

## INEQUALITY PROBLEMS IN MIDDLE-INCOME COUNTRIES

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**Abstract:** *Income inequality progresses of five post-socialist countries currently members of the European Union (EU) from Central and Eastern Europe (CEE) – the Czech Republic, Hungary, Poland, Slovakia, and Slovenia – are examined in this paper. The similar political and economic changes of these countries allow an integrated analysis of their income inequality developments. Moreover, as these countries represent a unique group around the border between high-income and upper-middle-income countries the paper can contribute also the debate of inequality problems in countries of different levels of economic development. The study focuses on the several relating and often contradictory theories and empirical evidences from the past few years trying to offer a comprehensive picture of progress if inequality of this region.*

*After a short introduction, the theories about the relationship between inequality and growth are summarized. Then the empirical evidences about income inequality in CEE countries are presented and also compared with EU-wide data. Finally, some concluding remarks close the paper.*

**Key words:** *inequality, economic growth, middle-income countries*

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### 1. INTRODUCTION

The relation between economic growth and income inequality is far from straightforward. Inequality can be a positive impact on economic growth because income differentials provide incentives and reward personal effort, risk-taking and innovation. It also promotes growth by stimulating higher level accumulation of savings. Nevertheless, income inequality can be against growth by reducing aggregate demand (Carvalho and Rezai 2014); fueling financial instability (Rajan 2011; Acemoglu 2011); hampering investment (Bardhan 2005; Dabla-Norris et al. 2015) and middle class risk-taking (Boushey 2011); impeding the swift upgrade of skills and education, reducing productivity (Stiglitz 2012); delay socioeconomic mobility (Krueger 2012; Corak 2013). (Bubbico and Freytag, 2018) The cumulative effect has been debated.

Inequality in Europe is an especially complex question because it has at least three different dimensions: within member states, between member states and in the European Union (EU) as a whole.

Finally, inequality issues among CEE countries are particularly difficult to understand because of the parallel effects of transition from a centrally planned economy to a market economy, globalization, and EU's convergence mechanisms.

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## 2. CONTRADICTIONARY THEORIES ABOUT THE RELATIONSHIP BETWEEN INEQUALITY AND GROWTH

### 2.1 Kuznets curve

As Nobel Prize winner Simon Kuznets originally said, as an economy develops, a natural pattern of economic inequality occurs, driven by market forces which, at first, increase inequality, and then decrease it. The simple explanation for this phenomenon is that in order to grow countries have to shift from agricultural to industrial sectors. While there are little variations in agricultural incomes industrialization leads to large differences in incomes. However, in a growing economy education offers greater opportunities to learn for anyone by which the inequality decreases. Beside of this, the part of the population with lower income gains enough political power to force anti-inequality and welfare policies to governments. Kuznets believed that inequality followed an inverted U-shape: the Gini coefficient rises with the economic development and then falls with increased per-capita income.

In the light of new evidences, the pioneering work of Kuznets has been questioning. The period of about 1950 to 1960, when Kuznets' work was born, has been seen as exceptional from several aspects, and these resulted in, at least in part, false conclusions. The decrease of inequalities measured at that time in the most-developed countries does not necessarily continue.

### 2.2 Piketty's theory

Works by Piketty gave a new impulse to research of economic inequality and growth. His works focus on wealth concentrations and distribution mostly over the past century in high-income countries, and the long-term evolution of inequality. He argues that the rate of capital return in developed countries is persistently greater than the rate of economic growth, and that this will cause wealth inequality to increase in the future (Piketty, 2014).

Piketty and Saez (2014) build their review and interpretations of their observations on three basic time-series (Fig. 1, 2, and 3). First, they find that whereas income inequality was larger in Europe than in the USA a century ago, it is currently much larger in the States (this is true for every inequality metric not only for the share of total income going to the top decile in Fig. 1)

