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NATIONAL POLICIES SHAPING INCOME INEQUALITY IN TRANSITION ECONOMIES: THE CASES OF THE CZECH AND SLOVAK REPUBLICS AND THE BALTIC STATES

MA thesis

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NATIONAL POLICIES SHAPING INCOME INEQUALITY IN TRANSITION ECONOMIES: THE CASES OF THE CZECH AND SLOVAK REPUBLICS AND THE BALTIC STATES

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Abstract

The thesis aims to investigate the influence of national policies on income distribution patterns in the countries that share similar historical legacies. The focus is on the post-communist countries that went through transition process. Moving from central planned to market economy inevitably lead to the rise of income inequality, although the countries experienced it to different extent: some managed to maintain income inequality at a low level, while others relatively failed to provide the social safety net for their citizens. The study is based on the analysis of a large number of statistical sources concerning the data on two selected group of countries – the Czech and Slovak Republics and the Baltic States – from 1985, when first processes of economy liberalisation started, to 2014, which marks the countries' ten years anniversary within the European Union. The former group represents one of the most successful countries on the European continent in terms of mitigating income inequality, while the latter one has the highest income inequality levels in the European Union. When controlling for significant macroeconomic and demographic indicators, such as the level of urbanisation and adjusted wage share, the thesis explicitly elaborates on the role of governmental policies of the countries of interest from their independence until 2014. Policies such as privatisation, taxation, and cash benefits distribution turned out to have big influence on income inequality level in a long term.

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Introduction

The study is focused on the problem of income inequality that has recently been rising everywhere in the world. Some countries manage to mitigate market economies negative outcomes while others do not, although the situation worldwide leaves much to be desired. As Oxfam International reports (Pimentel et al., 2018), more than 80% of wealth generated in 2017, ended up in 1% of the richest households. At the same time, half of the world's population did not improve their income situation.

The problem has not only humanitarian importance – rising income inequality exposes the most vulnerable groups of population to market forces. Income inequality should be in the governments focus due to its possible economic consequences – suppressing aggregated demand and leading to stagnation, and political ones, since high concentration of wealth can lead to elimination of the democratic order and the establishment of an oligarchy.

Previously, scholars who paid attention to the phenomenon either took large number of countries for comparison in order to find out possible explanations for the growth of income inequality (Kuznets, 1955, Atkinson & Micklewright, 1992), or rather concentrated on a detailed analysis of one or a small group of countries, highlighting similar processes that took place (Garner & Terrell, 1997). Existing literature lacks small cross-country comparisons of transition countries, which might give more insight into possible explanations for income inequality rise.

Thus, in this study, we compare two groups of countries that, having similar experience, performed extremely different Gini coefficients while following, from the first sight, the same development paths. Particularly our interest lies in the experience of post-communist countries, that used to function in the conditions of central planned economy, then in 1990s shifted towards market one, undergoing similar transition processes, and, in the end, joined the European Union (EU). In other words, this work tends to assess the impact of national policies, assuming that international agenda should have affected the countries of interest in a rather similar way.

The cases selected represent two differently performing groups of the states: the Baltic group that includes Estonia, Latvia, and Lithuania and has the highest level of income inequality in the EU context, and the Czech Republic and Slovakia, whose income distribution is closer to that of Scandinavian region countries. Before 1990, the countries operated under the umbrella of the Soviet Union, even though back then Czechoslovakia enjoyed somewhat greater independence in its decision making, while the Baltic States were the part of the Soviet Union. All the five countries gained independence in the same period of time – Czechoslovakia in 1989 from the communist rule and then the Czech and Slovak Republics in 1993 from each other, the Baltic States gained independence in 1991. The countries started the process of negotiations with the EU also relatively at same time: in the middle of 1990s, and finally were accepted to the European Union in 2004, meaning that they fulfilled the necessary criteria. Such consequence of the events indicates relative similarities in the countries' development, which creates conditions for a comparative study. The general time framework covers the years of 1985-2014 – from the first steps towards economy liberalisation to marking the ten year anniversary of becoming EU member states. Since the chosen countries experienced relatively similar macroeconomic processes and had to adopt rather similar regulations with regard to key policy aspects in order to be accepted to the European Union, their comparison will be likely to reveal the impact of the policies designed and implemented by national governments in the last decades on income inequality.

In order to achieve the research aim, first existing literature on income inequality, in transition countries in particular, was reviewed and summarised. Secondly, a large amount of data from 1985 to 2014 was analysed, and the differences in estimations were assessed. Third, in order to assess income inequality problem, the most relevant indicators that exist in modern databases were chosen. Finally, a comparative analysis that revealed some common and distinct patterns of the countries was made.

Thus, in this study, we used the most similar system design (MSSD) model that helps to contrast similar preconditions and their different outcomes. The data on the chosen countries is collected by a number of European databases, such as Eurostat, OECD, but

only during more recent years. The main problem of a lack or poor reliability of the data lies in the approach first used by communist countries, that tried to manipulate data for ideological reasons, and second by countries in transition, that during first years of independence did not have thorough methodological design to conduct such researches.

However, a number of scholars had already assessed the problem of income inequality, including the estimation of income inequality levels. This study uses such findings as a primary source of information, for the years when unified databases with balanced data did not exist.

Therefore, in the case of a small-number country comparison based on approximate estimations of the necessary data, regression analysis is of little help. Instead, qualitative analysis is applied that gives deeper insight in the real political, economic, and social situations of the countries of interest. Such an approach also helps avoid conclusions due to missing data.

Nevertheless, the findings of this research should be treated rather carefully due to aforementioned limitations of the data. The final results explain general trends of income inequality, while smaller changes across or within the countries cannot be assessed precisely using such approximate data.

The thesis consists of four chapters and is structured as follows: Chapter One summarises the findings of scholars who studied income inequality in capitalist, communist, and transition countries, and outlined possible explanations of the phenomenon and its driving forces. Chapter Two provides the choice of theoretical framework and methodology for an independent research. In Chapter Three, we seek to trace the trends of income inequality and plot them against a number of macroeconomic and demographic indicators, such as urbanisation level and wage share of income, expecting to find low or even no correlation. Chapter Four concentrates on workers union bargaining power and national redistributive policies, that include privatisation, taxation, and benefit distribution. The comparison across two differently performing country groups tends to reveal the main dissimilarities and, thus, find out the possible causes of income inequality rise.

Chapter One. Income inequality: measurements, causes, and implications

Inequality has existed throughout all years of humanity, scholars yet argue that the gap between the rich and the poor first significantly increased at the time of Industrial Revolution, with the invention of new means of production that facilitated productivity and skyrocketed the output (for example, see Fiorentini & Montani, 2012; Piketty, 2014).

The first attempts to understand and measure the phenomenon of income inequality were made early in 20th century. However, the problem as such attracted the attention of policymakers after the Second World War. When re-establishing the world order after the disaster, the general public and, hence, policymakers became much more concerned about "fairness" of the governmental actions and more supportive towards welfare and social safety nets. The large gap between households incomes was mostly noticeable in developing countries, but not in the 'old capitalist' regimes, where governments were concerned with social protective measures during so called thirty glorious years of capitalism (Fiorentini & Montani, 2012).

The economic liberalisation of the 1980s, followed by a brand new phenomenon of transition economies, that had to design their market and legislative institutions from scratch, against the background of 'second globalization era', resulted in a new splash of income inequality. It affected all the countries around the world, regardless of whether they were capitalist or communist, developed or developing (Fiorentini & Montani, 2012, p.79).

In this chapter, the ways of measuring income inequality, possible causes and preconditions of the phenomenon in the context of capitalist and transitional economies, as well as the practical consequences of high income inequality level are reviewed.

1.1. Measurements of income inequality

The first scholar who attempted to measure income inequality was the American economist Max Lorenz (1905), who introduced a graphical representation of the unequal spread of wealth among the population. The graph shows an ideally equal distribution of income – in

other words, if every member of the society received exactly the same amount of money – as a straight line. The coefficient of the actual income distribution curve's deflection from this "line of perfect equality" represents the depth of income inequality: the more the line based on real evidence goes further from the "ideal situation", the more unequal in terms of income the society is. The calculations are based on the comparison of households: what percentage of total national income is possessed by groups of low, middle, and high income. The percentage of households is plotted on the x-axis, and the percentage of income – on the y-axis.

The next attempt to measure income inequality resulted into a coefficient representation based on the graphical Lorenz curve. The indicator, that is the most widely used also nowadays, was conceived by the Italian statistician Corrado Gini (1912). The index theoretically can take the values from 0 to 1, where the former one represents the situation of perfect equality, and the latter one, thus, expresses the total inequality – where only one person possesses all the national income. The formula is sophisticated, and takes into account not only possible revenues of the household such as earnings, self-employment activities, benefits, and the losses such as taxes and social contributions, but also is adjusted to the size and structure of the household, meaning that different values are assigned to the members who are not economically active, like children or pensioners.

The Gini coefficient has its methodological flaws, too. One of the main criticisms towards this approach lies in the fact that the number catches only the gap in households' incomes, while its decomposition is hard, thus it does not reflect, for example, the situation with poverty, or the distribution of income within particular groups. In other words, in theory, for example, a Gini coefficient can take smaller and smaller values within one country, but along with overall decrease in per capita income the percentage of the population living beyond the poverty line might be increasing at the same time (Mellor, 1989).

There is also evidence that the Gini coefficient is overly sensitive to some particular parts of distribution, and the scholars assess it differently. One group of economists argues that the indicator gives more weight to the changes in the middle of the distribution (Pressman,

2013), while others claim that actually, on the contrary, Gini index is more sensitive to the changes in the lower or upper parts (Gastwirth, 2017).

There are also over a dozen of other measures of inequality proposed by the scientific community, particularly by econometricians. The Atkinson index (1970) is more sensitive in determining which income group attributed to the inequality the most, and is more appreciated by the scholars who focus their studies on poverty and are more concerned with welfare policies application of the results (Bellù & Liberati, 2006). The Hoover index, also known as the Robin Hood index, gives an insight to how much income should be "extracted" from the richer part of the population and redistributed among the poorer in order to achieve perfect equality (Hoover, 1936). Theil's index (1972) is based on statistical information theory and can also take the values between 0 and 1. It is also largely used by economists due to its properties that help to observe the distribution of income not only between, but also within income groups. However, the measure is rather complex, and there are various intuitive interpretations of the index. The most general one is that if all the income groups had their "fair share" of income, the index would be equal to zero. Since it is particularly sensitive to income transfers from the poor to the rich, another popular interpretation is as follows: the greater the transfers, the steeper the Theil line is (Conceição & Ferreira, 2000).

Decile ratios are also commonly used for income distribution analysis as complementarities to more complex indexes such as the ones described above. Representing a rather simple way of measurement and being extremely sensitive towards outliers, such a comparison gives a better insight into the dispersion of national income among income-based groups (UN, 2015). One of the most popular ways is to compare the ratios between the richest (D10) and the poorest (D1) deciles to the middle-income one (D5). Given the same Gini coefficient, greater inequality of income between the richest and the middle earners group is considered to be a less dangerous sign rather than the same ratio between the middle class and the poor – when the richest have bigger shares at the expense of the middle class, not the poor, it is more justified by market forces laws and believed to be less harmful for economy. Therefore, the analysis of the ratio of deciles or quantiles of

income distribution, together with Gini or any other coefficient, provides a more clear and complete picture (Fiorentini & Montani, 2012).

1.2. Causes of income inequality

1.2.1. From Kuznets to Piketty: changing the paradigm

Simon Kuznets (1955) is considered to be the pioneer of investigating income inequality and its relation to economic growth. In his works, he claimed that economic growth first naturally increases the inequality between the households, and then, also naturally, decreases it, one should just wait for the economy to grow steadily for a number of years. Kuznets also argued that in order to understand the phenomenon of income inequality, the internal division within the studied groups is needed. Not only the composition of the population should be of a researchers' interest, but also the direction of "migration" between the income groups. The author suggested to study separately 'residents', or those whose income does not drastically change within the time, and 'migrants', or those who either increase their income and go upwards, or lose their wealth and move downwards respectively.

Moreover, the population generations ideally should be also taken into account, since the offspring of the rich is more likely to stay within the highest income group. The same rule applies for the poor: they are less likely to improve their financial situation. According to Kuznets, this happens due to the existence of inequality of savings. Moreover, only the richest part of the population is actually able to contribute to the savings in the amount that can be passed to the offspring and, therefore, they can maintain their high income, while low-income households are not able to save money because they consume a larger proportion of their incomes, as proved later by Dyan et al. (2004). That is why Kuznets did not find a reverse U-curve in the case of developing countries."[T]he wider inequality in the secular income structure of underdeveloped countries is associated with a much lower

level of average income per capita", claimed Kuznets (1955, p.23) assuming, that only the richest – and smallest – share of the society can "afford" savings.

He also argued that, due to industrialisation, the population migrates from a lower-income agricultural zones to big cities, and this process only contributes to overall inequality, also due to the fact that the gap between wages is higher in urbanized zones. It happens, first, because generally the income of those who live in rural areas is lower than those of city workers. Agriculture does not allow production of such large returns on the same scale as industries or services because it is affected by technology to a lesser extent. Secondly, the urban population as such is more unequal in terms of income, depending on person's occupation.

However, as soon as the major part of the population settles down in the cities and only a small part remain in agricultural areas, income inequality will start to reduce. The argument was supported by some scholars (see Milanovic, 1996, Mitra & Yemtsov, 2006). Others, though, did not find such supporting evidence (Li et al., 1998).

Kuznets' view on the relation between income inequality and economic growth was dominant throughout the 20th century. Even though in the latest research the evidence is rather mixed – the hypothesis was supported in approximately only half of such cases, in the other half income inequality only increased with economic growth, without performing a reversed U-shaped curve (Bruno et al., 1998).

The classic Kuznets approach and its implications were challenged recently by the French economist Thomas Piketty (2014), who admitted the importance of the data collected by Kuznets, but largely criticized his methodology and conclusions. He extended the time framework of his research compared to Kuznets, and found that a reversed U-curve does not comply with the extension of the data frame of the research.

The main argument of Piketty is that Kuznets did not take into account capital income, which is distributed even more unequally than a labour one. The researcher claims that unprecedented concentration of wealth first took place in the times of Industrial Revolution, even though it is almost impossible to access such old and material figures. Using the data traced back for almost two centuries, mostly on old capitalist economies such as Great

Britain and France, in his research, he introduced another variable – return on capital, and figured out that global inequality is primarily the consequence of the concentration of wealth, that, in turn, is a result of a higher returns on capital over the economic growth through a long term period. The main problem that arises is that the high concentration of wealth in the hands of a small group of population causes a change in the social structure and poses a danger to the democratic order. "When the rate of return on capital exceeds the rate of growth of output and income, as it did in the Nineteenth Century and seems quite likely to do again in the twenty-first, capitalism automatically generates arbitrary and unsustainable inequalities that radically undermine the meritocratic values on which democratic societies are based" (Piketty, 2014, p. 8).

Piketty was the first one who actually measured the impact, although scholars noted earlier that an increasing share of capital income was only contributing to income inequality in general (see Atkinson & Micklewright, 1992; Mitra & Yemtsov, 2006; Fiorentini & Montani, 2012).

Piketty does not treat inequality as necessarily bad. However, he admits that the gap between the rich and the poor should not exceed justifiable limits. Thus, Piketty argues, that economic growth is far from the main engine of reducing income inequality. For example, simple accounting for gross domestic product per capita does not reflect the changes in the world demographic situation, which generally experiences population growth. Keeping the rest of the variables constant, in fact, the economic growth of the countries going through a demographic boom is "shrunk" by the growth of population, and at the same time, the role of inherited wealth loses its importance; the final balance is hard to assess.

