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SELECTED SOCIO-ECONOMIC ASPECTS OF INCOME INEQUALITY IN THE THE VISEGRAD GROUP COUNTRIES

Abstract: *Importance of the issue of income inequality lies in the interdependence with serious economic and social processes in the world in the past two decades. The paper highlights the importance of studying and evaluating income inequality that are perceived as the most striking forms of inequality in society. It emphasizes the links among income inequality with serious current socio-economic processes. The aim of this paper is to create a view of the formation of income inequality in the countries of the Visegrad Group (V4) in the years 2005 – 2013 and to identify possible links among the economic crisis since 2008, or 2007, and its impact on selected socio-economic indicators. In relation to the objectives, they are therefore subject to review by selected socio-economic aspects of income inequality. The starting-point and the comparative parameters of empirical research problems is a database of EU SILC, which is used for the analysis of income inequality and poverty in the V4 countries.*

Keywords: *income inequality, the Gini coefficient, index quintile S80 / S20, the poverty rate, material deprivation*

JEL: D 31, D 33

Introduction

In terms of social stability and economic development of each country, the income distribution plays an important role in society. Income disparity is one of the most visible forms of social inequality, which is the stratification of society into different groups where members are provided different amounts of money and wealth, different levels of socio-political power and prestige. In terms of income, polarization is a specific type of vertical inequality. It can be given to social situations but may also appear as inequality, which is determined by various other factors such as ethnicity, gender, age, education, profession, health, and the ability to adapt to changes in the labour market and so on.

No system is able to provide income equality to all its members, but the view of increasing income inequality, as reflected in the growing number of people in material need and at risk of poverty, disproportionate household indebtedness, decline in investment in human capital in low income areas, increasing demands on social policy, increasing public finance deficit and so on raises for many members of our society discontent and fear of the future. [10]

A measure of income inequality is necessary for the company as an adequate incentive element of remuneration of talent, work effort and innovation. A strongly polarised income inequality raises serious economic and social processes in the form of undermining cohesion of society, creating social tensions and social exclusion, which ultimately can lead to a weakening of economic growth.

Expert discussion about the causes and determinants of unequal distribution of income in society are held, which offer different expla nations. From a wide range of views on the rise in income inequality we choose several perspectives.

Among the experts, the consensus view is that the main cause of the increase in inequality in the world in recent decades is globalisation. [4] Stiglitz [7] points at the globalisation of trade and international technology transfers, which result in an increasing demand for a highly skilled labour. Technological progress, which is challenging for the qualifications and skills, increases income at the expense of less talented workers and thus deepens income inequality.

In addition to trade globalisation and technological change, some authors consider the decrease in the minimum wage and labour market liberalisation as the main factor of a growing income inequality. [5, 8, 9]

According to other authors, a financial liberalisation and mobility of capital had a significant impact on income inequality, which led to an increase in protection rights of capital at the expense of workers' rights and the reduction of Union forces. [1]

Fournier and Koske [3] see the problem of increasing income inequality in the endogenous determinants of labour income (inequality in education and work experience, force fields, type of contract, the structural problems of the labour market).

The UN report [6] distinguishes exogenous and endogenous determinants of income inequality, while the first group includes the globalisation of trade, financial globalisation and technological change, and the second group macroeconomic policy, labour market policy, inequality in wealth, taxation, and public spending.

It is indisputable that globalisation has brought the enlargement of the income gap between the rich and poor, deepened regional differences in income but also the gradual transfer of the middle class to the lower zones in the overall income distribution. Today's stratification of income in the world is characteristic, on the one hand of expanding low-income groups and on the other hand, of strengthening the position of a small group of the rich.

The current relevance of examination of income inequality and its impact on socio-economic development of the society in the current period was highlighted by the approved Strategy for smart, sustainable and inclusive growth – Europe 2020 – and the need to assess its goals.

1 Analysis of Selected Indicators – Socio-economic Consequences of Income Inequality

The 2020 Europe strategy is based on three mutually reinforcing priorities – smart, sustainable and inclusive growth. The main objectives are fighting against poverty and social exclusion (20 million fewer people should be at the risk of poverty) and increasing the employment rate of the population (which should reach 75 % of inhabitants aged 20 – 64 years).