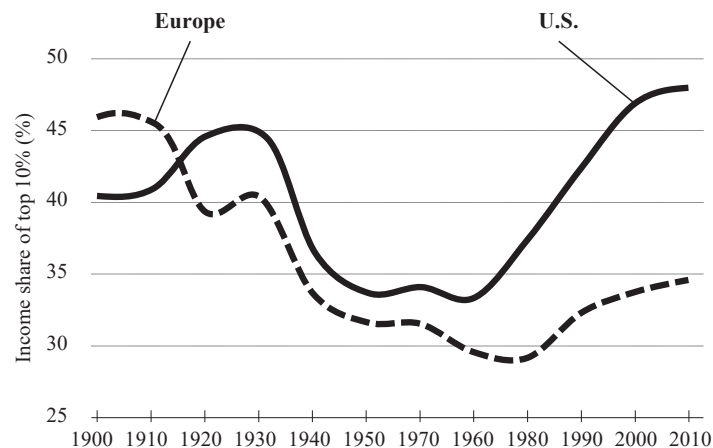


Figure 1: **Income inequality in Europe and the United States, 1900 to 2010.** The share of total income accruing to top decile income holders was higher in Europe than in the United States from 1900 to 1910; it was substantially higher in the United States than in Europe from 2000 to 2010. (Piketty and Saez, 2014)

On the eve of World War I (WWI), in the early 1910s, the top decile income share was between 45 and 50% of total income in most European countries. At the same time, the top decile income share was slightly above 40% in the United States. In the early 2010s, the inequality ordering between Europe and the United States is reversed. That is, the top decile share in Europe is currently almost one-third smaller than what it was one century ago. In the United States, where the top decile income share in 1910 was lower than in Europe, it is now close to 50%, higher than it has ever been in U.S. history. (Piketty and Saez, 2014)

Regarding wealth inequality, they observe the same inequality reversal between Europe and the United States. That is, the share of total net private wealth owned by the top 10% of wealth holders was notably larger in Europe than in the USA one century ago, while the opposite is true today (Fig. 2).

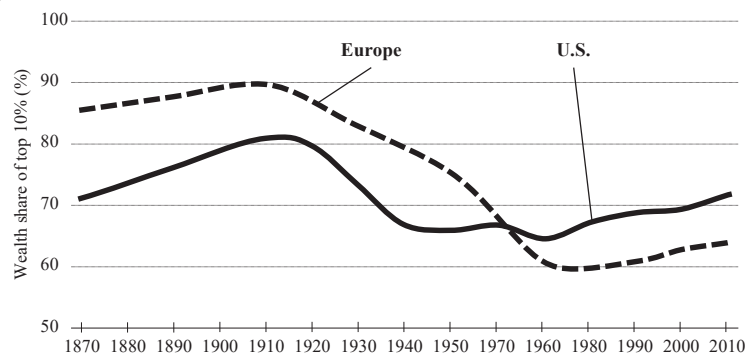


Figure 2: **Wealth inequality in Europe and the United States, 1870 to 2010.** The share of total net wealth belonging to top decile wealth holders became higher in the United States than in Europe over the course of the 20th century. (Piketty and Saez, 2014)

According to Fig. 2, the top decile wealth share typically falls in the 60 to 90% range, whereas the top decile income share is in the 30 to 50% range. While the bottom 50% wealth share is always less than 5%, the bottom 50% income share is generally between 20 to 30%. Or, in other words, members of the bottom half of the population (wealth-wise) own less than one-tenth of the average wealth, while members of the bottom half of the population (income-wise) earn about half the average income. Next, in contrast to income inequality, US wealth inequality levels have still not regained the record levels observed in Europe before WWI. Although wealth concentration has been high throughout U.S. history, there has always been a large fraction of U.S. aggregate wealth – about 20 to 30% – that did not belong to the top 10%. As wealth share of the bottom 50% has always been negligible, the remaining 20 to 30% fraction corresponds to the share owned by the 40% “wealth middle class”, that is, there has always been a wealth middle class in the United States. In contrast, wealth concentration was so extreme in pre-WWI Europe (the top decile wealth share was close to 90%) that there was basically no wealth middle class. The middle 40% wealth holders in Europe were almost as poor as the bottom 50% wealth holders. However, between 1914 and about 1970, the top decile wealth share fell dramatically in Europe, from about 90% to 60%. It has been rising since the 1970s-80s, and is now close to 65%. In other words, the wealth middle class now commands a larger share of total wealth in Europe than in the United States – although this share has been decreasing lately on both sides. According to Piketty and Saez, modern US inequality is based more on a very large rise of top labor incomes than upon the extreme levels of wealth concentration that characterized the wealth-based societies of the past. In 1913 Europe, top incomes were predominantly top capital incomes (rent, interest, and dividends) coming from the very large concentration of capital ownership. Top US incomes today are composed about

equally of labor income and capital income. This generates approximately the same level of total income inequality, but it is not the same form of inequality. (Piketty and Saez, 2014)

