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From research to policy

IS HIGH INEQUALITY AN ISSUE IN POLAND?

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Main message

Given its economic development level, Poland is not a country of striking economic inequality. While *income inequality* in Poland is high compared to wealthier EU states, Poland ranks more favourably in that respect than other countries of similar affluence or those undergoing economic transformation. Income inequality has not shown a rising trend in recent years. Its high level is mostly due to considerable *wage dispersion*, in turn caused by the high wage premium for tertiary education and segmentation of the labour market, in particular the substantial proportion of people hired through irregular employment forms. The Polish tax system has a negligible impact on reducing income inequality – this is achieved through social benefits and the minimum wage. However, benefits that constitute an incentive to give up work may in fact exacerbate inequalities. *Wealth inequality* in Poland is low compared to other EU Member States, owing to the fact that income differences have not yet accumulated. Poland is also characterised by moderate inequality of opportunity.

Key facts

– 3.9 times greater – this is the difference between the net income of a high-income family (higher than 90% of families) and a low-income family (lower than 90% of families).
This is in line with the EU average.

– 4.7 times greater – this is the difference between the average hourly wage of a high earner (earning more than 90% of workers) and a low earner (earning less than 90% of workers).
This figure is greater than in other EU Member States.

– 11% of income inequality in Poland results from inequality of opportunity, i.e. factors beyond the control of the individual, such as parental education or gender.
This figure is greater than in Germany, for example, but much lower than in Bulgaria or Romania.

Economic inequality in Poland in comparison to the EU-27 (2014)

	Inequality measure			
	Gross income	Net income	Gross wages	Household wealth
Poland	4.3	3.9	4.7	7.2
EU minimum	3.3	2.9	2.1	4.3
EU maximum	6.7	5.4	4.7	53.5
EU average	4.8	3.8	3.5	16.3

Note: The source of data and description of the inequality measurement method are provided in the main text.

In recent years, growing economic inequality has become one of the most debated social and economic problems in the world. Over the last three decades, most OECD countries have recorded a pronounced rise in income inequality. A number of researchers, politicians and economic commentators have suggested that the level of inequality has passed the tipping point beyond which economic growth may be weakened, social mobility limited, the social divide exacerbated and political power permanently concentrated in the hands of the wealthy. There is ample research that correlates economic inequality with worse health, obesity, increased crime rates, lower levels of happiness, weakened trust levels and increased competition to attain higher social status. Significant economic inequality is also perceived as unfair, as it gives rise to a clear inequality of opportunity within society. In this context, children from poor families are considerably less likely to succeed than those born into wealthy homes.

This paper analyses the multiple dimensions of economic inequality in Poland (see Frame 1 on the different types of economic inequality). Subsequent parts of the paper focus on:

- wage dispersion,
- income inequality,
- the evolution of wage dispersion and income inequality in Poland since 1989,
- wealth inequality,
- inequality of opportunity,
- relative poverty.

This paper describes economic inequality in Poland until 2015, i.e. before the gross minimum wage was raised to PLN 2,000 and extended to cover workers employed on the basis of the most popular types of civil-law contracts. These reforms have helped diminish the levels of wage dispersion and income inequality in the country.

Frame 1. Dimensions of economic inequality

Economic inequality means that a given economic variable is diversified among persons in a given population. There are many types of economic inequality, the most important being wage dispersion and income and wealth inequality. **Wage dispersion** concerns the variation in the distribution of wages for dependent labour and can be measured based on monthly or hourly wages. **Gross wages** are the total of all earnings and other work-related benefits. **Net wages** are gross wages after income tax and social insurance contributions paid by employees. **Gross disposable income** represents a broader measure of economic prosperity than wages: the total of all types of income (income from dependent employment and self-employment, savings income, property income, investment income, etc.) plus social transfers (e.g. pensions and invalidity/incapacity benefits, social insurance benefits, social assistance benefits and allowances, etc.). **Net disposable income** is defined as gross disposable income after deducting income and property taxes and social insurance contributions. **Gross wealth** is understood as the total of all assets owned (tangible assets, such as real property or vehicles, and financial assets, such as deposits, shares or bonds). Wealth inequality is usually expressed in **net wealth**, i.e. the difference between gross assets and liabilities (credits and loans).

