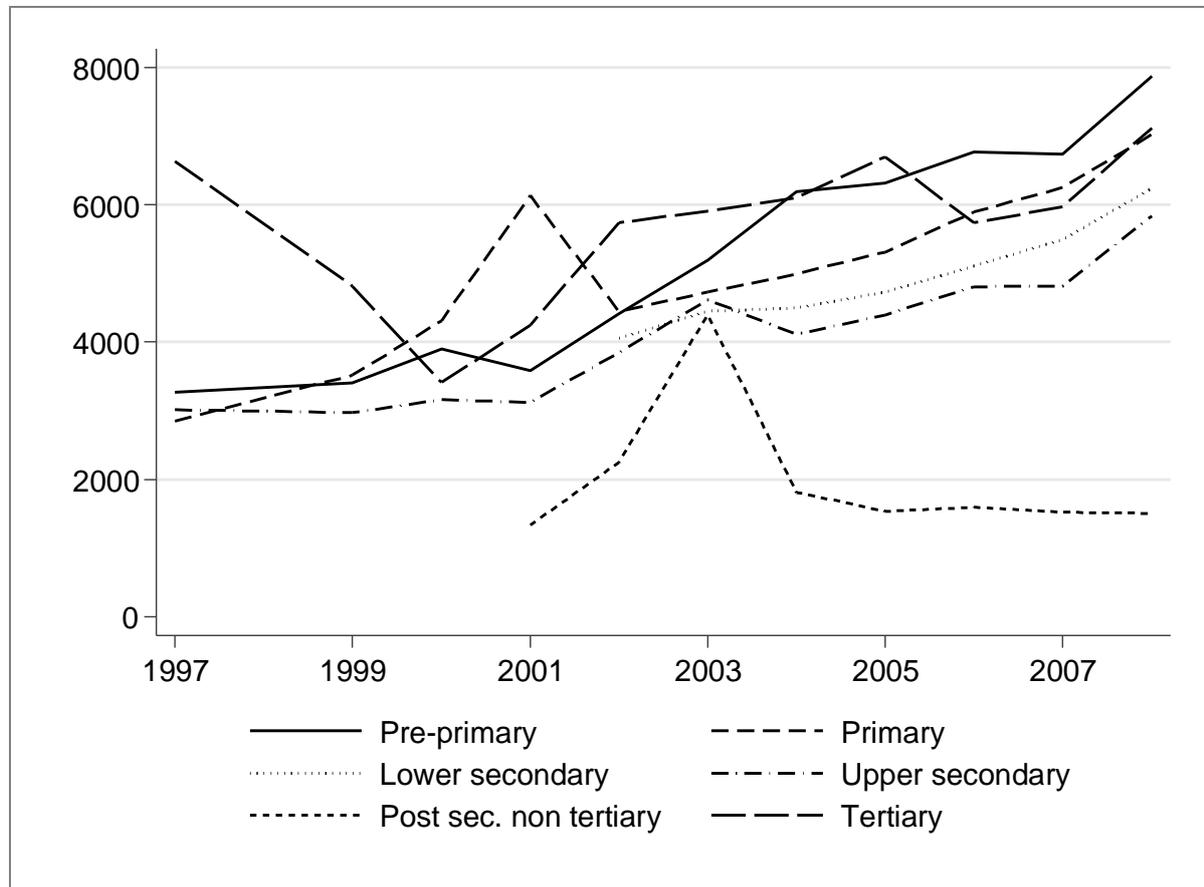
Source: OECD Education Database

For most of the educational levels, expenditure calculated on a per student basis shows a more pronounced increase. One factor that accounts for this fact is the non-decreasing total educational expenditure. Another one is a decreasing number of pupils and students, which is driven by demographic changes (see Introduction). After a period of heavy budget cuts in tertiary education during the late 1990s, the expenditure for this sector increased substantially, but on a per student basis they were only marginally higher in 2008 than in 1998.

Polish system of tertiary education consist of a public and a private sector. In 2007/2008 more than 65% of students attended public institutions. “Regular” students admitted to public institutions do not have to pay tuition fees. However, public institutions enrol students also for extra-mural or evening studies for which they have to pay tuition fees. As estimated by the International Comparative Higher Education and Finance Project (ICHEFP 2010), in 1992 “regular” students constituted 72% of the total number of students in the whole educational system, while in 2004 this

number was 48%. Therefore, much of the impressive increase in enrolment at the tertiary level has been due to fee-paying students.

Figure 5.9. Expenditure on education per student (real PLN, 2000)



Source: OECD Education Database

The education-related policy instruments that may affect economic inequality include student scholarships and loans. The absolute number of students in tertiary education receiving scholarships increased from about 162,000 in 1990/91 to about 563,000 in 2006/2007; until 2001, scholarships were available only for regular students attending public institutions. However, the proportion of students receiving scholarships dropped from 54.3% to 33.1% over the same period. After 2006/2007, it dropped even further, to 27.3%..