In Piketty's view, the problem of income inequality cannot be treated separately from politics and political decisions taken at a national level. That is why, he claims, the decrease in inequality during "thirty glorious years" was a result of coping with the after-war shocks, while the overall increase in income inequality was dictated primarily by the shifts in taxation and other financial policies.

Milanovic's (1998) conclusions, made a dozen years before Piketty's research, comply with later evidence: even though the share of non-wage, that is capital income, grew, the

following increase in inequality should be more associated with the general decrease in social benefits and their poorly targeted distribution.

1.2.2. Worldwide increase in income inequality: other global factors

In the 21st Century, scholars became more concerned with income inequality in a global context. Italian researchers Riccardo Fiorentini and Guido Montani (2012) were among those who noticed a rise in income inequality and connected it to the "second wave of globalization". They noted that the increase was recorded everywhere in the world, regardless the country's regime or its level of development (see also ILO, 2008). At the same time, they admitted the importance of national policies implemented during the "thirty glorious years", right after the end of the Second World War. They presumed that the gap between the richest and the poorest households, primarily in 'old capitalist' regimes, was kept at a relatively low level due to the bigger concern of the general public and, hence, policymakers, about "fairness" of the system, including the question of income distribution. The gap increased when more liberal policies, like the ones of Margaret Thatcher or Ronald Reagan, became dominant in the Western world.

Fiorentini and Montani also assumed that trade globalization involves the reduction of tariffs and other obstacles, making national economies and their labour force less protected. Thus, income inequality is more likely to increase.

Openness to international trade, that potentially allows bigger flows of foreign direct investment, was considered by the scholars as another important global factor that contributes to inequality and has a controversial impact on a country's economy. On the one hand, foreign direct investment actually means bringing technology to less developed countries, diffusion of know-how, and, therefore, increases a country's technological advantages. Implementation of new technologies facilitates the increase of the skilled labour wages in developed countries and unskilled labour in less developed countries, but the real evidence, according to the authors, is rather mixed. In the studies related to

transition economies, though, it was found that prioritising foreign investment over domestic one had greater negative effect (Bandelj & Mahutga, 2010).

1.2.3. Taxes and benefits: government as a social safety nets provider

Being correlated to various macroeconomic and demographic indicators, distribution of income in any country mainly depends on governmental policies, that are ideally supposed not only to help the government collect taxes and maintain itself, but also create social safety nets and improve the well-being of its population by providing them with cash and in kind benefits. Even though, in reality, the main focus of policymakers is still on economy facilitation and improvement of economic performance, the governmental role in mitigating unequal income distribution should not be underestimated (Goldberg & Pavcnik, 2007). For example, on a global level, the distribution of income is more unequal than the one of domestic output, meaning that the governments take their role in mitigating the consequences of market laws force (Piketty, 2014).

As already mentioned, even the researchers who paid the most attention to macroeconomic indicators, found governmental policies as an influential instrument in combating income inequality. Even a deterministic approach of Kuznets (1955) left room for the influence of policies.

In order to fight the increasing concentration of wealth also caused by the growing share of capital income, Piketty (2014) mainly proposes progressive taxation, along with preserving economic openness and avoiding protectionism as the ways to control the negative outcomes of the capitalism. Openness, he added, was among the factors that helped Asian countries to catch up fast with Western world in terms of economic development, not least through the diffusion of knowledge and know-how. He admitted at the same time that most likely such measures will be – and are already – opposed by nationally oriented and protectionist political groups. Thus, in practice the outcomes of such policies are quite likely to be less effective than they could have been in theory.

Fiorentini and Montani (2012) admitted the limitations of macroeconomic indicators analysis as well: "It is difficult to separate the impact of trade globalization on inequality from the effects of political and institutional reforms accompanying globalization, but the suspicion is that reforms are largely responsible for the recent rise in inequality, as suggested by the different experiences of the 1960s-1970s and 1980s-2000s" (pp.98-99).

Those scholars who studied the impact of various governmental policies on inequality underlined the importance of benefits and taxation in the redistributive role of the government.

Evidence from OECD countries shows that taxes and benefits transfers reduce disposable income inequality by about 25% as compared to market, or gross, ones (Pisu, 2012). Cash transfers were found to play even bigger role, reducing about two thirds of inequality in comparison with gross, or market, household income (Joumard et al., 2012). The effect, though, might vary. In the case of OECD countries, some of them with a relatively poor welfare system, like Australia, manage to mitigate market mechanisms to the same extent as the countries where the population enjoys a more generous welfare state like in Germany.

With regard to benefits, the scholars found that governments that spend more money on cash transfers normally "invest" more in the income redistribution within a life cycle, not between the individuals, meaning that the amount of benefits is mostly based on contributions and, thus, welfare is spent on pensioners. Other countries, which on average spend less on cash transfers, have more targeted benefits. Scholars who studied transition countries also assumed that pension privatisation should result in a less redistributive welfare state (Appel & Orenstein, 2018).

The redistributive effect of taxes does not vary greatly among OECD countries. Personal income ones were found to be the most progressive. Other taxes, like social security contributions, consumption taxes and real estate taxes have mostly regressive nature. Property taxes, even though being regressive, were not found to play a significant role. Consumption taxes, on the contrary, make up a lion's share of tax revenue, and their effect is rather mixed: a decrease helps the poor to obtain the most necessary goods, at the same

time they benefit the rich more, since these households consume a larger share of goods, and, thus, contribute to unequal income distribution. In most countries taxation of capital income, wealth and inheritance has been reduced, which negatively influenced the redistributive role of taxes, but was justified by avoidance of "lock in" effect and encouragement of risk incentives and needed for investments and, thus, economic growth. At the same time, there is an evidence that such a tax system benefits top managers in an unjustifiable way.

Maria Iosifidi and Nikolaos Mylonidis (2017) also draw some evidence from OECD countries, assessing the impact of effective taxation on income inequality. They focused on labour, consumption, and capital rates, analysing their ratios as well. Along with other research findings, they proved a significant redistributive role of progressive labour income taxation and a danger of high rates of consumption income, since hitting the poor would only contribute to overall income inequality. The scholars also stressed that an increase in capital income taxes in theory could play a great redistributive role, but in real world the expected effects will not happen, since capital is easy to move abroad.

The authors also underlined that the tax rates give more insight on the real state of art when the tax system rather than taxes separately are analysed. Nevertheless, the change of one tax rate inevitably leads to redesign of another tax and, thus, the whole tax system.

The scholars found out that the greater reliance on labour income taxes relative to capital ones, only contributes to income inequality. The same effect has a greater reliance on consumption taxes revenue as relative to capital income ones. At the same time, if labour income taxes constitute a bigger share of tax revenue as compared to consumption ones, income inequality is expected to improve.

Apart from direct government intervention, social groups can also help improve their situation. With regard to labour income, that is wages, the Dutch sociologist Jelle Visser and the Italian economist Daniele Checchi (2011) studied the relation between unions' power expressed by their wage bargaining power and inequality in wages. The research was based mostly on Western economies, and it was proven that the decline in unions was positively correlated with income inequality (see also Blanchard et al., 2013). However, the

causal relationship was not clear: either the loss of unions' support resulted in larger wage gap, or it was initial inequality that undermined the authority of unions. The study also found that bargaining effect can potentially be substituted by another institutional variable – minimum wage legislation.

1.2.4. More "equal" communist countries: local peculiarities and cautious assumptions

The Serbian-American economist Branko Milanovic (1998) claimed that in the 1990s two revolutions happened: the Soviet bloc collapsed and the data on communist economies was revealed and became publicly available. However, those who studied the income inequalities in transition economies and especially those who made attempts to access the pre-transition data, faced even more severe circumstances.

British scholars Anthony Atkinson and John Micklewright expanded the geographic and ideological area of their research to include former Communist countries. In their book "Economic Transformation in Eastern Europe and the Distribution of Income" (1992), they tried to understand who gained and who lost during the transformation period, as well as to answer the question of whether population's income of communist countries was, as officially claimed, more "equal" as opposed to capitalist countries. They criticised their colleagues for not paying attention for generous benefits in kind provided by Soviet led governments, and generally concluded that Communist countries used to be more equal in terms of income.

One of the reasons they saw in the fact that there was no real concentration of wealth even in the richest households of *nomenklatura*, since luxury cars and apartments were provided for the person on the means-tested basis and for a short period of time – usually lasting for this family member's life. However, there is still indirect relation between the two: the offspring of the same *nomenklatura* had higher chances to get an access to official positions and, therefore, more generous and sought-after benefits. Yet, there was almost no chance to accumulate savings.

The main problem faced by researchers when comparing capitalist and communist countries was the different methodology used by Western and Eastern statistical offices. The surveys themselves varied in terms of not only a methodological basis that made the between-countries comparison less precise, but also in terms of ideological bias: Central European countries in this sense were recognised as more trust-worthy (see also Milanovic, 1998; Flemming & Micklewright, 1999). The structure of Czechoslovakian survey, for instance, was similar and to some extent even better than the British "The New Earnings Survey" due to a better sample representation and higher response rates (Atkinson & Micklewright, 1992). The USSR data was considered the least reliable (McAuley, 1979).

However, generally all surveys conducted in communist countries suffered from another particular form of ideological bias, namely the overrepresentation of 'productive sectors' representatives in the sample (see also Milanovic, 1996; Flemming & Micklewright, 1999; Mitra & Yemtsov, 2006).

It also should be noted, that, in case of communist and later in post-communist economies, the surveys on consumption were generally preferred to the ones with questions about the income per se: since consumption reflects the purchasing power of the households and helps make approximations in terms of their real income, whilst in case of the surveys on income per se there are psychological and sometimes even legal obstacles that prevent the respondents from revealing the true state of art (Mitra & Yemtsov, 2006). For example, the latter reason is applicable in cases of large share of shadow economy or low level of democracy and political freedom. Consumption surveys also succeed at least partially in capturing 'hidden' indicators such as return on shadow economy activities or the losses resulting from wage arrears (Flemming & Micklewright, 1999).

It is relatively hard and only to some extent reliable to use the surveys even from one particular country, especially when tracing income inequality trends during transition times. The methodology was changed over the years, there was no standard followed, so the results from the following year for the same country could not be exact and precise (Flemming & Micklewright, 1999). Scholars in principle agree that the nature of the data was changing during the years, so even the most trusted sources had to admit that

"comparisons across countries and over time are very approximate" (World Bank, 1996, p.67). Yet, Atkinson and Micklewright (1992) found more equality in communist societies. Not only population surveys created a methodological problem. In communist countries the data on actual gross domestic product (GDP) per capita was not available: 'gross material output' was used instead, which did not take into account the production of services, neither did it consider the production of the underground economy that was too big to be left aside (Milanovic, 1998; Svejnar, 2002). Moreover, such statistics were influenced by the ideology of fast and continuous growth, therefore it is a big risk to rely on the officially produced figures (Milanovic, 1998). Nevertheless, some scholars found the evidence of Kuznets' curve in action, for example, Aghion and Commander (1999), who studied the data on Georgia of 1989 and 1996.

In contrast with manipulated GDP figures, the shadow economy, that is never recorded, nor reported by any statistical agency for obvious reasons, was found to play a substantial role in distribution of income. Troubled times of economic decline forced people to search for solutions in the area of clandestine economic activities. Rosser et al.'s (2000) paper on the shadow economy revealed the scale of the problem by measuring electricity consumption, and the scholars found a positive correlation between the size of black market and income inequality. Hence, they argue, preserving low income inequality prevents the population from engaging in shadow economy activities. However, the causal relation between the two phenomena is unclear: it can be dissatisfaction with the unfair system that pushes one towards unofficial and unregistered activities, or a vast field of unofficially obtained income might facilitate household inequality. As concluded by the authors, "[g]iven the social disorientation and alienation associated with the upheavals occurring in the transition economies, we should not be surprised to observe large increases in income inequality, collapses of tax revenues, and large increases in shares of the informal economy" (Rosser et al., 2000, p.160).

1.2.5. Varieties of capitalism in transition countries

The scholars who tried to investigate the effect of transition process as such on income inequality trends in post-Communist countries ran into other problems as well. The biggest issue being the one of differentiation between global processes such as fast technological development (Mitra & Yemtsov, 2006), or rapid expansion of services and shrinkage of heavy industries (Flemming & Micklewright, 1999), and transition processes as such that were mostly related to the establishment of free market institutions and legal framework. John Flemming and John Micklewright (1999) also paid separate attention to the latter, noting that rapid changes were enhanced by the fact that transformation did not mean the shift from central planned economy to market equilibrium immediately, and underlined the importance of progressive taxation and generous governmental benefits.

Mitra and Yemtsov (2006), when analysing the impact of various factors that might have affected the increase in income inequality in transition countries, underlined the importance of public policies that were supposed to influence the situation, given that the rest of the factors mostly connected with international economic processes, influenced the income distribution in more or less the same way. According to the survey conducted by Zaidi (2009), government intervention into the free market forces in order to mitigate its negative consequences was even expected by the population of transition countries. If in the beginning of transition various social "losses", such as an "unfair" income distribution were justified and considered as a price for liberalisation and transition, after some years the population did not see the promised convergence with a more well-living Western World (EBRD, 2013).

Scholars studied different aspects of governmental policies that might have negatively influenced income inequality. All the transition governments decreased the amount of social expenditures, and that was found as a factor contributing to income inequality (Ivanova, 2007). Another failure of transition countries governments was that, poorly handling the targeting of social benefits, they failed to protect one of the most vulnerable groups – the unemployed, not helping them to improve their situation and find a job (Mitra & Yemtsov,

2006). In the end, that resulted in wide-spread long-term unemployment in post-communist countries, that contributed to income inequality even more since the benefits were usually paid for a limited period of time, and after a while the unemployed lost even this share of income. In fact, unemployment became one of the biggest challenges for transition economies, since under the communist regime, first of all, the problem did not even exist – parasitism, on the contrary, was punished. Secondly, all the benefits were distributed through the employers, so the system of central distribution of benefits in market economies had to be deliberated to local municipalities, thus, such institutions had to be created from scratch (Flemming & Micklewright, 1999).

After abandoning communism in favour of victorious capitalism, the countries with rich communist legacies faced the question of which way to adopt. Advanced economies by that time had already had well established institutions and "rules of the game". Jeffrey Sachs (1990), for example, believed that since Eastern European economies did not have established institutions, for them following either British or Swedish model was identical and did not matter.

According to seminal work of Hall and Soskice (2001), the capitalist systems lie in the range between liberal and coordinated market economies (LME and CME respectively). The main difference between these two ideal types is in the ways of coordination between firms and other actors. For LME, market mechanisms play a greater role, whilst for CMEs, non-market forms of cooperation are built upon.

This model explains not only the peculiarities of firms' interactions, but also the differences in institutional design that help maintain these relations. In brief, LMEs provide a more fruitful environment for implementing new and risky, high-tech ideas. However, in these systems, people with a creative approach and innovative thinking benefit the most. LMEs are also characterized by friendlier investment environment and, therefore, modest taxes, but as a consequence, weaker welfare state. CMEs, on the contrary, are more open for wage bargaining and other kinds of negotiations, but the price that is paid for it is in high taxes and slower diffusion of technologies.

These concepts were created on the basis of evidence from advanced capitalist countries. Inter-firms relations, institutions in communist regimes, and, obviously, the consequences of their collapse were not taken into account. Scholars usually admit that implying the existing dichotomy of liberal and coordinated market economies is no longer possible in post-communist world. Yet, the approximation is possible, and Estonia in academic findings usually represents the typical LME, while Slovenia resembles CME the most (Feldmann, 2006).

Nölke and Vliegenthart (2009) distinguished a separate type called 'dependent market economies', that they labelled to the Visegrad countries – Czech Republic, Slovakia, Hungary, and Poland. This approach is valid up to the point when the other countries in transition have to be classified.