Third, as to wealth-to-income ratios, they also find large historical variations, again with striking differences between Europe and the United States (Fig. 3). This ratio is of critical importance for the analysis of inequality, as it measures the overall importance of wealth in a given society, as well as the capital intensity of production.

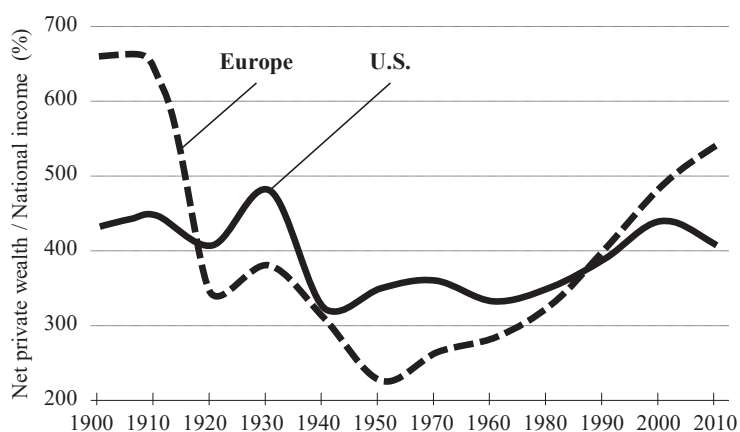


Figure 3: **Wealth-to-income ratios in Europe and the United States, 1900 to 2010.** (Piketty and Saez, 2014)

In Europe, the aggregate wealth-income ratio has followed a typical U-shaped pattern over the past century: on the eve of WWI, net private wealth was about equal to 6 to 7 years of national income; then fell to about 2 to 3 in the 1950s; finally it is now back to about 5 to 6. The US pattern is also slightly U-shaped but it is flatter: net private wealth has generally equaled about 4 to 5 years of national income. The fall of European wealth-income ratios following the 1914–1945 shocks can be well accounted for by three main factors: direct war-related physical destruction of domestic capital assets; lack of investment (a large fraction of 1914–1945 private-saving flows was absorbed by the enormous public deficits induced by war financing); and a fall in relative asset prices (real estate and stock market prices were both historically very low in the immediate postwar period, partly due to rent control, nationalization, capital controls, and various forms of financial repression policies). (Piketty and Saez, 2014)

The comparison between Figs. 1 and 3 is underlined by Piketty and Saez. Although both figures have two U-shaped curves, these are clearly different. The United States is the land of booming top labor incomes: the U-shaped pattern for income inequality is mostly driven by the large rise of top labor incomes in recent decades. Europe is the land of booming wealth: the U-shaped pattern for aggregate wealth-income ratios comes from concentration of wealth. These are two distinct phenomena, involving different economic mechanisms and different parts of the developed world. (Piketty and Saez, 2014)

### 2.3 Kuznets waves

Milanovic (2016) has introduced the concept of ‘Kuznets waves’, with cycles of increase and decrease of inequality with development. Milanovic identifies a second Kuznets curve in the US, with inequality still rising. This process is driven by technological change, disruption of organized labor and globalization, with decline of middle class and lower taxes on capital.