Wages, income and wealth may be measured for individuals or entire households, as the sum of wages, income and wealth of all household members. Since households differ in terms of size as well as social and demographic composition (e.g. the number of elderly people and children), the comparability of values calculated for households is usually ensured through the so-called equivalence scales.

Unless specified otherwise, wage dispersion is further understood as the dispersion of gross hourly wages. Dispersion measured in terms of monthly wages is highly sensitive to the number of hours worked per month. Gross income inequality is defined as the income share accrued to the top-earning 1% of Poles. Net income inequality is measured in terms of net equivalised disposable income.

Frame 1. Dimensions of economic inequality – cont.

The **decile ratio**, i.e. the **high-to-low wage** (income) **ratio**, is used as the main measure of wage dispersion and income inequality. A high wage (income) level means that only 10% of individuals have higher wages (income), while a low wage (income) level means that 90% of individuals have higher wages (income).

Measures such as consumption expenditure, health, happiness and opportunities to achieve a high level of prosperity are now also being used increasingly often to express economic inequality.

Wage dispersion in Poland is high in comparison to the EU-27

The high-to-low wage ratio in Poland is the highest among the EU Member States (see Figure 1). In 2014, high-wage workers earned 4.7 times more than low-wage workers (see Frame 1 for a definition of high and low wages). By comparison, this ratio amounted to 3.1 in Austria. Aside from the Baltic states, Poland recorded the greatest wage dispersion in the EU-27 in terms of gross annual wages. A similar or higher level of wage dispersion exists in many medium or highly developed non-European countries with liberal labour market institutions (e.g. certain South American countries, South Korea, the US). Such liberal labour market institutions are understood here as having relatively low minimum wage levels, low employment protection and low trade union density. In the EU, the more economically developed a country is, the lower wage dispersion it tends to record.

Wage dispersion is determined by various economic factors that have an impact on the labour market (labour supply and demand, labour productivity, wage premium for tertiary education) as well as by labour market institutions. Technological and structural changes (such as the global decline of industrial employment) affect changes to labour demand as well as changes to remuneration for different types of work. The most important labour market institutions that influence wage dispersion levels are the minimum wage, trade unions and collective agreements.

Figure 1. Wage dispersion is high in Poland (2014)

Note: These figures are derived from a study of the structure of remuneration which examined national establishments with over 9 employees. The figures cover both full-time and part-time employees who worked through October 2014.

Source: Eurostat.

There are three basic factors responsible for the high wage dispersion in Poland. First of all, the university wage premium in Poland is high. This premium, defined as the average difference in earnings between people that have completed tertiary education and those with lower education, remains higher in Poland than the EU average, although it is currently decreasing.

Secondly, a relatively large proportion of employees in Poland receive low compensation, close to the minimum wage level. What is more, around 5% of workers in Poland earn less than the minimum wage as a result of employers' failure to abide by the minimum wage regulations. In EU research, the generally accepted low-wage threshold is defined as two-thirds of the median wage. The median wage divides all workers into two equal groups: 50% of workers earn less than the threshold, while the other 50% earn more. According to Eurostat, in 2014 the proportion of low-earning employees in Poland amounted to 23.6%. This was one of the highest values recorded in Europe (the EU average was 17.2%).