Other scholars tend to distinguish separate groups within the region, that remind of the classical Hall and Soskice approach only to some extent. Further assessment of institutional design in new capitalist countries was conducted by Dorothee Bohle and Béla Greskovits (2012), who introduced one of the most explicit criticisms towards the traditional variety of the capitalist system, arguing that, first, evidence from advanced capitalist economies is too different from the historical path of Central and Eastern European countries (CEECs). Secondly, they argue that countries in transition faced global challenges before they managed to finish building up capitalist institutions, which in turn influenced their design. So, the process was characterized by a 'double-movement dynamics': democracy implementation and democratic transformation.

In response, Bohle and Greskovits introduce their own matrix that helped to fit the new capitalist countries of Central and Eastern Europe into four distinctive groups. As a basis, they used Karl Polanyi's approach (1944), who outlined three dimensions that shaped distinctive capitalist models: government (accountability vs. state capture), market (efficiency vs. commodification), and welfare state (protection vs. pauperisation). Bohle and Greskovits added three more dimensions, that, in their view, are crucial for the differentiation of distinctive types of emerged capitalist economies: democracy (representation vs. ungovernability), corporatism (interest mediation vs. rent-seeking),

macroeconomic coordination (stability vs. straightjacket on development). Thus, four new groups of capitalist countries situated in Central and Eastern Europe emerged: neoliberal, embedded neoliberal, neocorporatist regimes, and nonregime.

The Baltic States were labelled as neoliberal, while the Visegrad countries, that includes Czech and Slovak Republics, were identified as embedded neoliberal ones. Both of the regimes are characterized by strong market and governmental mechanisms.

The Czech and Slovak Republics, as the elements of embedded neoliberal regime, implemented a more inclusive strategy in social and political terms. Their welfare state is considered to be relatively generous. Searching for a balance between market transformation and social cohesion is the most distinctive feature of embedded neoliberal regime. However, the authors note that within time their institutions proved to be volatile, unstable, and 'atrophied'.

The Baltic States, three countries that constitute the neoliberal regime, are characterized by rapid adaptation of democratic and market economy institutions, but actually failed to mitigate the social consequences of transition and to provide social safety nets. Moreover, the democratic elements of Estonia and Latvia in particular are undermined by deprivation of political rights from a substantial part of population, while in Lithuania their political participation is also limited. The least established institution in the Baltic States compared to other CEECs is social partnership.

Despite existing social and political problems, Eastern and Central Europe success in transition to capitalist world is generally accepted. However, which institutional foundations improved or restricted their performance, is not clear yet. Neither it is obvious which elements of institutions design influenced income inequality the most.

Although, Grimalda et al. (2010) claimed that both groups of countries – the Czech and Slovak Republics and the Baltic States – managed to mitigate negative consequences of transformation in terms of income inequality rather well as compared to other states that went through the same process, due to their better developed institutions and higher financial resources at their disposal.

1.2.6. Mass privatisation: a unique experience of transition countries

In the case of transition economies, not only taxation and the distribution of benefits via social cash transfers should be treated as a governmental intervention. Moving from a central planned to market economy required one very important and inevitable step: distribution of national property among private individuals.

Jan Svejnar (2002), a Czech-born American economist, pointed out two different type of reforms that the countries in transition had to implement. Type I, "quick" reforms were related to elimination of old institution and implementing the essential features of market economy like price liberalisation, privatisation of small enterprises, with partial provision of social safety nets. Type II reforms more time and were associated with ensuring the functions of new institutions, the creation of a legal framework, privatisation of medium and big enterprises and establishing more extensive social safety nets. As Svejnar argued, type I reforms were implemented quickly and followed relatively the same patterns across transition countries, while type II reforms were conducted in various ways, and the success depended largely on the historical institutional legacies and resulted in the outcomes that were different from case to case.

Privatization policies generally were found to negatively affect income inequality, at least in the short run (Birdsall & Nellis, 2003). During communist times, private wealth was close to zero. When the transition started, according to approximate – since based on not so much reliable data – estimates of Piketty (2014), already in the 2000s capital income was four times higher than a national one, which is close to the performance of Western countries. Thus, an unequal distribution of assets had nothing to do with economic development, it was a result of governmental policies.

Sara Rose and Crina Viju (2014) analysed a number of macroeconomic and political processes that took place during the first years of transition, and generally concluded that too many factors could have influenced income inequality during that time, which makes it difficult to come up with some stylised facts. For example, they tested the relationship between the degree of political rights and income inequality, and did not find a clear

answer, even though some of the research previously found a strong negative correlation between the two (Sylwester, 2002). Corruption as a "cultural" feature of most of the post-communist countries, was also taken into account, but does not seem to have had an effect on income inequality, according to the study.

Privatisation, on the contrary, was the one indicator that was found to have a significant impact on income inequality (see also Bandelj&Mahutga, 2010). Although, small scale privatisation was found to be rather insignificant (Grimalda et al., 2010).

Grimalda et al. (2010) in their research also controlled for a price liberalisation outcomes, and found their effect on income inequality strongly significant. However, the scholars noted that price liberalisation, even though taking various forms, affected the countries income distribution in rather similar way.

Due to the complexity of the process that can be described in both quantitative and qualitative terms, the scholars, instead of generalisation, suggested to look at particular countries and particular period of times in order to get a clearer picture.

1.3. Importance and implications of income inequality studies

The idea of mitigating income inequality was more pronounced, for obvious reasons, in Communist countries. It was an inevitable part of ideology that promised an equal and fair society. However, there was a deeper reason to prevent the wealth accumulation. First, it would be – and actually was – used by privileged parts of the society like *nomenlkatura* for personal consumption of better quality and rarer goods and services, but that was not the main threat. Accumulation of wealth could lead to the attempt to obtain the ownership of the production means and establishment of private property in the form of a big enterprise, which was against the basic idea of central planned economy. Another threat lay in wealth as a source of freedom and independence from political obedience (Milanovic, 1998).

In the era of capitalism, income inequality lost its position as a sensitive indicator, and some Western researchers were blaming their colleagues for mistreating the problem and labelling it as too socialist and irrelevant (Atkinson & Micklewright, 1992). According to

Fiorentini and Montani (2012, p. 80), "[f]rom the point of view of economic theory, it is worth noting that, unlike classical economic thought, standard neoclassical economic theory treats income distribution as a relatively minor issue". International organisations though continuously produce reports even in the era of economic liberalism, noting that "redistribution through income taxes and cash benefits does not necessarily harm growth" (OECD, 2015, p.60). On the contrary, even from a liberal perspective, thoroughly designed economic institutions contribute to economic growth (Acemoglu & Robinson, 2012).

However, even in the context of capitalist countries, including 'young' ones, high income inequality poses a danger to political freedom and democracy, as noted by Fiorentini and Montani (2012). The authors explain that apart from the fact that fair distribution of income should be treated as a necessary democratic right that secures liberty and democracy, if the gap between household incomes is too big, given the growing costs of electoral campaigns, the society will inevitably become misrepresented in parliament and other bodies, since the poorest ones would have almost no chances to participate in political rallies and intervene in the decision making process. At the same time, the existence of extremely, disproportionally wealthy group of people creates a danger of excessive and relatively easy lobbying of the big companies' interests, that usually do not coincide with the so called general public interest.

From a purely humanitarian perspective, an increase in income inequality, especially an unexpectedly rapid and significant one in case of transition countries, could become an unbearable burden for the least protected groups of people. That is why international organizations such as IMF, World bank, OECD advised the governments dealing with transition period, first of all, to establish a solid secure social safety net (Atkinson & Micklewright, 1992).

Mostly scholars – and policymakers – in modern capitalist countries prefer to address the problem of income inequality in relation to poverty (for example, see Milanovic, 1998; Heshmati, 2004; Alam et al., 2005; Cornia, 2005). Undoubtedly, this section of research should not be underestimated since it draws attention to the problems of those who are the least protected, and the consequences of the phenomenon in terms of population health or

criminal rates (for example, refer to Patterson, 1991; Kawachi & Kennedy, 1999; Wen et al., 2003; Ram, 2005).

Less attention was paid to the fact that the problem of income inequality, whose importance was always undermined by liberal ideology proponents, is actually a problem of well-functioning free market economy. More fair distribution of household incomes is a healing tool even for the most liberal economic regimes, and it is also beneficial for economic growth in a long-term period (Berg & Ostry, 2011).

The main threat created by large differences in individual and household incomes is the erosion of the middle class, that is always the basis of a healthy economy. Such a polarisation of the society – "consumers" in this case – gives huge advantage to the richest and deprives those who earn little from participation in trade, hence, depressing the aggregate demand and leading further to economy stagnation (Fiorentini & Montani, 2012). Keeping income inequality at lower levels also allegedly prevents shadow economy from flourishing, as discussed above.

Additionally, scholars argued that large income inequality is extremely dangerous for the accumulation of human capital. Low-income households in these situations do not have an opportunity to invest in education, that, in turn, not only deprives them from improving their income situation, but also does not contribute to the country's human capital size in general terms (OECD, 2015, p. 60). Another side effect of the sharp increase in income inequality is related to social trust: the feeling of injustice undermines confidence, trust in the government, and social solidarity (Johnson et al., 1997). There is also an alternative argument that, however, was not supported by the real evidence due to measurement problems: a large tax burden together with low trust in the government and, thus, the perception of the welfare system as unjustified, increases the number of people who voluntary choose to get engaged in informal labour activities (Schneider & Enste, 1998).

With regard to global, or horizontal, income inequality, in his later work, Milanovic (2013) highlighted a new challenge brought by globalisation – growing migration flows from poor to rich countries. Noting that the process itself from economical perspectives is mostly motivated by market rules, Milanovic is concerned with the fact that it causes speculation

and new issues in the world of "real politics". Rephrasing Marx, nowadays there is an evidence of the clash not between classes, but between citizenships.

1.4. Summary of scholars' findings

The first problem of income inequality studies lies in the fact that the gap between the rich and the poor is relatively hard to measure. The most widely used and available indicator nowadays is the Gini coefficient, that expresses the distance of the income distribution from "perfect" equality together with decile ratios comparison that gives more insight to the patterns of income distribution between the groups. Other indexes, like Atkinson's, Hoover, Theil's, have more advantages in terms of decomposition of income inequality, but they require greater data collection and are not so easy to interpret.

In the case of communist countries, it was even harder to make estimations, due to manipulated data on the one hand, and generous benefits-in-kind on the other. Thus, it becomes hard to compare the situation not only between the countries, but also within a particular one over time. Later on transition countries raised other challenges – to measure income inequality and mitigate the effect of shadow economy, wage arrears, and other unobserved factors.

The main problem that scholars face when studying income inequality is the large number of processes – political, economical, social – that happen simultaneously on both levels – global and national – and each of them might contribute to the increase of the gap between the rich and the poor. Moreover, there is almost no agreement between the scholars what contributes the most and in which way, because the empirical evidence is rather diversified. Only some evidence is clear and undoubted – income inequality is rising everywhere in the world, and the main redistributive role is played by national governments.

Economic growth used to be one of the most important explanations of income inequality distribution. Over time, the approach was challenged, and sometimes contradictory findings were made. Urbanisation was also listed among the main causes of income inequality rise, and the supporting evidence is quite rich, but yet there is research that did not prove the

assumed correlation. Trade globalisation leads to the greater exposure of labour force to market economy mechanisms and implies greater flows of foreign direct investments, but the final outcomes vary greatly due to different influences on particular groups of workers. The workers ability to negotiate their wage through various means was also studied, and the evidence showed clear correlation between strong wage bargaining power and relatively low level of income inequality.

Some scholars tried to explain the difference in income inequality levels between countries by the varieties of capitalism they adopted. However, first, it was found that the institutions created in the beginning of transition process had been changed over time. Second, the evidence of OECD countries proved that countries can handle income distribution in rather similar ways, representing different types of capitalism and welfare systems.

The rising share of capital was also found to contribute to the income of a limited and rather small group of people. Corporate taxes cuts and increasing burden of labour and consumption tax payers only worsen the situation. Progressive taxation, especially on capital income, might be a good solution to shrink the gap between the rich and the poor, but most likely it would be viewed negatively by political the elite and entrepreneurs. Thus, scholars suggest paying attention to tax ratios in the total revenue, not their absolute values or legally imposed rates.

Other policies that were found to have a great redistributive effect were welfare policies, or redistribution of benefits. The evidence proves that generous cash benefits can contribute to mitigating income inequality to the same extent as not so generous but well targeted benefits. A unique case of transition countries also proved that the privatisation policies that helped redistribute the wealth contributed to income inequality to a great extent.

None of the researchers treated income inequality as social evil. The depth of the gap is the main concern. Benefiting the income of only a limited group of people, apart from humanitarian concerns, can undermine the main democratic principles, including the underrepresentation of low-income households. Inadequate treatment not only of the poor but also of the middle class suppresses demand and leads to crises. High income inequality slows down accumulation of human capital. Moreover, it leads to large migration

movements from low-income countries to high-income ones. To summarise, unequal income distribution creates a number of not only economical but also political problems that the establishment has to deal with.

Chapter Two. Theoretical framework and methodology of the study

This chapter gives insights on methodological aspects of the study. First, the explanation of the chosen variables is given. Second, the research design is described. It is followed by conceptualisation and operationalisation section. Additional focus is made on the methodology of other scholars' research, where they tried to estimate income inequality in former communist countries, especially during the first years of transition, when national statistics was diverse and hard to compare. The section is concluded by the list of indexes and database sources used in the study.

2.1. Theoretical framework of the research

Scholars have approached previous empirical and theoretical analysis on income inequality in different ways. When conducting the studies, researchers concentrated on observing both macroeconomic and demographic factors and national policies.

Following mostly the results of the studies focused on transition economies, in this work, we concentrate on the factors that had significant and rather diverse effect on income inequality in each particular country. Therefore, controlling for macroeconomic and demographic indicators, the main focus is on governmental policies.

Macroeconomic and demographic indicators of the study include urbanisation level and capital/income ratio, mostly following Piketty's (2014) approach.

Economic growth, being widely discussed, in this study is disregarded due to controversial scholarly findings (Bruno et al., 1998). Neither foreign direct investment is taken into account, because its effects were found to be rather mixed, complex, and targeted to some particular income groups (Fiorentini & Montani, 2012).

The shadow economy, even though considered an important factor contributing to income inequality especially in the context of transition countries (Atkinson & Micklewright, 1992; Rosser et al., 2000), is still too hard to capture and, therefore, cannot be used to produce reliable results, at least unless a better proxy is found.

Governmental policies were generally assumed to play a great role in income inequality mitigation (Fiorentini & Montani, 2012; Piketty, 2014, etc.). The most important policy fields that were found to affect income distribution significantly are the benefits distribution and taxation (Joumard et al., 2012), as well as privatisation (Rose & Viju, 2014), that happened to a larger extent during the first years of economic liberalisation. Moreover, these policies, according to Svejnar (2002), represented the type II reforms and were found to have various effects across the countries.

With regard to benefits distribution, due to a complexity of the system, we focus on generosity of cash benefits expenditures and prevailing type of welfare policies – universalistic or means-tested, to control for the degree of targeting benefits, as argued by Joumard et al. (2012).

Taxation policies are also included in the research framework, following Iosifidi and Mylonidis's approach (2017), the design of tax system, as well as the shares of labour, consumption, and capital income along with their ratios.

Unions bargaining power that was found to have a negative effect on income inequality, according to Visser and Checchi's (2011) findings, is also taken into account.