Milanovic offers an alternative to the before mentioned two theories. While Kuznets argues that high levels of inequality are the temporary side-effect of the developmental process, Piketty says that high levels of inequality are the natural state of modern economies. Milanovic suggests that both are mistaken. He thinks that inequality tends to flow in cycles. In the pre-industrial period inequality rises as countries enjoys a spell of good fortune and high incomes, then fall as war or famine dragged average income back to subsistence level. With industrialization, the forces creating Kuznets waves changed. The technological advance, globalization and policy shift all works together in mutually reinforcing ways to produce dramatic economic change. Workers are reallocated from farms to factories, average incomes and inequality soared and the world becomes unprecedentedly interconnected. Since then, the rich world has been riding a new Kuznets wave, propelled by another era of economic change. Technological progress and trade work together to squeeze workers, he says; cheap technology made in foreign economies undermines the bargaining power of rich-world workers directly, and makes it easier for firms to replace people with machines. Workers' declining economic power is compounded by lost political power as the very rich use their fortunes to influence candidates and elections. (Economist, 2016)

Milanovic expects rich-world inequality to keep rising, in the USA especially. This can be followed by pro-inequality trends built on a combination of inequality stabilizers like political change, pro-unskilled labor technological innovations, dissipation of rents acquired during the technological change, and greater attempts to equalize ownership of assets. (Bubbico and Freytag, 2018)

## **2.4 Other recent contributions**

Nowadays many studies argued that the relation between inequality and growth is various: it changes over time and with level of development. For example, Alesina and Rodrik (1994), Bertola (1993), Persson and Tabellini (1994) argued that more inequality causes lower level of economic growth, through highly distortionary taxations. (Bubbico and Freytag, 2018)

Ostry et al. (2014) do not find evidence of a trade-off between growth and equality, showing that redistributive policies have no adverse effects on growth. Dabla-Norris et al. (2015) show that growth is more robust if income share of lower quintiles increases, compared to an increase of the top quintile. The poor and the middle class matter the most for growth via a number of interrelated economic, social, and political channels. (Bubbico and Freytag, 2018)

Some results suggested that in the short and medium term, an increase of income inequality has a significant positive relationship with subsequent economic growth (Forbes 2000; Barro 2000), while in other cases the negativity of this relationship has been confirmed (Aghion et al 1999). (Bubbico and Freytag, 2018)

World Bank (2016) shows that while levels of inequality at a global scale have gone down, the average person lives now in a more unequal country than in the late 1980s. This view looks at inequality as the price developed countries have to pay for growth in poor countries through trade and globalization channels. Due to effects of globalization and technological changes, returns for skilled occupations and returns on capital are higher (Krueger 2012) because technological changes have been skill-biased, increasing the wage gap. (Bubbico and Freytag, 2018) Violante (2008) also argues that the main reasons to explain the growing inequalities in wages are skills-biased technical change, by which new technologies increase the relative productivity of high-skilled workers, and also their demand and wages. Blau and Kahn (2009)

claim that trade specialization also may have a dampening effect on the wages of low-skilled workers in developed countries.

Increasing inequality is also seen as the result of declining labor market regulation and minimum wage compression. Finally, reduced distributive capacity and effort by governments under severe budget constraints can also contribute to this phenomenon (Nolan 2016). (Bubbico and Freytag, 2018)

### 3. CONTRADICTIONARY EMPIRICAL EVIDENCES ABOUT INCOME INEQUALITY – EVERYTHING DEPENDS ON THE PERIOD OF TIME AND/OR THE COUNTRIES OBSERVED

If we see back to Piketty’s evidences (see Fig. 1) it is obvious that inequality has been growing during the last 50 year both in the USA and in Europe. However, we cannot be as confident as we look at the last 100 year. During this period income inequality has been either growing or declining, maybe growing in the USA and declining in Europe.

Taking shorter periods of time, empirical results are also a bit contradictory. Fig. 4 shows the recent results (Darvas 2016) about the developments of inequality in 28 countries of the EU comparing with of the similar results for the USA. This is an example of a reference into the main text of the paper (Beck & Ralph, 1994).