Based on the 2020 Europe Strategy and its objectives, for the purposes of this analysis there was monitored the level of the following socio-economic indicators – poverty gap, the poverty rate, the risk of poverty after social transfers, long-term unemployment, material deprivation, income inequality measured by the Gini coefficient and quintile index the S80 / S20. For the comparison of their development in the countries of the Visegrad group (the V4) there have been used data from the survey European Union Survey on Income and Living Conditions (EU-SILC below). The aim of this analysis is to identify the possible connection among the economic crisis since 2008, or in 2007 and its impact on those selected indicators.

When analysing income inequality in the economy, as a rule, we take into account internal factors that cause weak social position of certain populations. This income inequality, is induced by ethnicity, gender, age, low education, unnecessary profession, inability to adapt to changes in the labour market, health, and so on.

Economic theory offers several ways of examining income inequality. The use of characteristics due to their different construction depend largely on the purpose and focus of research but also on the nature of the data with which they will be working coefficient or index.

The present-day income stratification in the world is characteristic by increasing low-income groups on the one hand, and by strengthening the position of a small group of the rich, on the other hand. From a macroeconomic perspective, the V4 countries are not among the countries with high income inequality. This does not preclude the fact that even in these countries large income differences have been created among certain social groups, or among regions and within them.

1.1 Poverty Gap

A relatively rapid response to the economic crisis may be recorded in monitored V4, which has resulted in marked deterioration of economic and social parameters. For the Slovak Republic, the crisis had a negative impact primarily in the gap of poverty, most notably, this was reflected in 2010, or in 2013. The poverty gap represents the distance of the population below the poverty line to the very edge of poverty. Indicator value represents the amount of finances that an individual required to reach the poverty line and is expressed as a percentage of the poverty line. The value of this indicator in the period 2005 – 2013 fluctuated throughout the EU 27 at 21.8 % – 23.7 % (see Table 1). For the entire period, the Czech Republic and

Hungary were below that level (with the exception of Hungary in 2006) and range compared to other V4 countries and within the data for the EU-27 the best results in this characteristic. Poland markedly exceeded values of the EU-27 between 2005 and 2009. At the beginning of the period, Slovakia performed better compared to the EU 27, but since 2009 there has been no adverse change to a value of this indicator in comparison with other countries the worst (except in 2012).

Table 1

Poverty gap in %

	2005	2006	2007	2008	2009	2010	2011	2012	2013
EU 27	23.3	23.4	23.2	21.8	22.2	22.7	22.9	23.2	23.7
Czech Rep.	18.2	16.8	18.1	18.5	18.8	21.1	17.2	19.1	16.6
Slovakia	23.5	20	19.2	18.1	23.2	25.7	22.8	20.5	24.1
Poland	30.1	25	24	20.6	22.7	22.2	21.4	22.2	22.6
Hungary	18.4	24.1	19.8	17.3	16.3	16.5	18.3	21	21.7

Source: Eurostat, EU SILC database.

1.2 Risk of Poverty after Social Transfers

Income stratification is associated with the problem of poverty. Low income is usually the main feature of poverty, although the causes of poverty are much broader in shape. The poverty can be spoken about when it comes to inferior living conditions with special individual and social consequences. In the literature, we can encounter several concepts of poverty, offering a variety of its definition and measurement capabilities. The practical definition of this category is not easy because of the absence of a uniform definition of poverty as well as the result of different socio-economic level of development in which the country is located. Therefore, poverty is generally defined in relation to standards which apply in that country.

State contributes significantly to reducing poverty and social exclusion by state benefits. A significant increase was recorded in the period of crisis in the indicator risk of poverty after social transfers, which represents the proportion of people below the poverty line (60 % of median equivalent disposable income) after social transfers. In times of crisis, in some countries there occurs reduction or even full interference of various social programmes due to lack of resources, which ultimately means a decrease in social transfers to vulnerable population groups.