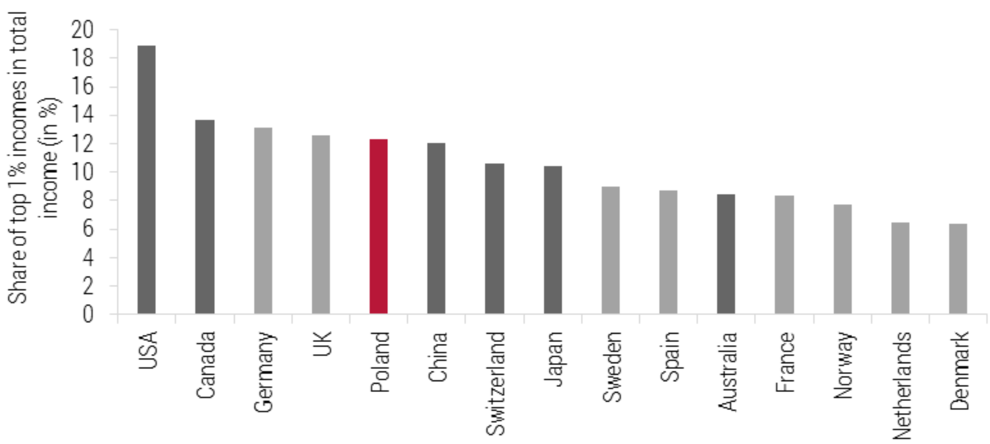
Thirdly, the proportion of Polish employees covered by collective agreements is relatively low compared to other EU Member States. Trade union density is also relatively low in Poland. Both these factors contribute to diminished employee bargaining power, which can result in a high level of wage dispersion.

Income inequality in Poland is relatively high compared to the EU-27

The gross income share of the top 1% of Poles is relatively high. In 2010, it amounted to 12.3% (see Figure 2). This figure comes from a new study by Bukowski and Novokmet (2017), which is based on income data from tax returns. Income inequality measured using this method is visibly higher in Poland than in the majority of Western European countries, and comes close to the levels of China, the UK, Germany and Canada. In terms of net income inequality, Poland's place in the world inequality ranking is at least as high. This is caused by the fact that the Polish income tax system has a negligible impact on reducing inequality.

The high-to-low net income ratio calculated based on survey data points to a relatively high income inequality level in Poland (see Figure 3). In 2015, this ratio amounted to 3.9 in Poland, compared to 5.4 recorded in Spain and 3.6 in Germany. According to survey data, income inequality in certain parts of Southern Europe as well as Baltic and Anglo-Saxon countries is higher than in Poland. In turn, lower levels of income inequality are found in the remaining Central and Eastern European (CEE) countries and the majority of Western Europe.

Figure 2. The gross income share of the top 1% is high in Poland (income data from tax returns, 2010)



Note: Poland is marked in red, other EU Member States in light gray and non-EU countries in dark gray.

Source: World Wealth & Income Database, Bukowski and Novokmet (2017).

Figure 3. Survey income data suggest that net income inequality in Poland is in line with the average level of highly developed countries (2014)

Note: Poland is marked in red, other EU Member States in light gray and non-EU countries in dark gray. The horizontal line indicates the average net income inequality level for EU Member States.

Source: Luxembourg Income Study Database and OECD.

In the case of Poland, it seems that tax data provide a more credible estimate of income inequality than survey data (see Frame 2). According to tax data, income inequality in Poland is high – indeed, higher than in the majority of European countries –while survey data would suggest that Polish income inequality is rather average in the European context. This discrepancy may stem from the fact that high-income earners are difficult to capture in surveys, a tendency that may be more pronounced in Poland than in wealthier EU countries. Owing to the above, it would seem that results obtained from tax data are somewhat more trustworthy. However, further research is needed to adjust the income inequality estimate from both sources.

Frame 2. Surveys and tax returns as a source of data on citizens' income

Data derived from tax returns seem to be a more credible source of information about the levels of income in Poland than survey data. The main source of survey data concerning income levels in Poland is the Household Budget Survey (BBGD) that has been carried out annually for decades by the Central Statistical Office (GUS). A serious problem that limits the credibility of survey data for inferring conclusions about inequality changes in Poland is the underrepresentation of very high-income households. Such households are usually more reluctant to participate in surveys, which leads to an underestimation of inequality measures. One possible solution to this problem involves estimating the income of top earners using data derived from tax returns rather than survey data. In the case of Poland, individual tax return data are not generally available to the public. Kośny's paper (2012), which relied on income data derived from tax returns collected in the province of Lower Silesia between 2006 and 2010, demonstrates that the gross incomes of the wealthiest households analysed in the BBGD are clearly underestimated. While the 2010 BBGD estimated the gross income share of the top 10% at ca. 27%, tax return data showed it to be a staggering 40%. Bukowski and Novokmet's study (2017), which relied on publicly available information on personal income tax paid by Poles, demonstrates that the level of gross income inequality in Poland and its changes over time calculated based on tax return data are markedly different from figures obtained based on survey data.