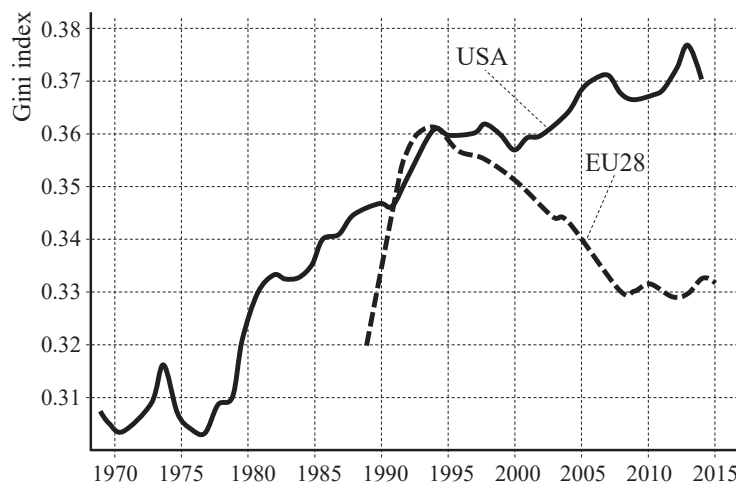


Figure 4: **Gini index for disposable household income for the USA and for 28 countries of EU, 1970 to 2015.** Darvas (2016) Sources: US data is from the Standardised World Income Inequality Database (SWIID) from Solt (2016), EU28 data is from Darvas (2016)

Fig. 4 indicates that there was a sharp increase in income inequality in 28 EU countries in between 1989 and 1993 reaching the inequality level in the USA at that time. It was caused by the significant output declines in the CEE countries during their transition from socialist to market-based economies. As their income declined, people in these countries became even poorer relative to citizens in the rest of EU, and EU-wide income inequality therefore increased. After 1994, inequality declined steadily until 2008, since when it has remained relatively stable. In contrast, income inequality in the USA increased almost continuously from the late 1970s until 2013.

However, Gini index increased considerably (more than 1 Gini point) in 15 EU countries and practically did not change in other 6 countries from 1994 to 2008, the EU-wide Gini index could decrease due to 7 countries in which Gini indexes declined by more than 1 point. More

importantly, the EU-wide income inequality decreasing was almost entirely due to the convergence of average incomes: people in poorer regions of the EU increased their income relative to richer regions. According to Darvas (2016), this process has stopped with the crisis, mostly because of some falling of some southern European member states (e.g. Italy and Greece).

As far as the CEE countries concern, the EU-SILC data (and results of Eurofound 2017 study) are used in the rest of the paper. EU-SILC is a database on income, poverty, social exclusion and living conditions in the EU, coordinated by Eurostat, with data drawn from different sources at the national level. This paper (like Eurofound 2017) uses EU-SILC data over the period 2005–2014 (income referring to 2004–2013), which is available for 24 EU countries (all EU Member States except Bulgaria, Croatia, Malta and Romania). The EU-SILC is a survey conducted yearly of all private households and their current members residing in the territory of the countries at the time of data collection. Following the Eurofound’s classification we examine Czech Republic, Hungary, Poland, Slovakia, Slovenia as Central and Eastern European (CEE) countries.

First of all, Fig. 5 shows an impressive picture about the economic convergence of the CEE region.

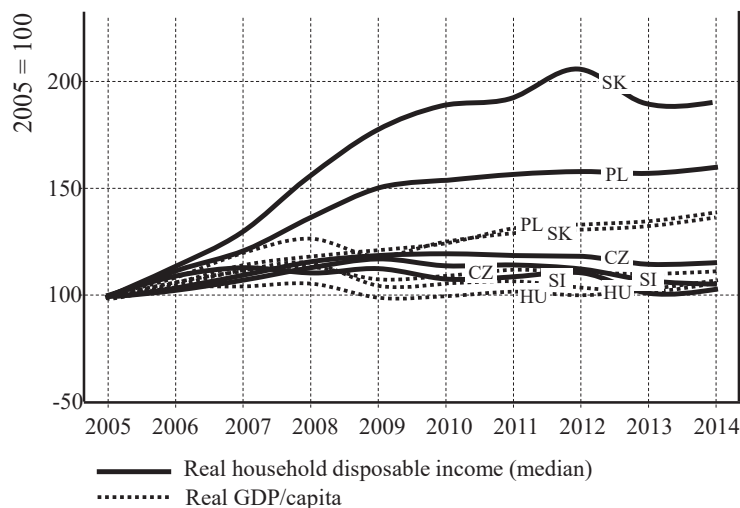


Figure 5: **Changes of real household disposable median incomes and real GDP per capita for CEE countries, 2005=100** (HU: Hungary, PL: Poland, SI: Slovenia; SK: Slovakia; CZ: the Czech Republic), 2005 to 2014. Sources of data: EU-SILC, Eurofound (2017)