Table 2 shows the development during the crisis, which increased this indicator by 16.4 % after 16.8 % in 2012 since 2008 in the EU-27. In 2013, this indicator decreased to 16.6 %. The Czech Republic was also far below those values in this indicator, but after 2009 also there occurred growth, which reached 9.8 % in 2011 (in 2013 it dropped to 8.6 %). Likewise the Czech Republic, Slovakia and Hungary were also at risk indicators of poverty after social transfers below the EU-27 values, but there has been a visible growth since the beginning of the crisis period. During the entire period Poland ranks among countries with a higher risk of poverty after social transfers and exceeds a yearly value for the EU 27 as a whole.

Comparison of the risk of poverty rate before and after social transfers indicates the effectiveness of the state in social protection. Table 2 shows the risk of poverty rates in each country of the V4 and the EU 27, before social transfers and afterwards. In 2013, due to government transfers, the risk of poverty rate in V4 countries was reduced by an average of 8.25 % on the resulting average value of 13.25 %. The highest efficiency in terms of social transfers can be observed in Hungary, where the impact of social transfers alleviated the risk of poverty rate among the population by 12 %, which is the equivalent of 1,189,000 inhabitants. Conversely, the least efficient state redistribution is registered in Poland, where the impact of state intervention reduced the value of the population at risk of income poverty from 23 % to 17.3 %. This decrease meant a 5.7 % decline, and in this way Poland, via national redistribution, reduced the risk of poverty for 2,196,400 inhabitants. On the average, in the European Union due to state intervention the poverty rate was reduced by 9.2 %. Thus all V4 countries, except Hungary (12 %) are below the European average.

Table 2

Risk of poverty after social transfers in %

		2005	2006	2007	2008	2009	2010	2011	2012	2013
EU 27	**before**	26.0	26.2	25.8	25.3	25.4	25.9	26.3	25.7	25.9
	after	16.4	16.5	16.5	16.6	16.4	16.4	16.8	16.8	16.6
Czech Republic	**before**	21.2	21.6	20.1	20.0	17.9	18.1	18.0	17.6	16.6
	after	10.4	9.9	9.6	9.0	8.6	9.0	9.8	9.6	8.6
Slovakia	**before**	21.9	20.0	18.2	18.4	17.1	19.8	19.5	20.0	20.1
	after	13.3	11.6	10.6	10.9	11.0	12.0	13.0	13.2	12.8
Poland	**before**	29.8	28.6	26.5	25.1	23.6	24.4	24.1	22.9	23.0
	after	20.5	19.1	17.3	16.9	17.1	17.6	17.7	17.1	17.3
Hungary	**before**	29.4	29.6	29.3	30.4	28.9	28.4	28.9	27.1	26.3
	after	13.5	15.9	12.3	12.4	12.4	12.3	13.8	14.0	14.3

Source: Eurostat, EU SILC database.

1.3 Material Deprivation

While the quality of life of a person depends on the subjective experience and the individual sense of satisfaction with one's own life, many studies now agree that the individual subjective quality of life is derived from the material sufficiency, where the income and its amount have much greater effect on the quality of life as age or sex.

One of the instruments measuring individual well-being in relation to low income is a measure of material deprivation. Deprivation is an involuntary insufficient satisfaction of needs due to lack of resources in relation to the level and method of needs which are in the society widely available and widely accepted. Material deprivation indicator is defined as the percentage of the population with an enforced lack of at least three of nine items of material deprivation.

The V4 countries surveyed (except the Czech Republic, which is one of the States with an average level of material deprivation) are among the states with above average values. In Hungary, nearly half of households do not have more than three or more items, which is compared to the EU27 average value, 2.27 times higher. The most visible progress can be observed in Poland, where the material deprivation rate decreased from 50.8 % during the nine years to 25.5 % of households. However, it should be noted that this indicator reflects only the existence or absence of selected goods or the occurrence of certain events. However, an indicator of material deprivation does not affect the very nature and characteristics of the indicator. It takes neither the age nor the technical characteristics into account, and that is what leads to a lower explanatory power, because in today's world there is rapid progress in information technology and these bundled products.