A significant decrease in income inequality in Poland between 2004 and 2007, as shown by The European Union Statistics on Income and Living Conditions (EU-SILC) survey, does not seem very credible. The survey shows that between 2004 and 2007 income inequality measures fell between 10% and 30%. No such significant decrease in inequality in Poland is documented by BBGD data. However, it is worth noting that the EU-SILC survey was only launched in 2004, which is why its initial findings should be treated with considerable caution. These findings are not corroborated by income inequality data derived from other sources, such as tax returns.

Market income inequality is shaped by wage dispersion and inequality of income derived from self-employment as well as savings, property and investment income. The distribution of market income is then adjusted by the tax-benefit system, which involves personal income taxes and social insurance contributions, indirect taxes (VAT, excise duties) and social transfers (pensions and invalidity/incapacity benefits, social assistance benefits and allowances).

The tax-benefit system reduces income inequality in Poland to a greater extent than in many medium-developed countries (such as Brazil, Chile or Russia), but to a lesser extent than in Czechia, Hungary or Western European countries (Goraus and Inchauste 2016). The one element of the tax-benefit system that has the greatest impact on reducing market income inequality in Poland are pensions and invalidity/incapacity benefits.

Stabilisation of wage dispersion and income inequality levels in Poland following a substantial surge between the 1990s and 2007

Wage dispersion and income inequality levels in Poland increased substantially between 1989 and 2007, but have recorded a slight decrease since 2007. During the post-1989 economic transformation, wage dispersion grew by ca. 70% (see Figure 4). Between 1989 and 2015, Poland recorded a greater rise in wage dispersion than Czechia and Hungary, as well as Western European countries and the US. Gross income inequality in Poland increased greatly between 1992 and 2007, but has been quite stable since 2007 (see Figure 5). Income inequality in Poland grew at a similar pace to Germany – faster than that observed in Sweden or France, but slower than in the US.

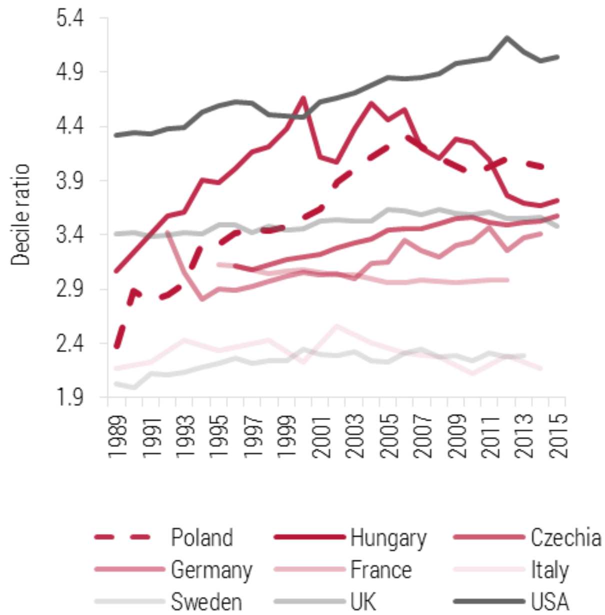
The main factor behind the growing income inequality in Poland during the period of economic transformation was the rapid surge in wage dispersion. This was related to the increase in wage premiums for well-educated workers performing high-skilled jobs. In market economy conditions, the wage premium for tertiary education, which was very low under socialism, recorded a notable rise, ultimately attaining a level close to that found in highly developed countries. Another factor that could explain the growing income inequality in Poland is the business cycle. The substantial increase in income inequality between 1998 and 2002 corresponds to a period of economic downturn, which was marked by significant long-term unemployment. Other factors that are often listed in source literature as potential causes of the rise in wage dispersion and income inequality levels, such as globalisation, transfer of assets from the public to the private sector and growing self-employment, did not play such an important role in Poland (Brzeziński et al. 2013).