In CEE countries, in general, the household disposable income grew relatively more than GDP per capita. The discrepancies between the two indicators may be due to a combination of factors. Nolan et al (2016) identified some of them: price adjustments (since GDP is adjusted by the GDP deflator and household income by the consumer price index); the national income concept (since GDP refers to domestic output and household income to income inflows to resident households); data sources (since GDP arising from national accounts and household income typically come from surveys); household size (given that GDP is divided by the total population and household income is divided by – equalized – household size); levels of inequality (since growth in median household disposable income will be more modest than in GDP per capita or average household income if incomes grow relatively faster at the top of the income distribution). (Eurofound 2017)

Fig. 6 provides a more detailed picture of the process of income convergence between EU Member States using country-level data on average household disposable income from the EU-SILC. It confirms the view that convergence between EU Member States is mainly driven by the catch-up of eastern European countries. (Eurofound 2017)

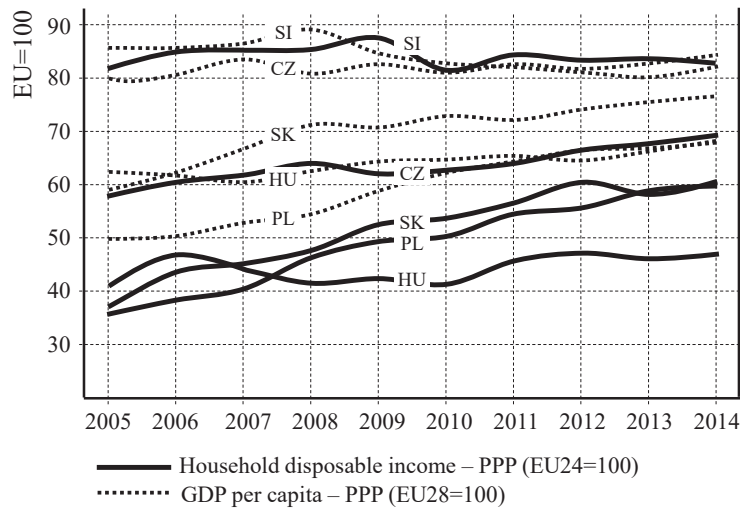


Figure 6: **Changes of real household disposable median incomes and real GDP per capita of CEE countries to those of EU24 and EU28 (HU: Hungary, PL: Poland, SI: Slovenia; SK: Slovakia; CZ: the Czech Republic), 2005 to 2014. Sources of data: EU-SILC, Eurofound (2017)**

Results shown in Fig. 5 and Fig 6 are in line with classical theories of economic growth, which would predict a process of convergence in GDP per capita and income levels due to higher investments in lower income countries (a catch-up effect), where capital is scarcer and therefore returns to capital investment are more profitable and productive. This process of convergence should be stronger among countries that share a similar economic and institutional setting, such as is the case in the EU (Sachs and Warner, 1996). Eurofound (2017)

Next figure shows the development of unemployment in CEE countries and in the whole EU. The labor market trends were strongly shaped by the impact of the Great Recession. Before the crisis, when CEE countries experienced a rapid catch-up process with fast economic growth, employment levels also rose in CEE countries. With the Great Recession economic activity was negatively affected across all countries but especially in the CEE countries. However, some CEE countries recovered rapidly and managed to continue their catch-up process. Eurofound (2017)



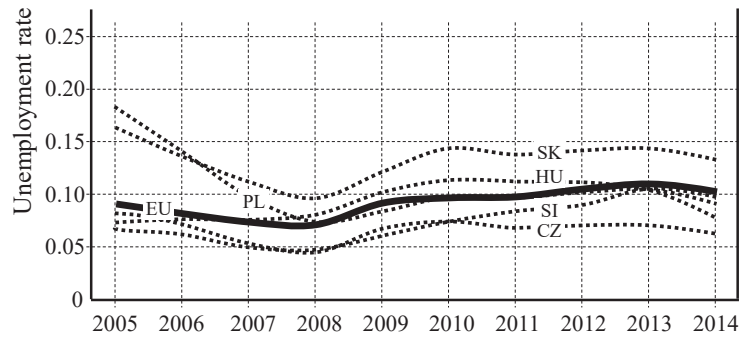


Figure 7: **Changes of unemployment rate of CEE countries and EU as a whole** (HU: Hungary, PL: Poland, SI: Slovenia; SK: Slovakia; CZ: the Czech Republic), 2005 to 2014. Sources of data: EU-SILC, Eurofound (2017)