Table 3

Material deprivation in %

	2005	2006	2007	2008	2009	2010	2011	2012	2013
EU 27	20.0	19.2	18.0	17.5	17.3	17.8	18.5	19.8	19.6
Czech Republic	22.7	19.7	16.4	16.2	15.6	15.1	16.1	16.8	15.9
Slovakia	42.6	35.7	30.2	27.8	24.5	24.9	22.0	22.7	23.4
Poland	50.8	44.0	38.2	32.3	29.5	28.4	26.4	27.8	25.5
Hungary	39.7	37.4	38.6	37.1	40.3	39.9	42.2	44.0	44.1

Source: Eurostat, EU SILC database.

1.4 The Gini Coefficient

The Gini coefficient is a numerical representation of diversion Lorenz curve by curve perfect distribution of income. The Gini coefficient may be in the range of values 0 – 1, respectively as a percentage of 0 % to 100%. The more the coefficient is close to 100 %, the less perfect the distribution of income in society. Since 2005 this coefficient for the EU-27 has fluctuated only slightly. The income inequality of monitored countries is increasing; the imaginary income scissors start gaping and increase in the risk of poverty; while in the Czech Republic and the Slovak Republic, in comparison with other countries, it is impossible to speak about large differences so far. Income inequality has been affected by financial and economic crises, among other things by changes in the structure and size of household. Due to persisting unfavourable economic conditions, there can be expected worsening of the position of these countries in international comparison.

The relatively low values of the Gini coefficient indicate not very high income inequality in the Czech and Slovak companies in comparison with other developed countries. In 2013 The Gini coefficient for the 27 EU Member States entered into value of 30.5 % – by comparison, it was 24.2 % in Slovakia and 24.6 % in the Czech Republic.

Table 4

Gini coefficient in %

	2005	2006	2007	2008	2009	2010	2011	2012	2013
EU 27	30.6	30.2	30.6	30.8	30.4	30.4	30.7	30.5	30.5
Czech Republic	26.0	25.3	25.3	24.7	25.1	24.9	25.2	24.9	24.6
Slovakia	26.2	28.1	24.5	23.7	24.8	25.9	25.7	25.3	24.2
Poland	35.6	33.3	32.2	32.0	31.4	31.1	31.1	30.9	30.7
Hungary	27.6	33.3	25.6	25.2	24.7	24.1	26.8	26.9	28.0

Source: Eurostat, EU SILC database.

1.5 The Coefficient of Income Inequality S 80 / S 20

The coefficient of income inequality S80 / S20 is defined as the ratio of the volume of revenue accounted for by 20 % of those with the highest incomes in society (the fifth quintile) to the amount of income attributable to the 20 % of people with the lowest incomes in the society (the first quintile). The coefficient can theoretically take any value in the interval (1, ∞), but in practice does not live in the EU a value less than three or more than twelve. The higher the value of this coefficient, the higher is the total revenue richest 20 % of individuals in a ratio of the total income of the poorest 20 % of people, and the higher the distribution of earnings in the society. Conversely, the more the value would approach to one, the more levelled out would be the incomes in society. The coefficient of one means absolute equality of income of all members of society. Quintile breakdown of households enables more qualified and deeper look at the situation of a particular income group across the income spectrum because it describes not only the structure of the distribution, but also the variability of distribution and avoids the disadvantages margin.

Inequalities in income distribution expressed as the ratio of income quintile (S80 / S20) in the EU 27, like the Gini coefficient, have not changed significantly since 2005 and ranged between 4.9 times to 5 times in 2013; Table 4 and Table 5 show that in the Czech Republic and Slovakia income inequalities are not generally too large. In 2013, in Slovakia the equivalent amount of disposable income of 20 % persons with the highest income was 3.6 times higher than the amount of income of people with the lowest incomes. In the reporting V4 Poland saw 4.9 times the ratio among the income quintile. As part of a pan-European assessment, it can be concluded that countries characterised by an above average income differentiation mostly belong to less developed or so-called problem countries (except the UK).

Table 5

The coefficient of income inequality S 80 / S 20

	2005	2006	2007	2008	2009	2010	2011	2012	2013
EU 27	5.0	5.0	5.0	5.0	4.9	4.9	5.0	5.0	5.0
Czech Republic	3.7	3.5	3.5	3.4	3.5	3.5	3.5	3.5	3.4
Slovakia	3.9	4.1	3.5	3.4	3.6	3.8	3.8	3.7	3.6
Poland	6.8	5.6	5.3	5.1	5.0	5.0	5.0	4.9	4.9
Hungary	4.0	5.5	3.7	3.6	3.5	3.4	3.9	4.0	4.2

Source: Eurostat, EU SILC database.