The main reason behind the significant increase in gross income inequality between 2004 and 2007 was the substantial rise in inequality of income derived from economic activity. This inequality may have grown due to a considerable surge in economic activity and exports in Poland in the accession period, as well as increased profitability of economic activity in Poland (Bukowski and Novokmet 2017). However, some of the rise in income inequality observed between 2004 and 2007 may stem from tax law reforms, which involved introducing a flat tax rate for individuals pursuing economic activity in 2004. In net terms (after subtracting personal taxes and social insurance contributions), the increase in income inequality between 2004 and 2007 was undoubtedly lower, though to a relatively small extent, owing to the low progressivity of the Polish tax system.

Since 2007, the level of income inequality in Poland has stabilised, owing to several factors from a variety of sources. The decrease in income inequality was caused by:

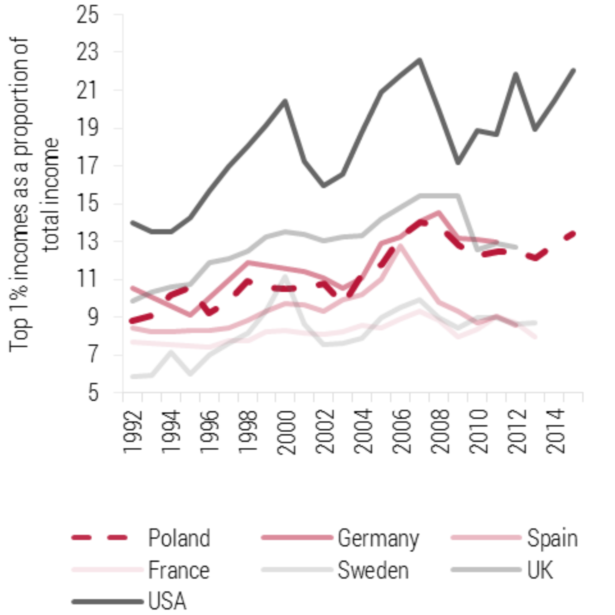
- reforms of the tax-benefit system (in particular, the introduction of child tax credits in 2007),
- reforms of the family allowance system,
- a fall in wage dispersion.

Figure 4. Wage dispersion in Poland recorded a substantial surge after 1989, but has been falling since 2006



Source: OECD Earnings Distribution Database.

Figure 5. Income inequality in Poland increased substantially between 1989 and 2007, but has remained at a stable level since 2007



Source: World Wealth & Income Database, Bukowski and Novokmet (2017).

Almost 50% of the fall in income inequality between 2005 and 2014 resulted from reforms of the tax-benefit system, in particular the introduction of child tax credits in 2007 and extending them to low-income families in 2014 (Myck and Najsztub 2016). Reforms of the family allowance system, which increased the scope of assistance for poor families with children, were also significant. An important market factor that helped reduce income inequality after 2007 was the fall in wage dispersion (see Figure 4), which was recorded in spite of the relatively robust economic growth between 2005 and 2014. This fall resulted, among others, from the rising education levels of Poles and increased migration from Poland after 2004. The rising education levels contributed to curbing the wage premium for education. While the wage premium for tertiary education amounted to ca. 60% in 2005 (the average difference in earnings between individuals that had completed tertiary education and those who had completed primary education at most), this value dropped to ca. 40% in 2014 (Myck and Najsztub 2016). The premium for secondary education decreased, from 31% to 24%.

The increase in income inequality was stimulated by:

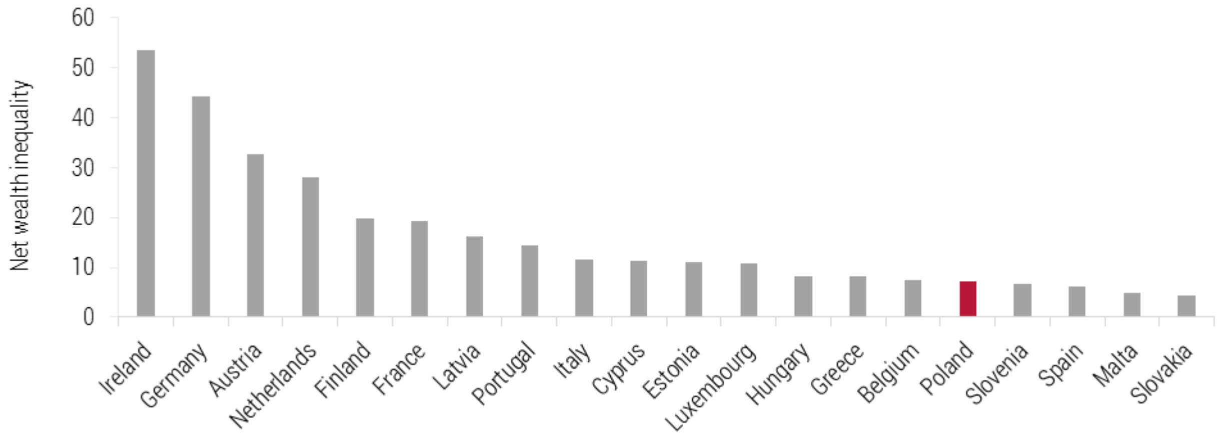
- abolishing the 40% tax rate applicable to the highest incomes in 2009,
- freezing such parameters of the income tax system as the tax threshold, tax-deductible expenses and non-taxable threshold.

Wealth inequality in Poland is low compared to other European countries

Wealth inequality in Poland is markedly lower than in the majority of European countries (see Figure 6). Net wealth in Poland was first subjected to systematic analysis in 2014, in the household wealth study conducted by the National Bank of Poland. Its findings show that the wealthiest 10% of households in Poland owned 37% of the total net wealth, while the poorest 20% of households held just 1% of the total net wealth. Aside from Poland, low wealth inequality has also been recorded in Greece, Slovakia, Slovenia, Spain, Belgium, Malta and Hungary. The low levels of wealth inequality in Poland and many other CEE countries result, among others, from the fact that intergenerational asset accumulation and inheritance processes were halted there in the period of socialism following World War II. Wealth inequality in Europe tends to increase along with rises in countries' economic development levels.

One method of analysing wealth inequality is to calculate the ratio of the total wealth of a country's richest citizens to its gross domestic product (GDP). The total net wealth of the richest Poles may be calculated based on information from The World's Billionaires List published by Forbes magazine. The proportion of wealth accumulated by the richest Poles to Poland's GDP for 2016 amounts to a mere 1.3%. This is one of the lowest values for the sample of countries whose citizens are included in the Forbes list, meaning that the wealth of the richest Poles is relatively low compared to the wealth of the richest citizens of other countries.

Figure 6. Wealth inequality in Poland is low compared to other European countries (2014)



Note: The high-to-low net wealth ratio has been used as the wealth inequality measure here. High net wealth is defined as a level where only 10% of the population own greater wealth, whereas low net wealth is understood as a level where only 30% of the population own less. In many European countries, the net wealth of the poorest 10% or 20% of the population is negative or equal to zero – their debt is greater than their gross wealth.

Source: Household Finance and Consumption Network.

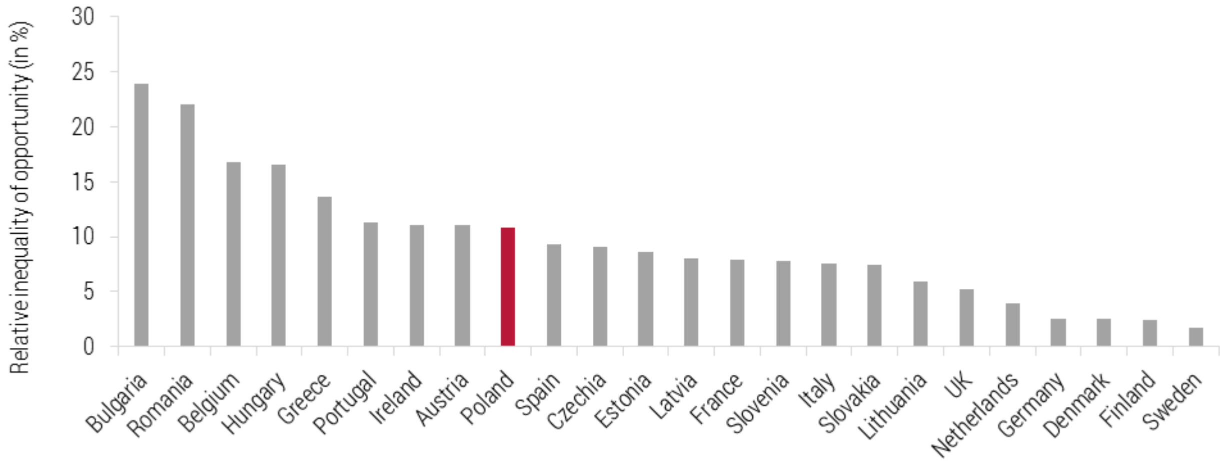
Inequality of income opportunities in Poland is moderate