Considering these previous studies, the matrix of varieties of capitalism adjusted for the context of CEE countries looks like an appealing framework for the research: classification has solid theoretical and practical justifications and provides with six comparative dimensions of institutions. However, the neoliberal group that consists of the Baltic States is homogeneous in terms of the income gap, whilst within the embedded neoliberal group, Czech Republic and Slovakia perform differently from Poland and Hungary. Therefore, varieties of capitalism approach, at least in case of the countries of interest, only partially explains the difference in income inequality performance – the implemented version of capitalism to some extent imply the limitations of possible taxation and benefits distribution policies, although the institutions also develop and change within the time.

Price liberalisation, even though being a significant and outstanding process that transition countries went through, is also disregarded due to its homogeneous effect on the countries (Grimalda et al., 2010).

2.2. Research design

Thus, this research represents a small-N comparative analysis of five countries divided into two groups – the Czech and Slovak Republic as the most successful with fighting income inequality and the Baltic States that include Estonia, Latvia, and Lithuania as the EU outsiders.

The study applies Most Similar Systems Design (MSSD) research. Both groups of the countries have a communist past, even though only the Baltic States were the part of Soviet Union, while Czechoslovakia remained relatively independent. However, a brief historical overview of pre-transition conditions is provided in the following chapters to analyse similarities and differences in communist legacies.

The research is mostly concentrated on the effects on income inequality caused by public policies, such as privatization, taxation and benefits distribution. At the same time, some of the macroeconomic and demographic indicators proposed by political economists, namely the level of urbanisation and the share of labour and capital income are kept as control variables. The study also takes into account wage bargaining power, even though it potentially can influence only labour income share of distribution.

Thus, in this work, considering the existing literature, we seek to prove that public policies played the key role in the redistribution of income in case of transition economies while controlling for macroeconomic and demographic factors. Thus, we expect to observe that:

1) in more urbanised countries, higher income inequality is observed;

2) a larger share of capital income is associated with higher levels of income inequality;

3) powerful workers unions mitigate the effect of market forces on wages;

4) a gradual approach to privatisation resulted in a more modest income inequality rise;

5) emphasis on targeted welfare policies along with generosity of welfare state keeps income inequality at a moderate level;

6) greater reliance on labour and consumption rather than capital taxes contributes to suppressing income inequality.

If the effect of macroeconomic and demographic factors can be immediately noticed, in order to properly access the influence of governmental policies on income inequality, their effects will be considered with a one-two years lag. Moreover, we expect that reforms have a restructuring nature and, thus, their potential influence, if any, is supposed to be of a bigger magnitude and for the longer term.

Generally the study covers the period of the beginning of transition in 1985 up to 2014, which marks the ten-years anniversary of the countries of study in the European Union.

2.3. Conceptualisation and operationalisation

Income inequality, the main subject of the study, is considered as the gap between the richest and the poorest shares of the population. The definition of income that serves the research aim is derived from OECD approach: "Income is defined as household disposable income in a particular year. It consists of earnings, self-employment and capital income and public cash transfers; income taxes and social security contributions paid by households are deducted" (OECD, 2018). Equalised household income per capita, or later on referred as a household income, if not specified, signifies that not only the number of household members was taken into account, but also the final figure was adjusted to the needs of each family member, meaning, for example, that children and elderly consume less than adults.

Additionally, in order to observe the skew of income distribution line, the comparison of deciles is used.

The level of urbanisation is understood as a proportion of the population living in urban areas. Therefore, the country is considered to be more urbanised if a smaller percentage of population lives in rural areas.

The division of capital and labour income is represented by a ratio of capital returns and wages, that can be measured by the means of adjusted wage share, or the share of wages in

total national income.

Bargaining power of workers, which is usually also referred as power of unions, is relatively hard to capture, since the phenomenon is complex and multidimensional, combining lots of quantitative and qualitative indicators. In order to capture the trends, two parameters are taken into account: union density rate, which indicates the size of union membership, and bargaining coverage rate, which measures how many employees enjoy bargaining agreements.

Privatisation in this study is measured in both quantitative and qualitative ways. In order to observe the speed and degree of the privatisation, the share of private sector expressed as a percentage of GDP for the first decade of market economy, since mass privatisation was finished by the end of 1990s, is used to capture the expansion of the private sector. At the same time, the privatisation types are reviewed and expressed as categorical nominal variables.

Taxation policies in this research include effective labour, consumption, and capital taxes share expressed as a percentage of GDP. Labour/capital, consumption/capital, and labour/consumption tax ratios are computed and compared in order to assess the degree of governmental reliance on particular type of taxes, taken by their economic function. Tax rates and their main changes within the time of study are reviewed as well.

Benefits distribution is also represented as both a discrete variable – the amount of benefits in cash as a percentage of GDP to make a better between-country comparison, and an ordinal variable, indicating which welfare policies – means-tested or universalistic – constitute the larger share. The GDP growth is also taken into account in order to control the dynamics of cash transfers in nominal values.

2.4. Indexes and databases

2.4.1. Differences in methodologies of different Gini coefficients calculations

Income inequality in this study is measured by Gini coefficient. In this particular case, when the variable of interest is the gap between the rich and the poor, its pitfalls such as potential bias towards some parts of the income distribution groups and poor representation of the situation with poverty, discussed in the Chapter One, can be disregarded. The universality and comparability of Gini coefficient (Rosser et al., 2000), that takes into account not only labour and capital incomes, but benefits received and taxes paid, suits this research design the most. For the years 2005-2014, the information on Gini coefficient is available in the Eurostat database, and their conceptualisation of income fits the methodological framework of this research.

There is a problem of missing data for the previous years, from 1985 to 2004, thus, the information needs to be derived from various sources. The following paragraphs are dedicated to the problem of different estimations of Gini coefficients in the countries of study.

The problem of dissimilar calculations of Gini coefficients is mostly inherent in the first years of transition: as already discussed in Chapter One, scholars admit that under communist rule the data was highly likely to be manipulated (see Atkinson & Micklewright, 1992), while during the first years of independence solid methodology and generally relevant institutions for statistics were simply missing (Mitra & Yemtsov, 2006). Therefore, the only way left for the scholars was to review the existing data from family budget surveys and assess it with caution, admitting all the existing limitations.

British scholars Anthony Atkinson and John Micklewright (1992) assessed income inequality in the countries of interest only for some particular years: 1985 and 1988 for Czech and Slovak Republics, and 1989 for the Baltic States. The limitations the authors admitted was the fact that Czech and Slovak surveys were based on the monetary, or net, income, excluding the benefits provided in kind, which goes along with the concept of a

household income used in this research. Also, before 1993, the household income was approximately calculated on the basis of personal income reports. As for the Baltic States, due to a biased representation of the sample, their estimations mostly reflect the situation in the families of workers and collective farm workers. Atkinson and Micklewright relied mostly on the data on consumption, because treating the surveys this way helped to improve the problem of under-reporting income. However, the final estimations are supposed to capture a household disposable income per capita.

The Italian scholar Giovanni Cornia (1994) provided his estimations for the first years of capitalism for the Czech Republic (1989-1993) and Slovakia (1989-1992). He based his calculations on the same household surveys as Atkinson and Micklewright (1992) did, assuming the Czechoslovak data to be reliable. However, Cornia noticed that the households at the ends of distribution, meaning the richest and the poorest deciles, are under-represented in the surveys. Therefore, the hidden bias in his estimations lies towards income distribution among middle-income households and, thus, mostly reflect the changes between and within that groups. As well as in Atkinson and Micklewright's research, Cornia tried to assess disposable household income per capita, basing his calculations mostly on consumption in order to prevent income under-reporting problems and to partially estimate the benefits in kind.

Branko Milanovic (1998) assessed income inequality in Czech Republic (year 1988), Slovakia (years 1988 and 1993), and Estonia (1995). Unlike other scholars, he noticed that Czech and Slovak data derived from the household surveys is less reliable than was previously assumed. In the case of the Czech Republic, he found that income inequality seemed to be overestimated, because the time period of the surveys was relatively short. Slovak data excluded form the surveys the households with economically active members but headed by pensioners, and the direction of possible bias, in his opinion, was hard to assess. Along with other scholars, Milanovic considered the problems with the Estonian dataset rather severe due to the sample over-representation problems, discussed above. He followed more or less the same methodology as Atkinson and Micklewright and Cornia:

when estimating a disposable household income per capita, benefits in kind were partially taken into account.

The World Bank economists Pradeep Mitra and Ruslan Yemtsov (2006), being concerned with a possible effect of shadow economy on real figures of income distribution, in their estimations, used the data on household consumption adjusted per capita. Other World Bank economists Francisco Ferreira and Martin Ravallion (2008) focused more on capturing the welfare distribution situation and, thus, also analysed household consumption. Therefore, the results of the World Bank researchers are likely to be quite different from the ones of other scholars, who tried to estimate a household disposable income, but should be more accurate in capturing the well-being of population. At the same time, they should be more sensitive in terms of capturing the effect of indirect taxation on income distribution.

Transformative Monitoring for Enhanced Equity (Transmonee) database, a project of UNICEF, was aimed to assess the situation with poverty, mostly with regard of children and women's well-being. The researchers collected and analysed the data on household income per capita reported through surveys for all the five countries of this study, using secondary sources only for the first years of observation. The situation in Czech Republic is covered from 1989 to 2009, in Slovakia – from 1996 to 2008. The data on Estonia is covered from 1989 to 2005, on Latvia and Lithuania – from 1989 to 2004, with significant breaks in time-series data.

Eurostat and OECD databases both provide the information on a household disposable income adjusted to the household size. They cover all the countries, starting from 2003-2004 and, therefore, provide a good source for cross-country comparison, as well as for careful and standardized assessment of the changes of income inequality situation within a particular country.

The World Bank data on Gini coefficients is disregarded in this research due to its methodology: indicators take into account gross, not net, household income per capita. Therefore, the redistributive role of the government is not reflected in this case.

With regard to the Czech and Slovak Republics comparisons, it must be noted also that a number of researchers reported difficulties in separating the data for Czech and Slovak

lands from overall the Czechoslovak database. That is why some of the datasets (for example, see Deininger & Squire, 2013) prefer to drop the observations due to their rather limited reliability.

For the sake of summary and better comparability within and across the countries, the weighted score, that is based also on the findings of the above mentioned scholars along with other indicators and pure statistical estimations for the years of missing data, is mostly used in this research, provided by Frederick Solt's project The Standardized World Income Inequality Database (SWIID) (2013). The dataset has its limitations, because it generates a universalised Gini coefficient based on the research that uses different methodologies. The estimations of the Gini coefficient that vary greatly for the same year and the same country are studied closer and possible explanations of the differences are presented. For the period of 2005-2014 the Eurostat database is used a primary source.

The data on decile ratios, that is a complimentary source representing the skew of income inequality line, is derived from the Eurostat database (EU-SILC survey), since the calculations are made on the basis of net household income per capita. The World Bank database has a wider coverage, but the calculations are made on the basis of gross household income, therefore, it does not satisfy the conceptualisation of this study.

The Eurostat database does not provide the information on the share of income for the middle deciles, using quartiles instead. For the sake of calculations, quartile 3 (Q3) is divided by two in order to represent approximately the figures for D5. Even though such an approximation is not truly correct, it can be used for the comparison since the same number is used to calculate decile ratios. The information is available for the countries of study for the period of 2005-2014, with a sole exception for Estonia, where the data is available from 2004.

2.4.2. Other indicators databases

The level of urbanisation in this study is presented as a percentage of urban population of total, and the World Bank database is used for that. The data is available for the period of

the years 1991-2014.

The ratio of labour and income capital is represented in a form of adjusted wage share as a percentage of total income, since it includes not only wages of employees but also the income derived from self-employment activities. The data used in the research is provided by Annual macro-economic database of the European Commission's Directorate General for Economic and Financial Affairs (AMECO), and is available for the period of 1993-2014, with the exception of Slovakia – from 1995 to 2014.

Bargaining power indicators are derived from the Data Base on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts, 1960-2014 (ICTWSS) (Visser, 2015). The first variable is called a "union density rate" expressed as a "net union membership as a proportion of wage and salary earners in employment". The bargaining agreements are measured with an "adjusted bargaining (or union) coverage rate", calculated as "employees covered by collective (wage) bargaining agreements as a proportion of all wage and salary earners in employment with the right to bargaining, expressed as percentage, adjusted for the possibility that some sectors or occupations are excluded from the right to bargain". The data on the countries is rather incomplete though. The union density rate information for the Czech and Slovak Republics covers the years of 1993-2013, for Estonia – the period of 1992-2012, Latvia and Lithuania – 1995-2012. The data on the Baltic states suffers from significant breaks in time-series. Adjusted bargaining coverage rate data for most of the countries covers the years of 2001-2013 with breaks in time-series. Full data from 1990 to 2013 is only available for the Czech Republic.

The data on the speed of privatisation expressed as a share of GDP covers the years of 1991-1999 and is derived from the "Transition report 2000" prepared by European Bank for Reconstruction and Development (EBRD, 2000).

Information on taxes shares is taken from Eurostat database. For most of the countries, the data is available from 1995 to 2014, with the exception of Slovakia, where such statistics were being collected from 1999, and Lithuania, where the data covers the period of 2000-2014.

The data on cash benefits expenditures of the countries as a percentage of their GDP is

available from 1995 to 2014 in OECD database. The same source is used for extracting the data on GDP rate, measured in billion dollars at current prices and current purchasing power parity (PPPs). The type of welfare state policies is obtained from V-dem database, the indicator being called as "means-tested vs. universalistic welfare policies" and taking values from 0 to 5, where 0 represents the situation when all the welfare policies are targeted to particular groups of population and are represented only in cash benefits. The score of 5, on the contrary, signifies that all the governmental welfare policies can potentially benefit every member of society and a targeted benefits approach does not exist. These indicators are used to measure the variables of interest in the following chapters.

Chapter Three. Trends in income inequality and macroeconomic conditions: analysis of the indicators

This chapter is dedicated to the observation of the trends experienced by the countries of study. As discussed in Chapter Two, income inequality is expressed in Gini coefficient and decile ratios, their analysis is provided. In this chapter, the changes of urbanisation level and the share of labour income are also compared to the income distribution trends.

3.1. Income inequality: skyrocketing during transition and stabilising at different levels

The data on income inequality during early years of transition is not standardised and is available only for some particular years, as discussed in Chapter Two. The figures 1-5 reflect the differences in assessment of income inequality provided by different sources, including manual calculations that were done by the researches who dealt with analysis of income inequality in former communist countries.