Government subsidized student loans were introduced in Poland in 1998 through the Student Loan and Credit Fund (SLCF). All undergraduate and graduate students under 25 years old are eligible for a loan from SLCF, but if a certain quota is exceeded loans are given on a need-basis. Monthly loan rate set to 400 PLN (97 Euro) in 1998 was gradually raised to 600 PLN (132 Euro) in 2004 and remained unchanged since then. In 2010, the cumulated number of student loans was about 333,000. The

largest number of loans was given at the start of the SLCF in 1998/1999 (ca 99,600). In the following years, the number of student loans was steadily declining from about 29,000 in 1999/2000 to about 17,000 in 2009/2010. In 2004/2005 about 11% of the student population had taken a SLCF loan during the course of their studies (OECD 2007). As concluded by the OECD (2007), given the limited development of student financial aid system most students cover their study costs through transfers from their families or their own earnings from employment. In 2009, 41% of students were employed (4.9% of regular students, 69% of extra-mural students and 40.6% of evening students).

5.6. Conclusions: the national story of policies affecting inequality

When discussing how policy affected inequality in Poland over the last 20 years, it is important to note that among Polish elites (intellectuals, politicians, media personalities) the dominant economic worldview has been that of economic liberalism (Kochanowicz 1997).²⁹ The economic policies introduced during the last 20 years have been always broadly consistent with this worldview – in the first place they aimed at stimulating economic growth and encouraging entrepreneurship. According to the economic ideas prevailing among Polish policymakers, economic growth will eventually “lift all boats”, not only by increasing average incomes, but also the incomes of the poor. Inequality may rise substantially during this process, but the absolute situation of the poor will be improved.³⁰ Since this liberal economic worldview offers little place for caring about economic inequality, it is not surprising that it is hard to find any evidence for socio-economic policies in Poland being shaped by concerns about inequality. In fact, even the post-Communist party expressed a conviction that economic growth-promoting policies are the best method of poverty eradication. Accordingly, after they came to power in 2001, they significantly reduced the CIT rate and proposed the introduction of a flat tax rate into the PIT system, which would obviously reduce even further the already low degree of redistribution.

The dominance of economic liberalism does not mean that Polish policymakers were completely insensitive to distributional problems. On the contrary, a group of early reformers was very concerned with the impact of free-market reforms on unemployment, the level of incomes and ultimately on poverty. Due to their concerns, an extensive system of social transfers, including generous unemployment benefits, social welfare benefits and relatively easy access to retirement and disability benefits, was introduced in early 1990s. This system was primarily concerned with reducing absolute poverty, but it limited inequality growth as well, at least in comparison with other transition countries that have not implemented such measures. However, since the mid-1990s due to its high cost the system has gradually become less redistributive. The concern with poverty has

²⁹ Economic liberalism is understood here as a general support for the free-market capitalism.

³⁰ Such a view seems to be offered, for example, by Balcerowicz and Rzońca (2010).

become less visible in political programmes, while inequality considerations have never entered directly into policymakers' propositions or even into the public debate.

A telling example of Polish policymakers' indifference to inequality, this time in its intergenerational dimension as well, is a reform of the inheritance tax introduced in 2007 by the Law and Justice Party (*Prawo i Sprawiedliwość*) – a conservative political party, which supports some redistributive social policies. The reform introduced full tax exemption for property inherited by spouses, descendants and other close family members under condition that it has to be reported to the tax office within 6 months since the acquisition of heritage was confirmed by the court. The political right in Poland seems to be often driven by a strong sentiment towards the idea of private property, which was suppressed for decades under the Communism.

A number of other important policy changes, often with serious distributional implications, was dictated mostly by a mix of free-market ideas and budgetary as well as demographic objectives. These would include lowering PIT tax rates in 2009, the introduction of children tax credit in 2007, various changes in the VAT system, reduction in amounts and coverage of several social benefits and the reforms of the pension system implemented in 1999 and 2011. These policies affected economic inequality in an unintended way through complex interactions and their overall effect is hard to measure. It seems, however, that most of them reduce the degree of redistribution in Polish tax-benefit system, which may increase inequality in the years to come.

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Appendix. Log Table with Trends in Inequality Outcomes

	1983-1992	1993-1997	1998-2005	2006-2010
Income inequality (Gini index)	→	↗	↗	→
Real income (GDP per capita)	→	↗	↗	↗
Informal sociability		↘	→	
Happiness and well-being	↗	↗	↗	↗
Education level	↗	↗	↗	↗
Educational inequality	-	↘	↘	↘
Returns from tertiary education	↗	↗	↗	↘
Material deprivation (also self assessed)	-	↘	→	↘
Fertility	↘	↘	↘	↗
Marriages	↘	↘	↘	↗
Health (self assessed)	-	↗	→	↗
Reported crimes	↗	↗	↗	↘

Prison population				
Income differences too large				
Political trust				
Social trust				
General turnout				
Civic participation				
Union membership				
Support for the EU				
Success depends on luck				
Govt. should reduce inequality				
Alcoholism and laziness				