Poland is part of a group of countries characterised by moderate inequality of income opportunities (see Figure 7). Advocates of the inequality of income opportunities idea argue that income generated by people results both from their own efforts as well as factors outside their control (such as parental education, gender, place of birth, etc.). The latter are referred to as 'circumstances'. While income inequality resulting from unequal effort is justified from an ethical standpoint, inequality rooted in unequal circumstances finds no such ethical justification. Therefore, equal opportunities policies should level out those inequalities which stem from unequal circumstances.

Around 11% of the total income inequality in Poland results from factors beyond the control of individuals, i.e. from inequality of opportunity. This may be reduced by appropriate educational and income policies addressed, for instance, at individuals whose parents had low educational attainment. By comparison, inequality of opportunity accounts for only 2.5% of income inequality in Germany, yet in Bulgaria and Romania the figure amounts to over 20%.

A clearly lower level of inequality of income opportunities than in Poland is observed in the Nordic countries, the Netherlands and Germany. In turn, these levels are much higher in Bulgaria, Romania or Hungary. Generally speaking, the higher the level of economic development, the lower the inequality of income opportunities in Europe.

Figure 7. The relative inequality of income opportunities in Poland is moderate (2010)



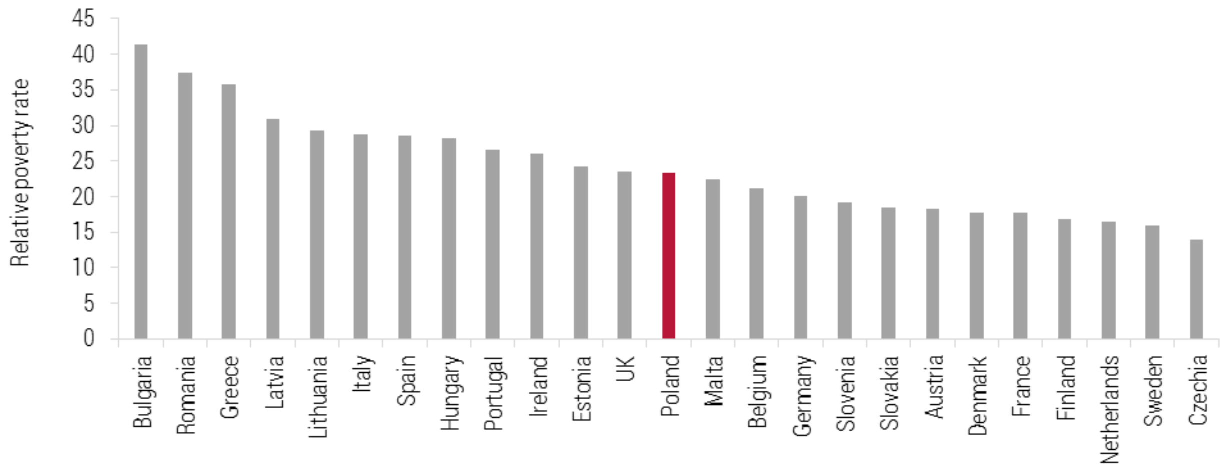
Note: The relative inequality of income opportunities stands for the percentage of total income inequality accounted for by factors beyond the control of individuals (e.g. parental education or occupation, gender, race, etc.).

Source: own calculation based on Eurostat data.