1.6 Long-term Unemployment

Long-term unemployment (twelve months or more) is expressed as a share of long-term unemployed in the total number of economically active population. Data on inequality in long-term unemployment in the EU 27 in the period 2005 to 2013 fluctuated significantly between 2.6 % – 5.1 %, or 5 % in 2014. From 2005 to 2008, the indicator documented decline, but since 2009, after the onset of the economic crisis, the share of long-term unemployed has been increasing significantly again. The worst situation in Slovakia is in the area of long-term unemployment, where long-term unemployment is 10 %, which is a serious economic problem for Slovakia. Table 6 shows that the dramatic increase in long-term unemployment occurred in 2010. The annual increase between 2009 and 2010 can be registered in all V4, or in all EU countries, and this is reflected in the EU average due to the crisis of 2008. The main decrease the number of long-term unemployed shows Poland that registered in 2013 the long term unemployment rate of 4.4 %, a decrease of 5.9 % compared to 2005. The Czech Republic has achieved the best results in this area in comparison with the other V4 countries, or in comparison with the EU 27.

Table 6

Long term unemployment in %

	2005	2006	2007	2008	2009	2010	2011	2012	2013
EU 27	4.1	3.7	3.1	2.6	3.0	3.8	4.1	4.6	5.1
Czech Republic	4.2	3.9	2.8	2.2	2.0	3.0	2.7	3.0	3.0
Slovakia	11.8	10.3	8.3	6.7	6.5	9.3	9.3	9.4	10.0
Poland	10.3	7.8	4.9	2.4	2.5	3.0	3.6	4.1	4.4
Hungary	3.2	3.4	3.4	3.6	4.2	5.5	5.2	4.9	4.9

Source: Eurostat, EU SILC database

Conclusion

In the surveyed V4, it can be concluded that the economic crisis has been negatively reflected in all indicators of this analysis. In Slovakia its most evident impact is on the indicators of poverty gap and long-term unemployment. In terms of long-term unemployment, its rate is the highest of all the V4 countries. In 2013 it reached 10 %, which is a significant problem for Slovakia.

In Hungary, the economic crisis is clearly the most visible indicator of material deprivation, and the V4 countries reported the highest rate of material deprivation that continues to grow, and compared with the EU 27 it reaches above-average values (it took the third worst position in the EU). The lowest level of material deprivation can be observed in the Czech Republic (15.9 %), which is the only V4 that is below the EU average of 27. The Czech Republic recorded, compared to the other V4 countries, the most favourable values in all the indicators.

During the entire period, Poland ranks among countries with a higher risk of poverty after social transfers as well as the material deprivation indicator, among the above average states. In the case of material deprivation, the situation has greatly improved, because during the nine years the material deprivation has declined from over 50 % to 25.5 % for deprived Polish households.

The highest income inequality prevails in Poland, where a group of persons with the highest income accounts for 38.9 % of revenues in the society. In the Polish case, the population group with the highest income (fifth quintile) was almost five times the income of the population with the lowest income (first quintile). Conversely, egalitarian position is characteristic of the Czech Republic and the Slovak Republic, which are global leaders.

The highest number of households at risk of income poverty are located in Poland (17.3 %) and the lowest number in the Czech Republic (8.6 %). The highest efficiency in terms of social transfers is observed in Hungary, where the influence of social transfers decreased risk of poverty rate of 12 %. The least efficient allocation is recoreded in Poland, where the decline in rate of poverty amounted to 5.7 %, which is a significantly lower value compared to the European average (9.2 %).

Empirical results confirm the long-term mismatch between economic growth and the quality of life of society. In this context, the income disparity (inequality), its deepening, or the increase in the share of low-income population groups are very worrying. The importance of the issue of income inequalities lies in the interdependence with serious economic and social processes, which have taken place in recent decades. For this reason, the importance of these problems must be seen primarily in terms of future socio-economic development of the society.

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