Next figures introduce a panoramic view of inequalities across CEE countries comparing their progresses to of EU-wide progresses. EU-SILC data and Eurofound (2017) not only maps inequality trends in household disposable income, but also in the different sources of income, and the role played by changes in unemployment, the family pooling of resources, and the redistribution carried out by the welfare state. The following income measures are used in this paper (Eurofound 2017):

- 1) Monthly labour income among workers: This refers to the monthly labour earnings of workers, without adjusting for hours worked.
- 2) Annual labour income among active individuals: This adds those currently unemployed to the picture and therefore it includes individuals with no labour income. Inequality levels will increase notably depending on unemployment rates.
- 3) Annual labour income among all working-age individuals: This adds those currently inactive to the picture and further increases the possibility of including individuals with no labour income. Inequality levels will increase even further and this will be highly influenced by the inactivity rates.
- 4) Market income among households: This measure adds the income from capital and also private transfers between households. Inequalities are expected to be higher since capital is generally more unevenly distributed than labour income (the effect of private transfers is less clear).
- 5) Disposable income among household: This measure takes into account the effects of the welfare state through the tax and benefit system. Since the welfare state redistributes income across individuals and families in a generally progressive way, inequalities should be notably lower than in the previous measure.

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Of course, inequality levels vary across countries, but the different sources of income are similarly related everywhere: inequality is lower for monthly earnings among workers and widens notably when unemployed and especially inactive people are added, to be reduced again when income is pooled at the household level and especially when it is redistributed by the state. Fig. 8 presents inequality data for CEE countries and for the EU as a whole among three different populations: workers, the active population and the whole working age population. Inequalities in monthly earnings among workers are relatively low in CEE countries. As expected, labor income inequalities widen notably once the analysis includes active and inactive people who do not earn labor income, with cross-country differentials mainly depending on the number of unemployed and inactive people. (Eurofound 2017)

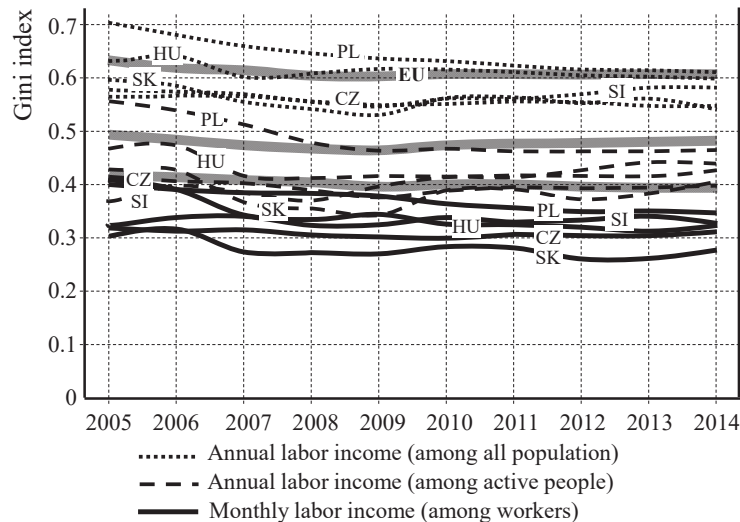


Figure 8: **Gini indexes (annual labor income for all and active population, and monthly labor income for workers) and EU averages** (HU: Hungary, PL: Poland, SI: Slovenia; SK: Slovakia; CZ: the Czech Republic), 2005 to 2014. Sources of data: EU-SILC, Eurofound (2017)

The inequalities in annual labor earnings among working age individuals have defined in the last figure (Fig. 8). In Fig. 9 such curves are presented where the fact is taking also into account that most individuals pool their income at the household level. In EU as a whole, pooling of personal annual labor income at household level reduces the inequality indicator by around 22% during the period 2005-2014 (Eurofound 2017). This effect is larger in CEE countries (except Hungary which is on the average) by around 27-32%.