3.1.1. Income inequality trends in the Czech Republic

As shown on the Figure 1, Atkinson and Micklewright (1992) assessed Gini coefficient in the Czech Republic under the communist rule in more or less the same way as SWIID (2013).
Starting from 1988, the scientific estimations of Gini coefficient varied to some extent.
The year of 1989, at the end of which the Velvet revolution took place, was assessed by researchers slightly differently. SWIID combined a couple of indicators based only on disposable income per capita and estimated the Gini as 20.8%, while Cornia (1994) gave the country a better score – 18.5%. He also found a rise in the Gini coefficient by 1.6% in 1990, while SWIID reported a slight decrease of 0.3% for the same year. At the same time, the indicators for 1990 reported by different sources are close to each other – around

20.3%. Transmonee estimations were lower for the years of 1989-1990, but reported the same trend of Gini decrease (by 0.8%) as SWIID.
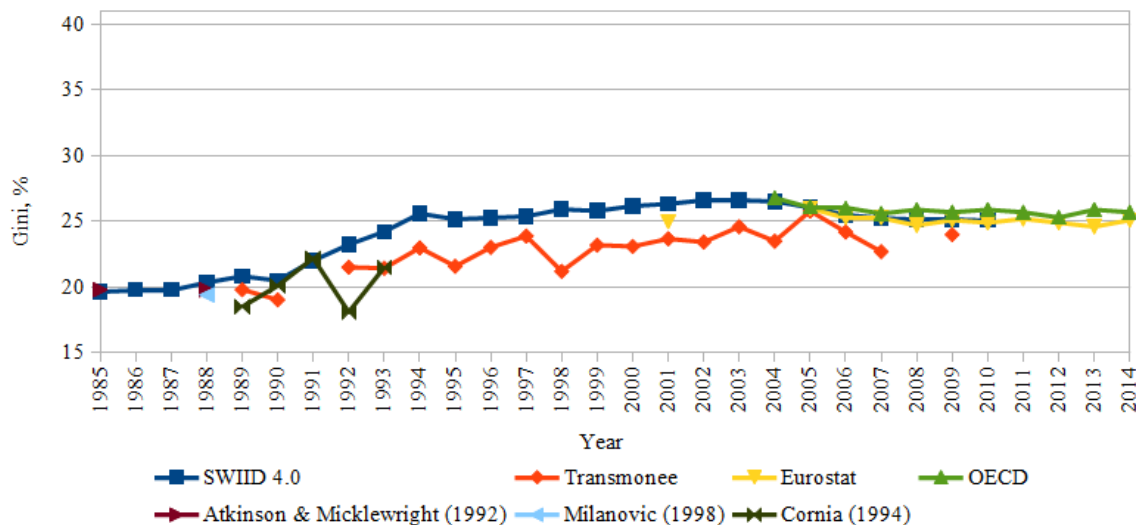

Figure 1. Income inequality in the Czech Republic, by source, 1985-2014
Source: Author's own construction

Both SWIID and Cornia found an increase of about 1.5% in the Gini coefficient in 1991. However, further assessment varies greatly: the following year, SWIID estimated the inequality at the level of 23.2%, that is considerably higher than the assessment of Cornia (18.1%). According to the latter, the Czech Republic experienced a rapid decrease in income inequality by 4.1%. The explanation might lie in the differences in methodology: since Cornia relied mostly on consumption data of middle-income households, it might simply mean that the 'middle class' during 1991 spent their income in a more "equal" way. Gradual increase in Gini coefficient was reported by various sources for the years 1992-1994, the highest level pointed out by SWIID (25.6% for 1994).

Transmonee estimations for the period from the year 1992 on showed somewhat smaller income inequality than reported by other sources. Such differences can be coming from methodological aspects, meaning that it might indicate that children and women in Czech Republic were in a slightly better position compared to the rest of social groups throughout

the years of 1992-2009. Although, according to Transmonee database, the Gini fluctuated between 21.4% and 25.8%, the highest point being recorded for the year of 2005.

According to the SWIID database, the situation in the country in terms of income inequality stabilised in 1994, and the Czech Republic has not experienced any significant changes, only slight increases in 1999 and 2002, followed by the decline of the Gini. According to SWIID, the Czech Republic reached 25.1% of the Gini in 2012, which is close to the level of 1995 (25.2%).

The findings of OECD and Eurostat after the years of 2004-2005 go along with SWIID estimations, OECD giving somewhat higher scores to Gini, especially in 2013 – 0.7% more than Eurostat. After 2004, the biggest gap between the rich and the poor was reported as 26% in 2005 by Eurostat, and 26.1% by OECD for the same year.

Using SWIID data, stabilisation of the Gini coefficient at around 25.5% level can be noted already from 1994 – within following 20 years the Gini coefficient fluctuated within the range of 1.6% Gini.

3.1.2. Gini coefficient fluctuations in Slovakia

Figure 2 summarises the findings of Gini coefficients derived from different sources for the case of Slovakia.

Unlike in the case of the Czech Republic, SWIID on average reports lower level of income inequality for the whole period of interest than other analysed sources. As elaborated above, such differences before 1993 might have been caused by difficulties with division of the data between Czech and Slovak lands during Czechoslovakia time.

In 1985, in the beginning of transition that was initiated by communist governments, the Gini coefficient was estimated by Atkinson and Micklewright (1992) at the level of 19.8%. By 1988, it constituted even less – 19.4%, or 19.5% as reported by Milanovic (1998).

The decrease in Gini coefficient was also recorded by SWIID – it constituted 15.7% in 1989. The database sources reveal that such an optimistic estimation is based on Garner and Terrell's paper (1997), who argued that income inequality in Slovakia was over-estimated,

and in order to prove it, they tried to evaluate also the benefits in kind and include their estimations. Cornia (1994), though, based his calculations on disposable income, and he was less optimistic about income inequality in Slovakia for that year, estimating the Gini as 18.3%.
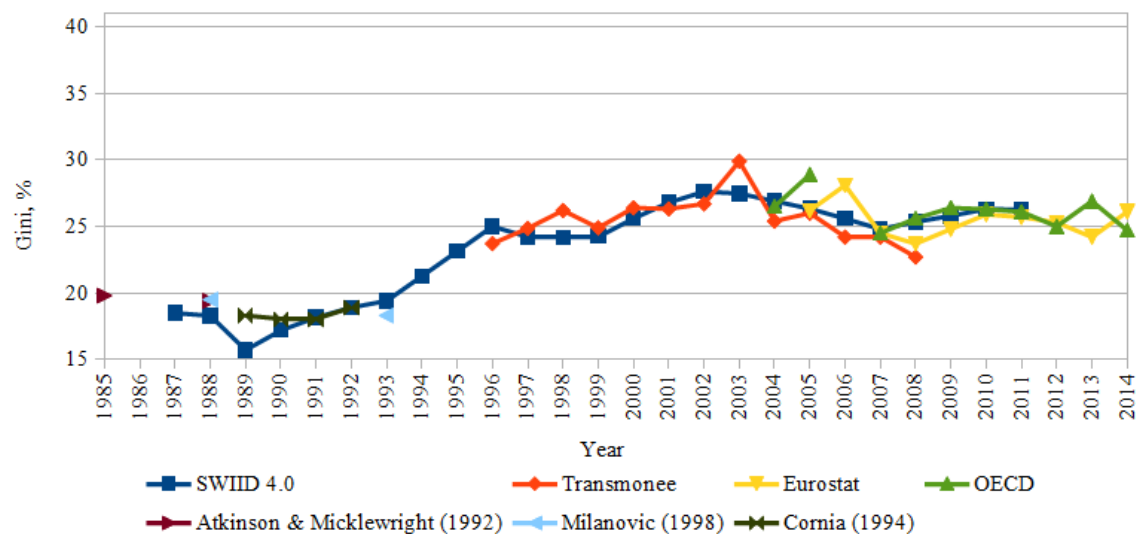

Figure 2. Income inequality in Slovakia, by source, 1985-2014
Source: Author's own construction

A following gradual, relatively fast increase of the gap between the rich and the poor was found by SWIID, while Cornia reported a slight decrease in Gini coefficient for the years 1989-1991. In the end, both of the sources estimated income inequality in Slovakia as around 18% Gini in 1991 and 18.9% in 1992.

According to SWIID, rapid increase in income inequality got off the mark in 1993, when the Gini grew from 19.4% to 25% by 1996.

The same database also reported a following slight decrease of 0.7% by 1999. Transmonee assessed the same period of 1996-1999 in a different way, characterising it with actual increase in income inequality with the highest score of 26.2% given for 1998.

The years of 1999-2002 showed an increase in income inequality. Transmonee researchers found a somewhat larger degree though. The following year of 2003 was assessed even

more differently: SWIID recorded the beginning of slight but gradual decrease of income inequality, while Transmonee found an upwards leap the same year (29.9%).

The years of 2002 to 2007 were characterised by a continuous gradual decrease in income inequality as reported by SWIID, whilst the rest of the sources showed other trends. An overall decrease was found to be not that smooth, with Gini rapidly swinging up and down, by Transmonee. At the same time, OECD recorded a 1.4% increase in Gini for 2004-2005, and Eurostat – a 1.9% increase in 2005-2006, followed by a rapid fall of almost 4% the following year.

Scholars estimated the Gini coefficient for the year of 2007 equally, giving Slovakia a score of approximately 24.5%.

The change in income inequality distribution was reflected by sources slightly in a different way. Eurostat and Transmonee recorded a decrease of approximately 1.5% Gini, while SWIID and OECD found an increase of about 0.8%.

From 2008 to 2011, the Gini coefficient was slightly growing according to all the databases. It reached a mark of around 26% in 2011, and then slightly dropped at 25% level.

For the years 2012-2014, the databases reported reverse trends. According to OECD, Slovakia experienced a rapid increase of almost 2% in Gini in 2013, followed by a drop of 2.2%, reaching the level of 24.7% in 2014. Eurostat, on the contrary, outlined a rapid decrease in the Gini coefficient of 1.1% in 2013, followed by an upward swing hitting the mark of 26.1% in 2014.

It might be cautiously noted that the gap between the rich and the poor stabilised in Slovakia after 1996. On average, since then the Gini coefficient constituted 25%, fluctuating within the range of approximately 5% Gini.

3.1.3. Costs of transformation: fast growth of Gini in Estonia

The estimations of income inequality in the Baltic States, including Estonia, seem to vary to a greater degree rather than in case of Czech and Slovak Republics.

Estonia experienced a slight decrease in income inequality during 1985-1990 years according to SWIID database, departing from 23.9% level and landing on the 22.5% mark. The SWIID's estimations of the data were based on the weighted score of various indicators. For the years 1988 and 1990 only the gross income was reported, so the disposable income for these years was statistically computed, while the data for 1989 is based on a ready-made disposable income per capita data. Thus, most of the years in this period were likely to be estimated only approximately, as well as the redistributive role of the government was being captured rather intuitively.
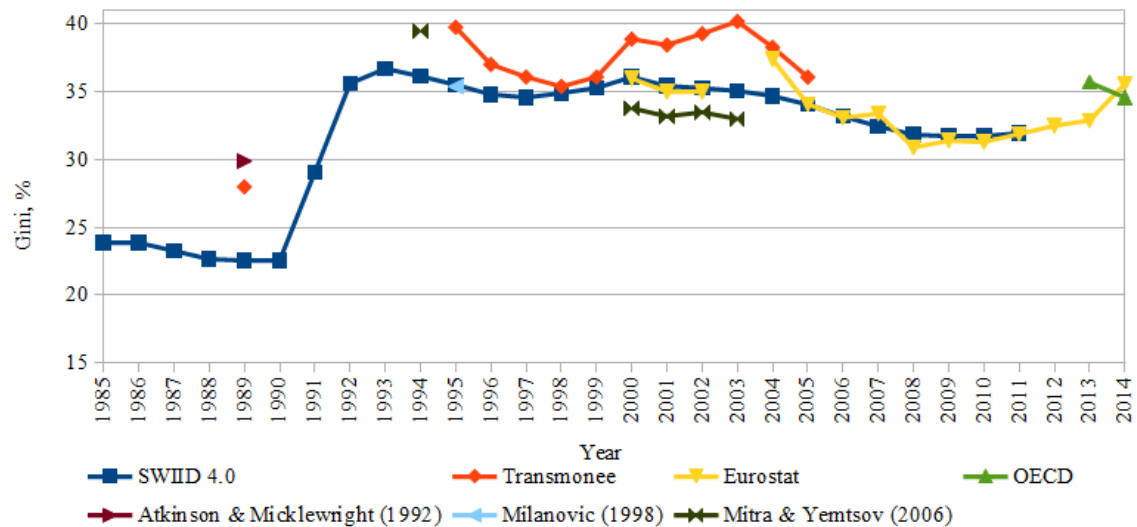

Figure 3. Income inequality in Estonia, by source, 1985-2014
Source: Author's own construction

Atkinson and Micklewright (1992) were less optimistic about Estonia's performance, giving the country almost a 30% score. However, as they noted, their estimations were based on the consumption data only for workers and collective farm workers, which does not reflect the actual distribution of income among other groups, and the estimation of disposable income was rather approximate. Transmonee findings, that are more sensitive towards the situation of children and women, are relatively more optimistic than the ones of Atkinson and Micklewright – 28% Gini.

During the years of 1990-1992, Estonia experienced a sharp leap in terms of the Gini coefficient – from 22.5% to 35.6% or more than 13%.

According to the same dataset, the increase in the following year was not that rapid – only 1.1%.

From 1993 to 1997, SWIID reported a slow but gradual decrease in income inequality, assessing the indicator for 1997 as 34.6% Gini. Milanovic (1998) assessed the data on 1995 in a similar way, giving Estonia an approximately the same score of 35.4% Gini. Mitra and Yemtsov (2006), who analysed the data on consumption, computed the Gini for 1994 as 39.5%, which is even higher than SWIID estimations.

1997-2000 years were characterised by SWIID by a gradual increase in income inequality, when the Gini coefficient hit a mark of 36.1%.

Transmonee researchers' estimations followed the same dynamics as the ones of SWIID, however, reporting more dramatic changes. According to Transmonee database, Estonia from 1995 to 1998 experienced a large drop of 4.4% of the Gini, and then rose again to 38.9% in 2000. In other words, it seems that the households consisting of more children were found to be more vulnerable in terms of income inequality.

Income inequality dropped between 2000 and 2001 by approximately 1% according to all the estimations.

Mitra and Yemtsov provided their calculations based on consumption data from Estonian surveys for the years of 2000-2003. They also recorded a slight drop of the income gap, reporting lower Gini coefficients though. This might be the result of mitigating effects of external factors.

The Transmonee database, on the contrary, reported a rapid increase in income inequality for the same years, from 38.9% to 40.2% Gini coefficient. The following three years, according to the same database, Estonia experienced a relatively sharp decrease in income inequality, reaching a level of 36.1% of Gini in 2005. Eurostat recorded even a bigger decrease of Gini between 2004 and 2005 – by 3.3%. SWIID, for the same years, also reported a decrease, but a slower one, giving a score of 34.1% for the year of 2005.

According to SWIID, Estonia's Gini coefficient kept falling till 2008, when it reached 31.8%, that is close to the indicators of 1991, when the country got independence. Then it slightly rose in 2011, but only by 0.2% Gini.

Eurostat's estimations for the years of 2005-2011 go somewhat in line with the SWIID one. According to the dataset, from 2011 to 2014 the gap between the rich and the poor was only growing, reaching the point of 35.6% Gini. OECD calculations, providing only for the years 2013-2014, actually showed a reversed trend – the organisation recorded a drop of the Gini by 1.1%, giving Estonia the score of 34.6% level in 2014.

Generally, it might be said that the Gini coefficient in Estonia to some extent had already stabilised after 1992. However, it fluctuated within a wide range – between 30% and 36%, according to SWIID.

3.1.4. Slow but gradual rise in income inequality: evidence from Latvia

The years of transition under communist rule in Latvia were also characterised by a slight decrease in the Gini coefficient: from 22.9% in 1985 to 22.1% in 1988, according to SWIID. For these years, as in the case of Estonia, the database estimations rely on the figures of gross income per capita, taking into account only estimated effect of taxation and provision with benefits.

The data for 1989 was assessed by Atkinson and Micklewright (1992) in a less optimistic way. While SWIID provided a 23.2% Gini for Latvia, the British scholars gave it 27.4%. As well as in the case of Estonia, the researchers mostly relied on the consumption data available for workers and collective farm workers, leaving aside other groups of wage earners. Transmonee researchers were also rather pessimistic about the situation with income inequality in Latvia, providing a score of 26%.

From 1990 to 2008, SWIID reported a relatively slow but continuous increase in income inequality – from 22.5% to 36.1% of Gini.

For the earlier period, only Ferreira and Ravallion's (2008) estimation for the year of 1995 is available among other sources. They calculated the Gini as 31%, based on household consumption data, which is 1.2% higher than the score provided by SWIID.