Relative income poverty in Poland matches the European average

The relative poverty rate is the share of the population whose income falls below 60% of the median income. In this sense, ca. 24% of Poles are poor. The incidence of relative poverty in Poland seems moderate, especially in comparison to countries with a similar level of economic development. This is largely due to pensions and invalidity/incapacity benefits, which provide relatively good protection against poverty.

Figure 8. Relative poverty in Poland matches the European average (2015)



Note: The relative poverty rate is the share of the population whose income falls below 60% of the median income.

Source: Eurostat.

Conclusions and economic policy implications

Economic inequality in Poland is relatively high compared to other EU Member States. Wage dispersion and – to a lesser degree – income inequality are particularly high, while wealth inequality is low. The main reasons behind the substantial wage dispersion are the continuously high wage premium for tertiary education, a relatively large share of irregular employment forms on the Polish labour market and low trade union density. Since the personal income tax system is characterised by low progressivity, the significant wage dispersion translates to a relatively high income inequality.

Research shows that in countries with similar levels of income inequality to Poland, the rise of inequalities may, to an extent, be mitigated by the pace of economic growth. Unfortunately, no research on the macroeconomic consequences of inequality has been conducted in Poland yet. However, studies indicate certain possible effects of inequality in the social and political spheres. The growing income inequality in Poland is correlated with the decline of trust in political institutions, falling voter turnout and a dramatic drop in trade union density (Letki et al. 2014). A significant rise has also been recorded in terms of acceptance of the thesis that income inequality in Poland is too high and of the state's redistribution role. The surge of income inequality in Poland may be correlated with the growing disappointment at Poland's economy and attempts to reform it, as well as a rising conviction that high incomes are undeserved and associated with corruption (Grosfeld and Senik 2010). In other words, the increase in income inequality may undermine the legitimacy of the social and economic system in Poland.

The Polish tax system reduces inequalities only to a very small extent. Direct taxes on personal income are characterised by low progressivity, and their role in reducing inequality is negligible (Goraus and Inchauste 2016). Indirect taxes – VAT and excise duties – are regressive (the poor pay proportionately more than wealthier individuals) and contribute to increasing income inequality to a greater extent than in many developing countries. In order to reduce the high levels of income inequality in Poland, the redistribution power of the tax system should be reinforced by way of reducing the (direct and indirect) tax burden for individuals with very low incomes or increasing taxation on high earners.

References

Bukowski, P., Novokmet, F. (2017). Top Incomes in Poland: From the 1890s until today. Mimeo.

European Commission, Eurostat, cross-sectional EU-SILC database for 2015.

Goraus, K.M., Inchauste, M.G. (2016). The Distributional Impact of Taxes and Transfers in Poland. Policy Research working paper; no. WPS 7787. Washington, D.C.: World Bank Group.

Grosfeld, I., Senik, C. (2010). The Emerging Aversion to Inequality. *Economics of Transition*, Vol. 18, No. 1, pp. 1–26.

Household Finance and Consumption Network (HFCN) (2016). The Eurosystem Household Finance and Consumption Survey – Results from the Second Wave. ECB Statistics Paper no. 18.

Kośny, M. (2012). Upper Tail of the Income Distribution in Tax Records and Survey Data: Evidence from Poland, article presented at the 32nd International Association for Research in Income and Wealth Conference, Boston, USA.

Letki, N., Brzeziński, M., Jancewicz, B. (2014). The Rise of Inequalities in Poland and Their Impacts: When Politicians Don't Care but Citizens Do. In: B. Nolan, W. Salverda, D. Checchi, I. Marx, A. McKnight, I.G. Tóthi, H.G. van de Werfhorst (eds.), *Changing Inequalities and Their Societal Impacts in Rich Countries: Thirty Countries' Experiences*. Oxford: Oxford University Press, pp. 488–513.

Myck M., Najsztub, M. (2016). Distributional Consequences of Tax and Benefit Policies in Poland: 2005–2014. CenEA Working Paper Series WP02/16.

NBP (2015). Household Wealth and Debt in Poland. Pilot Survey Report 2014. Warsaw: Financial Stability Department.

Salverda, W., Checchi, D., (2014). Labour-Market Institutions and the Dispersion of Wage Earnings. IZA Discussion Papers 8220, Institute for the Study of Labor (IZA).

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Additional information

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