Beside the effect of household pooling, the household-level analysis also considers the capital income of the households. Nevertheless, the capital incomes have hardly any practical effect on results. (Eurofound 2017)

Finally, the redistributive effect of the welfare states are taken into consideration. Welfare states are able to correct inequalities in market income through taxes and benefits that redistribute income across individuals and households. European welfare states, in average, reduce market income inequality by almost 30%. The CEE states typically play an even bigger role, except Poland below the EU average. It is particularly true in the cases of Slovenia and Hungary where welfare states reduce inequality almost by 42%. Eurofound (2017)

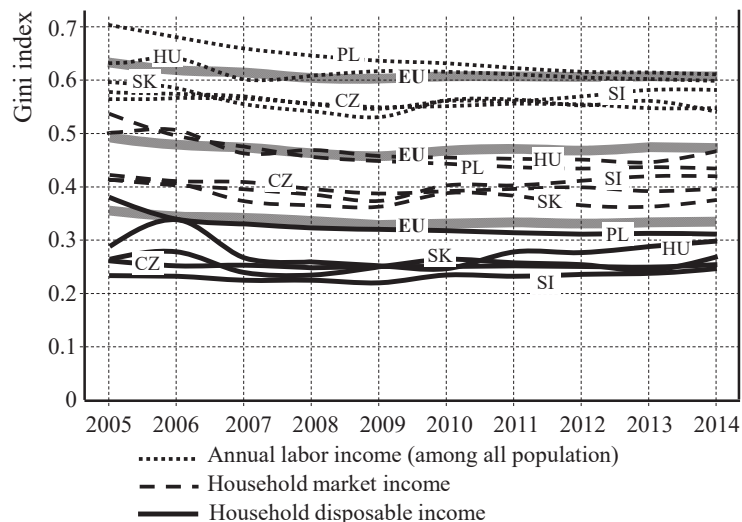


Figure 9: **Gini indexes (annual labor income for all population, household market and disposable income) and EU averages** (HU: Hungary, PL: Poland, SI: Slovenia; SK: Slovakia; CZ: the Czech Republic), 2005 to 2014. Sources of data: EU-SILC, Eurofound (2017)

Curves in Fig. 9 can be grouped into two levels: for Poland and Hungary where household disposable income inequality is intermediate, and for Slovenia, the Czech Republic and Slovakia where household disposable income inequality is relatively low. Comparing to the whole Europe, the CEE countries have relatively low inequality levels among the workforce, but they generally move up the inequality ranking once unemployed and inactive people are included in the analysis. The family pooling of resources generally plays a strong role in reducing inequalities, while the state has a relatively important role in Slovenia, Hungary and the Czech Republic. (Eurofound 2017)

Summarizing the results presented in the above figures we can conclude that no notable inequality problem is detectable in the CEE region using EU-SILC data in the period of 2005 to 2014. .

However, partly different results come from Inchauste and Karver's (2018) study. They claim that within-country inequality has increased in most of today's EU countries, particularly in CEE. They divide CEE countries into three groups: CEE South (Romania and Bulgaria), CEE North (Estonia, Latvia and Lithuania), and CEE Continental (Slovenia, Slovakia, Hungary, Czech Republic, Poland and Croatia) which is almost the same as defined in the Eurofound (2017) study except Croatia. They use own estimation using the Standardized World Income Inequality Database (SWIID) version 6.1 (2017). Inchauste and Karver examine data from 1989 to 2015. They find that Gini index of CEE Continental countries has increased from about 24.5 to about 28.0 during 1989 to 2015.

#### 4. CONCLUSION

The relation between economic growth and income inequality is very complex. It is true for Europe as a whole with the three dimensions of its inequality: within member states, between member states and in the European Union (EU) as one country. However, it is especially valid for the CEE countries where the transition process and EU convergence are running parallel

with the general effects of globalization which also influences the inequality developments of the countries.

Taking into consideration the empirical evidences of recent studies we cannot detect any deep inequality problem in the CEE region, nevertheless, there are slightly different research results depending on the examined period, the used dataset and the analyzed income indexes.

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