The increase in income inequality for the years of 1996-1998 was also noted by Mitra and Yemtsov (2006). Their estimations of the income gap based on consumption data turned out to be slightly higher: they recorded the increase of Gini from 31.6% to 33.6% level.
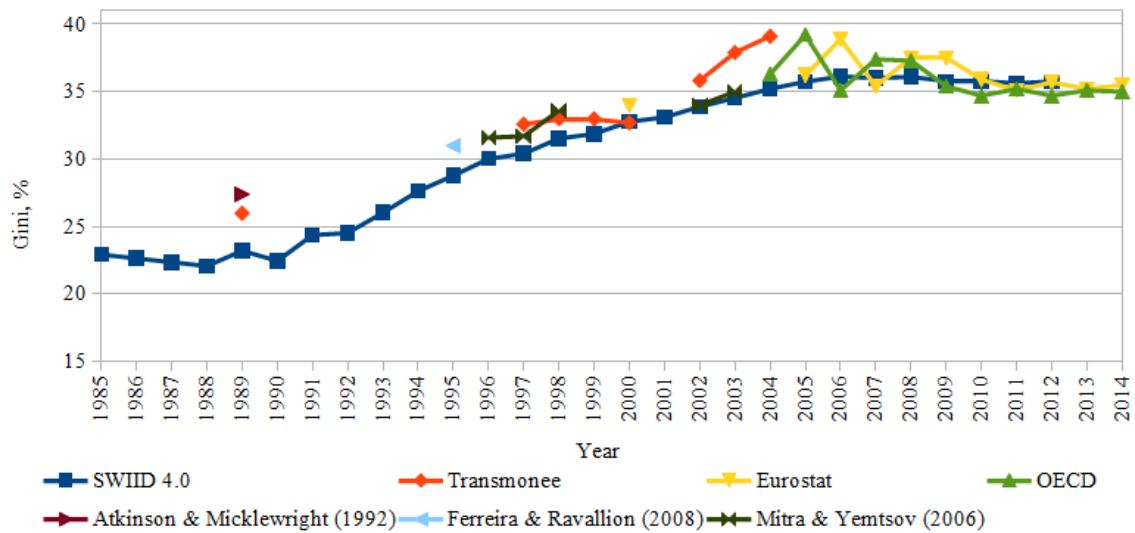

Figure 4. Income inequality in Latvia, by source, 1985-2014
Source: Author's own construction

According to Transmonee database, though, income inequality almost did not change between the years 1997-2000, fluctuating around 33% of Gini.

Mitra and Yemtsov's estimations for 2002-2003 go in line with SWIID weighted scores. Transmonee data during 2002-2004 showed a somewhat worse situation with income inequality, noting an increase from 35.8% to 39.1%.

The period of 2004-2007 in Latvia was assessed by the researchers in a rather different way. While SWIID presented a slight growth in Gini, OECD reported its rapid increase by almost 3% in 2005, followed by a relatively large drop of 4%. Eurostat reflected the same

trend, but a year later: according to the database, Gini increased up to 38.9% in 2006, and then fell to the 35.4% mark in 2007.

After 2007, different databases recorded somewhat the same rage of Gini fluctuations around 36% of Gini. Although, Eurostat gave Latvia higher scores, OECD assessed the gap between the rich and the poor in a more moderate way.

It can be summarised that Latvia's Gini got stable only after 2004, fluctuating around 36% of the Gini coefficient.

3.1.5. Hopping growth of income inequality: data on Lithuania

For the case of Lithuania, the data is also rather scarce for the years of transition under communist rule. Relying on the data of gross income in 1988 and disposable income in 1989 per capita, a slight increase of income inequality was estimated by SWIID during the years 1985-1989, from 22 to 23.7%.

Alternative sources are available for the year of 1989. Transmonee gave Lithuania a score of 26.3%, while Atkinson and Micklewright (1992) assessed it as 27.8%.
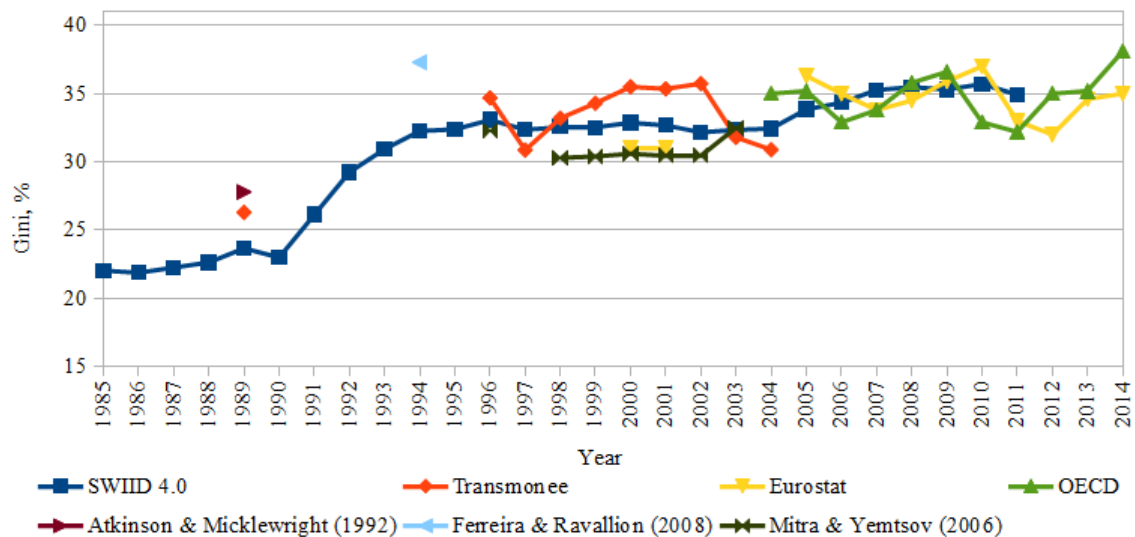

Figure 5. Income inequality in Lithuania, by source, 1985-2014

Source: Author's own construction

A slight decrease in Gini coefficient recorded by SWIID for 1989-1990 was followed by its rapid upwards leap. According to the same source, by 1994, the Gini coefficient already constituted 32.3%, and kept only rising, much slower though, for the following years.

Ferreira and Ravallion (2008), using the data on households consumption, estimated the Gini coefficient of 1994 as a much higher one – 37.3%. That might mean that during the first years of independence the shadow economy, or indirect taxation, or other hard to capture factors only contributed to higher income inequality.

For the next decade, from 1995 to 2004, according to SWIID, the level of income inequality in Lithuania was relatively stable, varying from 32.4% to 33.1%.

According to the same source, Lithuania experienced a relatively sharp increase by almost 3% in the Gini coefficient during the years 2004-2007, later on stabilising at the level of approximately 35.3%.

Mitra and Yemtsov (2006), who estimated the data of 1998-2003 years, also noted a stabilisation of Gini coefficient with its slight increase by 2003. Their scores, based on the consumption data, were smaller than the ones provided by other sources, which might indicate a mitigating effect of some external factors on income inequality during that period.

Transmonee observations are quite different from other sources. The researchers recorded a relatively rapid decrease in income inequality in 1996-1997, but then reported a rapid upwards trend for the following five years, when, according to their estimations, the Gini coefficient reached 35.7% level in 2002.

Various estimations of income inequality in 2003, though, are quite similar – around 32% Gini.

According to SWIID database, the level of income inequality was steadily growing in Lithuania from 2004 to 2008, later on stabilising at a level of 35.5%.

The trends reported by OECD and Eurostat are somewhat different. OECD recorded a number of rises and falls during 2004-2014, the lowest point of 32.2% being in 2011, a high score of 36.6% in 2009, and the highest one – 38.1% in 2014. Eurostat's data repeats the

same trend, but with one year lag, giving the highest score of Gini coefficient as 37% in 2010, and the lowest one as 32% in 2012.

The assessment of income inequality in Lithuania was rather controversial. However, with caution, it is still possible to say that the country experienced two periods of Gini coefficient stabilisation: from 1994 to 2004 at the level of 32-33%, and from 2007 to 2014 at the level of 35-36%.

3.1.6. Contrasting the neighbours: cross-country comparison

Czech and Slovak lands, when being part of the same country, were not so similar in terms of income inequality, as proven by the researchers' assessments shown on Figure 6.

SWIID researchers findings tend to estimate Slovakia's Gini coefficient to some extent lower than the Czech Republic's one. As already discussed, any differences in estimations of Czech and Slovak Republics' Gini coefficients before 1993 should be treated carefully, since scholars stressed the difficulties faced while separating the data.

According to Atkinson and Micklewright's (1992) estimations, Czech and Slovak lands in 1985 were rather equal in terms of distribution of income. In 1988, they found Slovakia's Gini somewhat lower than the one of the Czech Republic – 19.4% and 19.8% respectively. Milanovic (1998) evaluated the Gini coefficients for the same year as almost equal – 19.5% and 19.4% accordingly. The score given to the countries by Cornia (1994) for the year of 1989 is also more or less the same – 18.5% and 18.3% respectively.

SWIID weighted coefficients present a rather different picture for the same period of time. According to the database, while Czech lands were experiencing slight rise in inequality in 1987-1989 by 0.7%, the Slovak part was getting closer to the line of perfect equality by 1.8%.

Starting from the period of economic liberalisation, SWIID estimated Slovakia's Gini somewhat lower than in the Czech Republic with the exception of three periods. Inequality in Slovakia did not reach the level of Czech Republic until 2001, the level of inequality in Slovakia was almost the same as in the Czech Republic in 1996 though. After that, SWIID

was giving Slovakia the same or even higher scores, the latter during the periods of 2001-2004 and from 2007 on.
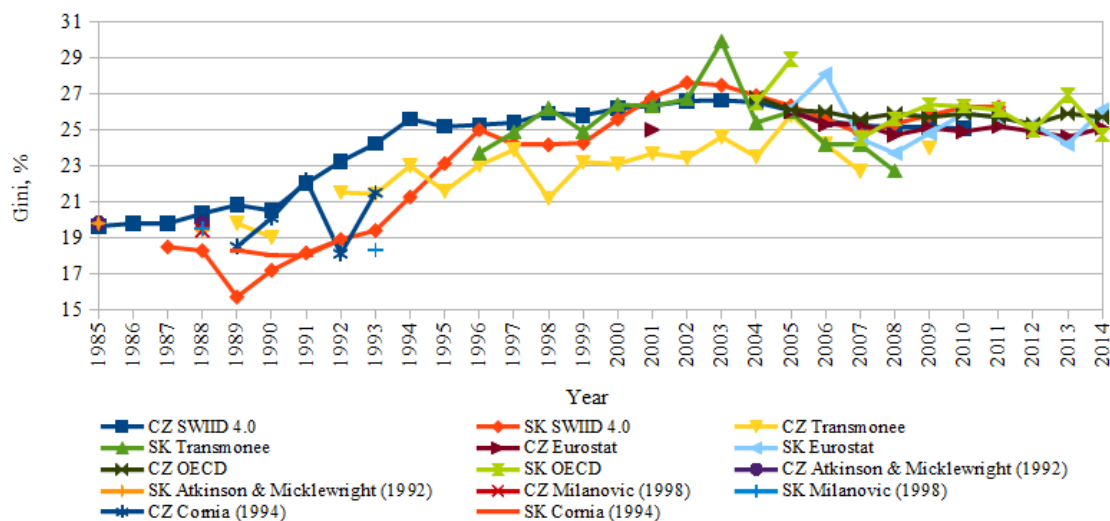

Figure 6. Income inequality in the Czech Republic and Slovakia, by source, 1985-2014
Source: Author's own construction

The Transmonee database, on the contrary, tends to estimate the Czech Republic as more equal rather than Slovakia, with the only exception of the years 2005 and 2006, when the countries were given the same scores. In case of Transmonee estimations, however, there is an alternative explanation of different results discussed above: it is likely that the households with children were in a better situation in the Czech rather than Slovak Republic.

According to Eurostat data, it was not so clear who was "more equal", the Czech Republic or Slovakia, However, the fluctuations range of the Gini coefficients was estimated higher in case of Slovakia, even though the countries followed very similar trends. OECD, that relies on the same methodology as Eurostat, presented slightly different coefficients, but at the same time a similar trend: less stable income distribution situation in Slovakia. On the other hand, OECD estimations in the period of 2007-2014 to some extent mirror the ones of

Eurostat, recording an increase of inequality when Eurostat reported the decrease, and vice versa.

According to all the estimations, Slovakia, compared to the Czech Republic, used to perform a lower Gini coefficient before 1996, when after experiencing ten consequent years of its growth, it finally caught up with its neighbour in terms of income inequality. Slovakia's trend is not as stable as the one of the Czech Republic, the former one being characterised with relatively sharp declines and upward leaps in the Gini coefficient, while Czech Republic's Gini grew steadily but slowly.

Generally experiencing more "fair" income distribution, Slovakia outperformed Czech Republic in a number of years – in 2001-2003, 2005, 2009-2010, and 2013. However, the difference in Gini coefficients was still relatively small.

On average, the Czech and Slovak Republics raised their Gini coefficients by 5% by 2014.

Figures 7 and 8 present the comparison of the Gini coefficients in the Baltic States, reported as household income or consumption per capita respectively. Atkinson and Micklewright's (1992) estimations are also presented in Figure 8 since they partially captured also benefits in kind, which is more likely captured by consumption estimations rather than income reported per se.

Before 1988, SWIID estimated Estonia's Gini coefficient the highest one, though Lithuania looked the most "equal" compared to its neighbours. While in 1988, the countries caught up with each other, in the following two years Estonia's situation was stable, whereas Latvia and to a bigger extent Lithuania experienced an upwards leap in the Gini coefficient, coming back to the same level as Estonia by 1990.

The Transmonee database presents the situation only for 1989 and estimates the Gini coefficients for the Baltic States higher somewhat by 5%. This assessment goes along with the SWIID finding that Estonia was the most "unequal" in the beginning of transition period, but at the same time provides Latvia with the lowest Gini score.

The Gini coefficients for 1900-1994 were estimated only by SWIID. According to the database, Estonia experienced the fastest increase in income inequality, reaching 36.7% by 1993, followed by a slight decrease in 1994. Lithuania's Gini coefficient was rising a bit

slower, but the process noticeably slowed only after 1994. Latvia, compared to its neighbours, experienced the slowest growth in Gini coefficient, which, however, did not stop up to 2006.

The Transmonee estimations are less optimistic than the ones of SWIID. Estonia was still presented as the least equal country from 1995 up to 2003. Latvia, according to Transmonee, performed better only in 1998 to 2000, generally conceding to Lithuania. Interestingly, for the years 2002-2004 a rapid increase in income inequality is reported for Estonia and Latvia, while Lithuania's Gini was going down during that time, reaching 30.9% by 2004. As already discussed, Transmonee indicators are more sensitive towards the position of households with women and children.
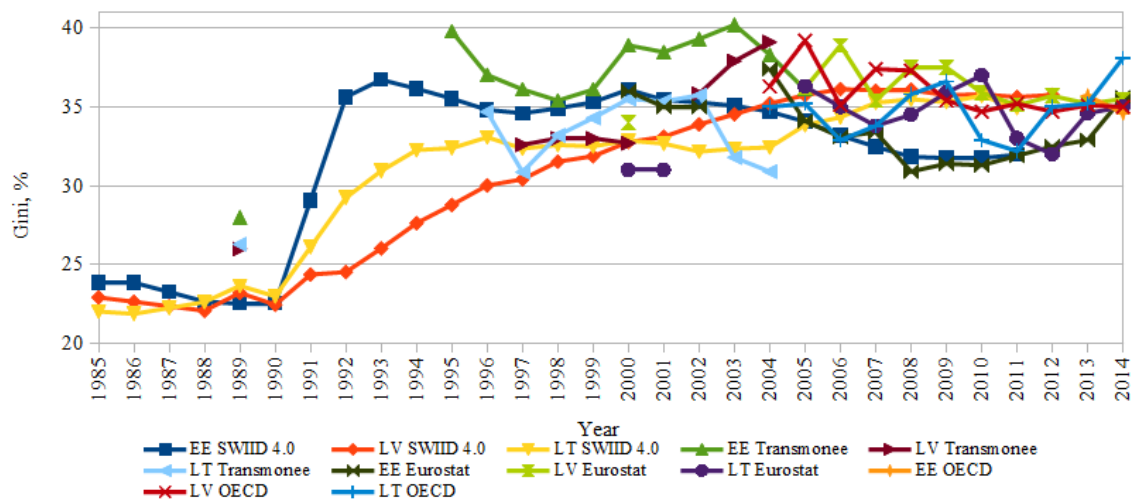

Figure 7. Income inequality in the Baltic States measured by reported income, by source, 1985-2014

Source: Author's own construction

Eurostat estimated the Gini coefficient in 2000 as more moderate than Transmonee in the cases of Estonia and Lithuania, giving Latvia at the same time a higher score than other databases.

Income distribution trends changed after 2004, according to all sources. Since then, Estonia's Gini started decreasing, and gradually Estonia became the most "equal" in terms of household income among its neighbours. At the same time, OECD estimated the Gini in Estonia as about 3-4% higher, than other databases, from 2007, and, therefore, did not recognised a rapid fall of the Gini reported by others. Lithuania, according to all the sources, was going through larger fluctuations in the Gini compared to Latvia. But in general, the Gini coefficient for the Baltic states fluctuated between 31% and 39%.

Figure 8 combines the estimations made by different sources based on the income consumption, including the indicators provided by Atkinson and Micklewright (1992), who also took partially into account benefits in kind. The Gini coefficient based on consumption performs somewhat 5-7% level higher, rather than the ones based on reported income.

Atkinson and Micklewright's (1992) findings for the year of 1989 confirm the position of the Baltic States on y-axes scale. Their methodology applied, the income distribution was less "fair" in all the Baltic States, compared to the indicators provided by SWIID for the same year, resembling more with Transmonee assessment.

Mitra and Yemtsov's (2006) findings go along with the trends outlined by other databases. In general, Estonia, being always the most "unequal" country, managed to improve the situation by gradually decreasing inequality, and already by 2003 became almost as "equal" as Lithuania, the countries obtained 33% and 32.5% Gini respectively. Latvia, which back in 1996 performed the smallest Gini, experienced a gradual increase of income inequality, and by the end of observations, by 2003, hit the highest score of 35% among the Baltic States. Lithuania was the most "equal" country starting from 1998, performing at around 30% Gini and experiencing an upwards leap in 2003.

Ferreira and Ravallion (2008) estimated the situation in Latvia for 1995 and in Lithuania for 1994. The trend revealed by other sources was confirmed: during that period, Latvia appears to have much smaller (by 6%) Gini coefficient.

To summarize, chosen methodology influenced the final Gini score to a great extent in case of the Baltic States, the difference between the estimations being close to 10%. However, regardless the sources used, the general trend was as follows: during first years of

transition, Estonian households were the least "equal" in terms of income, while Latvia performed the best. The speed in income inequality growth was the highest in Estonia and the slowest in Latvia. After 2000, the trends had reversed: Estonia started to improve the situation slowly, while Latvia and Lithuania experienced large fluctuations in the Gini coefficient and, in the end, became the most "unequal" states.
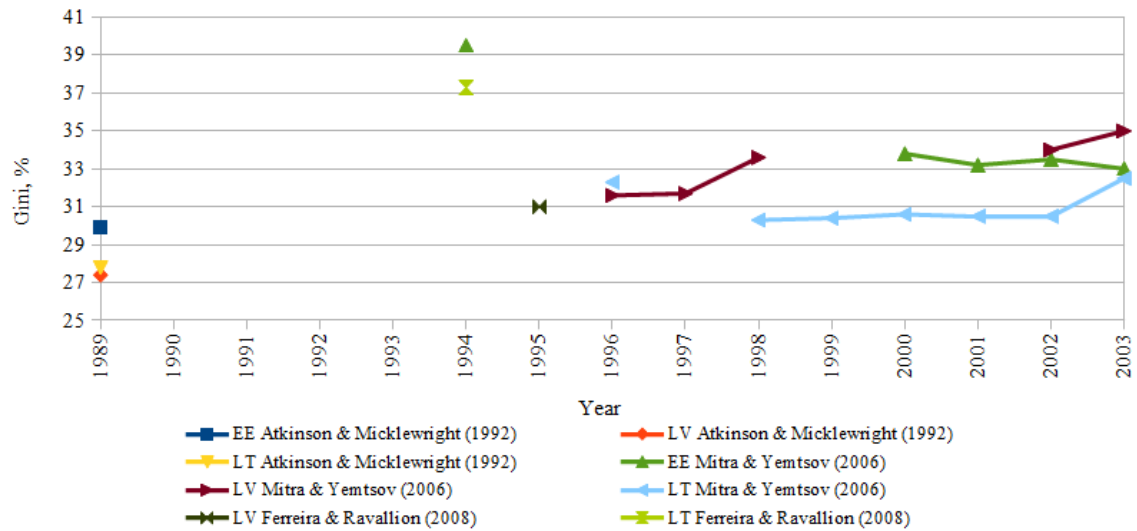

Figure 8. Income inequality in the Baltic States measured by consumption, by source, 1989-2003
Source: Author's own construction

On average, the Baltic states' Gini coefficients increased from 1985 to 2014 by around 12%.

3.1.7. General trends: cross-group comparison

Figure 9 represents the trends in income inequality expressed by Gini coefficients for all five countries of study. As discussed and proven in Chapter Two, before 2004 the data derived from SWIID database is used to make cross-countries comparisons, since the differences in Gini coefficient assessment were explained by methodological approach, and

SWIID indicators were proven to be consistent with the definition of household income used in this study.

After the liberalisation, all the countries became more "unequal" in terms of household income. However, the Czech and Slovak Republics managed to maintain lower levels of inequality in comparison with the Baltic States.

During the communist rule, the countries were relatively equal in terms of income distribution. The Czech and Slovak Republics were performing slightly better, their Gini coefficients being estimated at approximately 20% level. The Baltic States performed somewhat worse, still keeping relatively low level of income inequality though – around 23%.

The trends of income inequality in two groups of countries dramatically changed after 1990. Even though income inequality was rising everywhere, the speed of increase was much higher in case of Estonia and Lithuania, and generally the Gini coefficient kept rising in these two countries for a couple of years. However, such a statement should be made with a note that the increase of inequality could have started even earlier, before 1989, if Atkinson and Micklewright (1992) estimations are taken into account.

Surprisingly, Latvia first followed the same pattern as Czech and Slovak Republics, but then the Gini coefficient continued to rise in the Baltic States, when it got relatively stable in Czech and Slovak Republics after 1995, fluctuating at the level about 26%.

Slovakia stands out of the rest of the countries as for the year of 1989. When the Baltic States and the Czech Republic were already experiencing a gradual but relatively slow growth in income inequality, the drop by 2.5% was recorded from 1988 to 1989, followed by continuous gradual increase for the next seven consequent years. However, as discussed in the previous section, if Cornia's (1994) estimations of household disposable income are taken into account, Slovakia is no longer an outlier.

From 1988 to 1989, Latvia and Lithuania experienced a rise of income inequality level of about 1%, while Estonia maintained the same Gini coefficient. Latvia and Lithuania's performance, thus, was relatively similar to the Czech one, that experienced a rise of 0.5% in its Gini coefficient.
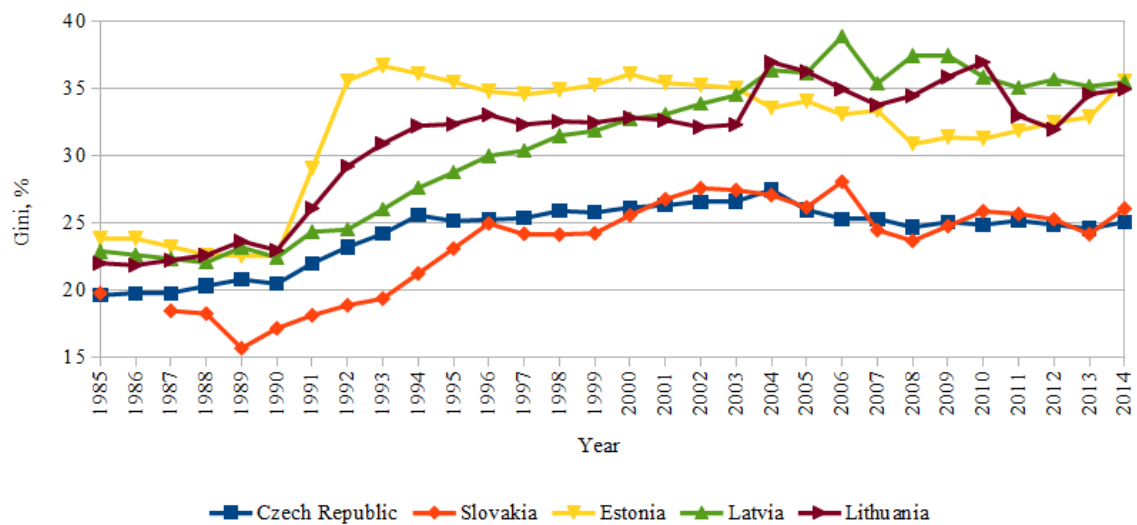
Figure 9. Income inequality in transition countries, by country, 1985-2014

Sources: Atkinson & Micklewright (1992) (for Slovakia, 1985), SWIID 4.0 (for all the countries, before 2005), Eurostat (for all the countries, 2005 and after)

However, when looking at Atkinson and Micklewright (1992) calculations, the overall picture for the Baltic States looks different. In 1989, Estonia was the most 'unequal' among the Baltics, reaching almost 30% Gini, when Latvia and Lithuania performed slightly better – with 27.8% and 27.4% respectively.

Whatever estimations are taken into account, income inequality rose in all of the countries of study after 1990, the biggest change, according to SWIID, recorded for Estonia – 6.6%. Lithuania experienced a 3.1% increase in Gini, while Latvia – 1.9%. The Czech Republic and Slovakia performed slightly better than Latvia, having experienced the increase of 1.5% and 1% respectively.

Since then the distance between the two group of countries, the Czech Republic and Slovakia and the Baltic States, was only growing, stabilising somewhat in the years of 2000s and constituting 7-10% of difference measured by the Gini coefficient.

Interesting patterns can be seen form the graph on the Figure 9. In some periods of time, the Gini dynamics of Latvia resembled the one of Slovakia, only at higher Gini level and with a bigger amplitude. For example, from 1990 to 1994, income inequality in these countries was growing in line, Latvia's Gini being estimated about 5% higher than the Slovakia's

one. In 2006, both countries experienced a similar increase in Gini coefficient – Latvia by 2.7%, Slovakia – by 1.9%, followed by a larger and similar decrease in inequality by 2007 – Latvia by 3.5%, Slovakia – by 3.6%.

At the same time, in the period from 1990 to 2007, Lithuania's pattern in Gini resembles the Czech one, with the same note of different levels and amplitude. Both countries experienced a steady growth of income inequality up to 1994, then the situation relatively stabilised until 2003. In 2004, Lithuania and the Czech Republic experienced an increase of Gini coefficients, to a largely different extent though: the former one by 4.7%, while the latter – by only 0.9%.

After 2007, neither the Czech Republic nor Slovakia experienced rapid swings in the Gini coefficients, unlike the Baltic States. The amplitude of Gini fluctuations of the latter since 2007 constituted about 6-7%.

To summarise, all the countries of study experienced a rapid and continuous increase in income inequality during the time of transition. With time, the situation became stable, to more extent in Czech and Slovak republic where the Gini stopped growing already in 1996, while the Baltic States coefficient kept rising until the 2000s. In 1985, the difference in the Gini coefficients between the groups of countries was 2-4%. The groups of countries ended up in strikingly different positions: the gap between the Baltic States and the Czech and Slovak Republics in 2014 constituted around almost 10%.

3.2. Getting rich at the expense of 'middle class': decile ratio comparison

As discussed in Chapter One, the comparison of decile ratios represents a more simplified alternative to Gini coefficient. It helps to compare how many times more income the richest households get. As a complementarity to Gini, intermediate ratios are also compared to understand "at whose expense" rich households obtain their income. In other words, such a comparison illustrates closer to whom the middle-income groups stay, to the rich or to the poor. As already mentioned, scholars generally agree that a bigger gap between 'middle class' and the rich is more justified and acceptable.

The income distribution among the bottom, middle, and upper income deciles – D1, D5, and D10 respectively – is depicted in Figures 19-21, the calculations are presented in Table 1 (cf. Appendix 1).

The poorest households in the Czech and Slovak Republics obtain a larger share of national income, than their counterparts from the Baltic States. The share of Czech Republic and Slovakia's bottom decile income was 3.4%-4.2%, while the one of the Baltic states fluctuated between 1,9% and 3%.

The share of total national income by the Czech Republic bottom income decile has not radically changed over time and stayed the largest among the compared countries: the poorest 10% of households obtain 4-4.2%.

The dynamics of Slovakia's income distribution was not as stable as in the Czech Republic. The poorest 10% of households increased their income by 2008 from 3.4 to 4%, and then lost their share by about 0.5%, the lowest share being 3.3% in 2014.

The poorest 10% of households in the Baltic States were in the worse position during the whole period of study.

Estonia's bottom income groups increased their share by 2009 from 1.9% to 3%. However, from 2010 they were getting less and less income, ending at the mark of 2.2% in 2014, the same position as Latvia.

Lithuania's poorest households performed worse than Estonia's before 2012, but better than Latvia's throughout the whole period, with the exception of the year 2010, when Lithuania's households received a 0.1% share lower than Latvia's. The bottom income households in Lithuania have changed their position over time: they increased their share by 0.3% from 2002 to 2008, but after that lost 0.6% by 2010. Within the following two years, they improved the situation by 0.8% share of national income by 2012 and arrived at the 2.7% mark, the highest share within the study period. In 2014, the share of income slightly reduced by 0.2%.

Latvia's poorest households on average received the lowest share of national income compared to the rest of the countries studied, with the only exception being in 2010, when they were found in a slightly better situation than in Lithuania. The share fluctuated within

a small range, between 2% and 2.4%, with the lowest records in 2006 and 2010, and the highest one in 2007.

Middle income deciles share in the countries of study did not differ to a great extent, Czech Republic and Slovakia's households still found themselves in a slightly better position though as compared to the Baltic States. All of the countries did not experience rapid increase or decrease in terms of 'middle class' income.

The share of Slovakia's middle income group was slightly, by 0.1-0.2% bigger than the ones of the Czech Republic with the exception of 2006, when the Czech Republic's households performed slightly better. The range of national income share is rather small: the percentage varying from 8.2-8.9% for both countries.

The share of national income for middle income groups for the Baltic states was somewhat smaller: from 7.1% to 8.2%.

Estonia's 'middle class' was found to be in a better position as compared to its Baltic neighbours, with the sole exception of 2014, when Estonian households obtained the same share of 7.5% as Lithuania's, or 0.1% less than Latvia's.

Most of the time Lithuanian households were found to be in a slightly better position than Latvia's, obtaining 0.2-0.6% bigger share of national income, with the exception of the years 2005, 2009-2010, when their shares were equal, and 2014, when Latvia outperformed its neighbours by 0.1%.

The upper income decile households, on the contrary, were in a better position in the Baltic States, on average obtaining about 5% of national income more than the Czech or Slovakian ones.

Throughout the years, the richest decile of households in the Czech Republic was getting about 1-1.5% more than their Slovakian counterparts, with the exception of 2007, when Slovakia's upper income groups significantly outperformed the Czech ones by 2.6%.

Czech Republic's richest households did not experience significant changes in their national income share within the years, the share being between 21.4-22.2%. The position of Slovakia's upper income groups was less stable: the households increased their share to

24.5% in 2006, the highest index. Already in 2007, they had lost 3.5%, and since then the households were getting 19.5-21.5% of national income.

Estonia's upper income households were not in a favourable position as much as its neighbours. However, their share of income since 2015 was relatively stable, fluctuating between 23.4% (in 2008) and 26% (in 2014).

Latvia and Lithuania's indicators were relatively close to each other, Latvian households getting a somewhat bigger share of national income, but followed different trends throughout the years.

Latvian households experienced an increase in their income to 29.2% in 2006, the highest indicator for the study period for all the Baltic states, but lost their share afterwards, getting from 26% (in 2011) to 27.6% (in 2008).

Lithuania's upper decile income households on average obtained 26% of national income, experiencing a relatively significant loss of their share in 2011-2012 (24.4% and 23.9%), right after they increased it to 27.4% in 2009-2010.

The decile ratios calculations are summarised in Table 1 (cf. Annex 1), where the red colour cells signify the smaller ratio of D10/D5 compared to D5/D1, yellow labels the situations when D5/D1 is somewhat smaller than D10/D5, and the cells without colour illustrate somewhat equal ratios.

In the Czech Republic, the 'middle class' was always situated closer to the poorest decile in income distribution picture, meaning that the richest part of population made their income "at the expense" of the middle group, not the poor. The difference between the decile shares was always stable, constituting about 0,5.

Slovakia's 'middle class' on average found itself in the very middle of the distribution. However, in 2006-2007 the situation of middle-income households was similar to the Czech one. In 2013, on the contrary, the middle group shifted a bit upwards on the line of distribution, meaning that the richest decile obtained more income "at the expense" of the poor, the difference between the shares being about 0.35.

In Estonia, before 2010, the distance between the upper and middle income deciles was 0.2-0.6 points bigger than the one between the middle group and the bottom income decile. After 2010, the middle class was found somewhat in the middle of income distribution.

Latvia's richest 10% of household were mostly getting their share of income at the expense of the middle class, with the exception of the year 2010, when they obtained income rather at the expense of the poorest part of the population, the difference being about 0.5.

In Lithuania, the situation with income distribution between the groups was similar to the one of Latvia, with the 10% upper income decile obtaining the share of income rather at the expense of the 10% bottom income decile in 2010 and 2011 – the difference was about 0.4.

Czech and Slovak Republics' poorest decile throughout the years had somewhat 1.5% bigger share of income than their counterparts from the Baltic states. The middle income group was also in a better position in Czech Republic in Slovakia, possessing about 1% more of national income. The Baltics richest decile of the population, on the contrary, was found to have about 5% of national income more than the corresponding group from the Czech and Slovak Republics.

The analysis of decile ratios, though, did not show any clear pattern within or between the comparison groups. The poor were in a more vulnerable situation only in couple of cases: in Slovakia in 2013, in Latvia in 2010, and in Lithuania in 2010-2011.

3.3. Highly urbanised Czech Republic and relatively rural Slovakia: hypothesis not supported

All of the countries either maintained their urbanisation level through the whole period of studies, or experienced even its slight decrease, like Czech Republic, Slovakia, and Estonia (cf. Figure 22, Appendix 2).

Slovakia stands out among the countries as the least urbanised. In 1991, only 57% of population lived in towns and cities. By 2014, the indicator has decreased by 3%. Czech Republic differs greatly from its neighbour: the share of urban population constituted about 75% in 1991, and about 73% in 2014.

The Baltic states within time became almost equal in terms of urbanisation. In 1991, Lithuania was the most rural out of them, with 67.5% of population living in towns and cities. Latvia took the middle position, accommodating about 69% of population in urban zones. Estonia was the most urbanised country in the Baltic region, with 71% of population living out of rural areas. However, by 2014 about 67.7% of the Baltic region population lived in urban zones, the difference between the indicators being insignificant.

Therefore, there is no evidence from these countries supporting the hypothesis that higher share of urban population is correlated with higher income inequality.

3.4. Labour vs. capital income: controversial findings

Figure 10 shows the distribution of labour income within the countries' population, which indicates the share of national income that is constituted by wages, taking into account also the income derived from self-employment activities.
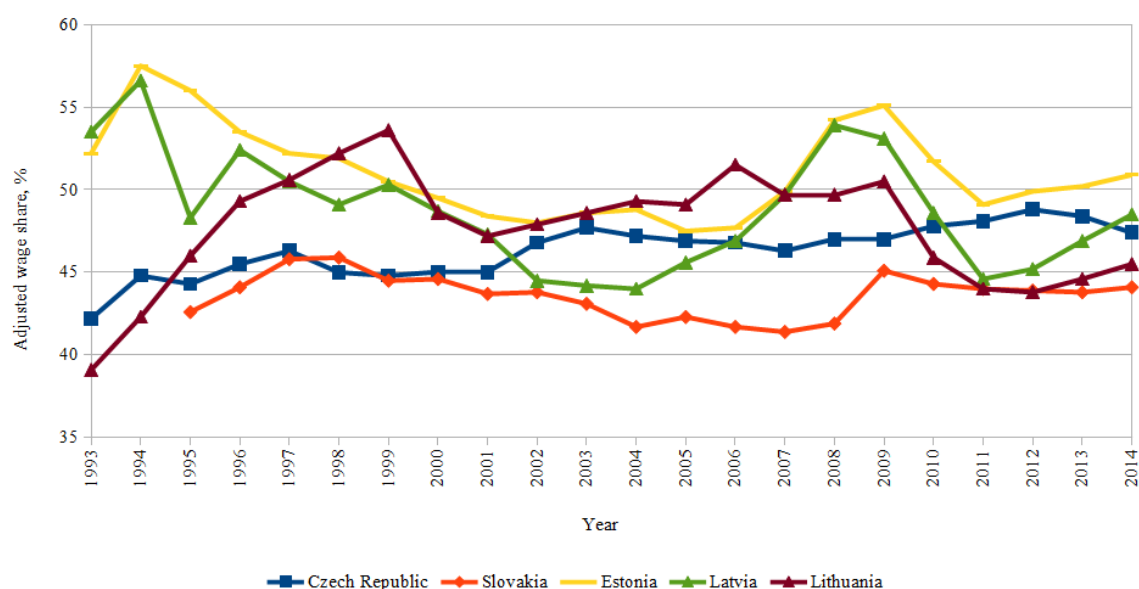

Figure 10. Adjusted wage share, %, by country, 1993-2014
Source: AMECO

The Czech and Slovak Republics on average have lower percentage of income allocated to wages. Before 1997, labour income constituted 42-46%, which is just 1-2% higher than in case of Slovakia. In 1997, Slovakia increased its wage share to the Czech ones, and the countries followed the same trend of slight decrease in wage share until 2000. Later on, the picture changed: labour income increased by almost 3% by 2003, while Slovakia's kept shrinking, reaching 41.7% in 2004. From then until 2008 the shares were not changing significantly. In 2009, Slovakia experienced an increase of more than 3% in 2009. Since then its wage share kept falling, reaching about 44% in 2014. The Czech Republic has not experienced significant changes during 2003-2014: the lowest share constituted 46.3% in 2007, and the highest one – 48.8% in 2012. In 2014, almost 47.5% of national income was represented by wages.

The distribution of labour income in case of the Baltic States was more heterogeneous.

Estonia and Latvia followed a similar trend: their wage share increased in 1994 to about 53%, and then gradually declined to 2002, Estonia landing at a 48% level, while Latvia – at 44.5%. However, in case of Latvia, the decline was intermittent. From 2002 till 2004, the countries took different paths: Latvia's indicator kept falling to 44%, while Estonia experienced an increase to 48,8% in labour income share. After that, the trends reversed, and by 2006, the wage share constituted approximately the same percentage – about 47%, that is close to the Czech Republic's indicator for the same year. In 2007-2008, the countries were going in line, hitting the mark of 54%.From 2008 until 2014, Estonia and Latvia experienced similar changes in national income composition, Latvia losing the wage share of income more: by 2011, the share decreased by 6% in the case of Estonia and by almost 10% in the case of Latvia. From 2012 to 2014, the countries experienced a gradual rise of wage shares, arriving at 51% and 48.5% respectively.

Lithuania's situation was distinct from the one of its neighbours. The wage share was increasing with high speed from 1991 to 1999, reaching the point of 53.6% and, thus, constituting a bigger share than in Estonia or Latvia. A fast increase was followed by a relatively rapid decrease by 6% by 2001, when Lithuania reached Latvia's indicator. From then until 2004, Lithuania was going in line with Estonia. In 2006, Lithuania experienced

an increase in wage share by 2.5%, but already the following year restored its position at the level of 49.7%, the same as Estonia and Latvia. From 2008 until 2014, Lithuania followed the same trend as its Baltic neighbours, on average, however, performing at a 1-2% lower share than Latvia.

On average, the Baltic States had a somewhat bigger share of labour income than the Czech or Slovak Republics. The trend changed only after 2010, when Latvia and Lithuania performed with indicators closer to the ones of Slovakia, while the Czech Republic almost caught up with Estonia in these terms.

We expect that the decrease in labour share should result in the increase of income inequality, since the returns on capital are normally higher than wages. According to the expectations, if the negative correlation is proven, the line representing the wage share should somewhat mirror the dynamics of the Gini. The evidence shows, that the change in wage share might have had an influence on income inequality only in some particular cases (cf. Figures 23-27, Appendix 3).

Negative correlation between the wage share and income inequality in the Czech Republic might be noticed only starting from the year of 2007, when the Gini coefficient was gradually falling down against the growing share of wages. Similarly, the increase of capital income by 1% is associated with the increase in Gini by 0.6% in 2014.

In the case of Slovakia, the correlation is visible for the period of 2000-2002 and 2005-2006. When the labour income dropped by 0.8% from 2000 to 2002, the Gini coefficient went up by 1%. In 2006, income inequality in Slovakia reached its highest level within the study period – 28.1%, while the share of wage was one of the lowest – 41.7%.

In Estonia, the changes in adjusted wage share can partially explain income inequality dynamics for a longer period of time. From 1997 to 2006, the line of the Gini coefficient somewhat mirrored the changes in income composition. The Gini grew by 1.5%, when the adjusted wage share decreased by 2.7%, and the Gini fell down to 33.1% by 2006, while the wage share constituted 47.7%, indicating, though, only a slight decrease of capital income share. Expected negative correlation was also found in 2007-2008 period, when the wage share increased by 4.3% against the drop in the Gini by 2.5%.

Latvia, that experienced the slowest growth of income inequality during the early years of transition, at the same time performed the most gradual decrease in the wage share starting from 1994. If in 1994, the Gini of 27.6% was associated with 56.6% of adjusted wage share, in 2003 the Gini grew at 34.5% level, while the labour income share fell at 44.2%. However, later on such negative correlation was not clear.

The situation with income inequality in Lithuania does not seem to be influenced by the changes in income composition at all – the drops in wage share are mostly associated with the corresponding decrease in income inequality, and vice versa.

The evidence of the chosen transition countries shows that change in wage/capital income ratio might have influenced the income distribution only in particular periods of time. Income inequality in Czech Republic was decreasing during the years of 2007-2014, when the share of labour income kept growing. In Slovakia, the drop of wage shares was associated with rising Gini coefficient during the periods of 2000-2002 and 2005-2006, the latter period was characterised by the lowest wage shares and highest income inequality. In the case of Estonia, income inequality was changing somewhat in accordance with wage share changes in 1997-2006, and it is likely that the Gini drop in 2007-2008 was at least partially caused by the rapid increase of labour income share. In Latvia, that experienced gradual and steady growth of income inequality during 1994-2003, the wage share was also gradually shrinking. In the case of Lithuania, though, there was no correlation between the Gini coefficient and labour income share found.

3.5. General results of the macroeconomic and demographic indicators analysis

Transition, or shifting from central planned to market economy, together with global processes, increased income inequality in all the countries of study. The Czech and Slovak Republics experienced that to a lower extent: their Gini dramatically went up during the period of 1990-1996, later on relatively stabilised at about 25% level. The Baltic States suffered income inequality rise to a greater extent. In 1990-1994, Estonia and Lithuania's

Gini coefficient grew by about 15% and 10% respectively. Latvia followed a slightly different path though: its income inequality kept rising much slower, but by 2004, the country had caught up with its neighbours. Estonia after 2004 experienced a drop in Gini, but by 2014, again reached the level of the years before the secession to the EU. Latvia and Lithuania, on the contrary, experienced frequent rises and drops of the Gini, but by 2014 performed in the same way as Estonia.

The analysis of macroeconomic and demographic indicators gave little insight to the roots of the problem. The most two "equal" states – the Czech and Slovak Republics – turned out to be rather different in their level of urbanisation. The wage share in the countries of interest was found to be only slightly correlated to the Gini coefficient dynamics, meaning that the decrease in wage share that is supposed to be more equally distributed rather than returns on capital was associated with the increase in income inequality when longer periods of time are taken into account. The biggest correlation was found in case of Estonia. However, Lithuania's case does not support the hypothesis, because the variables of interest were not correlated neither in the short, nor in the long term.

Chapter Four. Policies of independent transition countries and their outcomes

This chapter is dedicated to the analysis of policies that might have influenced the income distribution in the chosen countries. It starts with general overview of the countries challenges faced in transition process and followed by the assessment of workers unions' power. Then, the mass privatisation of 1990s, crucial tax reforms and cash benefits together with the type of welfare policies are analysed. The chapter ends with provisional conclusions regarding the union bargaining power and governmental policies effects.

4.1. The EU prospects: driving forces for changes

According to Aldcroft (2002), there were three main challenges that the states entering the transition process faced at that time. First, to deal with the conversion of currency and do best to survive inevitable severe price shocks. Second, to get rid of planned economy system. Third, to establish legal institutions and create financial conditions favouring private business.

Bohle and Greskovits (2012) stressed that Czechoslovakia, the future Czech Republic in particular, had all the chances to become the most successful industrialiser and catch up faster with Western European countries due to several quite obvious reasons. First, even before joining the Communist bloc, some Czech lands had already been industrialized, so for them it should have been easier to come back to relatively established capitalism. Secondly, these lands had already existed under democratic conditions, which is believed to be a facilitating factor for transition to market economy (Acemoglu & Robinson, 2012). Third, evident geographical proximity to advanced capitalist economies of Western Europe should be also taken into account.

Indeed, already in 1990, Czechoslovakia started negotiations with a view towards joining the European Union. They agreed to help an emerging capitalist economy with technological development and to some extent financial support in order to open the

Czechoslovak market to Western world. Negotiations with the Baltic States started in 1991, after they gained independence.

Estonia was the first country that started the negotiations on the terms of accession to the European Union in 1997, followed by Latvia and the Czech Republic in 1998. Slovakia was invited to initiate the process in 1999. Lithuania was the last one to start the negotiations in 2000.

However, since the transformation process in former Czechoslovakia started two years earlier than in the Baltic States, by 1998 the Visegrad countries were characterized by higher levels of marketization, while Estonia, Latvia, and Lithuania lagged behind in comparison. Scholars note though, that due to the historical legacies both groups of countries, they started implementing new regimes largely from scratch. However, according to Bohle and Greskovits research, over then ten following years, the Baltic States had caught up – already by 2007, their levels of marketization had become rather similar. Moreover, during the years of recovery the Baltic States, which were highly dependent on foreign loans, outperformed the Visegrad countries in price stability and fiscal performance alike.

Having started later, the Baltic States underwent the most radical transformations in adopting a market economy, while the Czech and Slovak Republics were the proponents of gradual transformation.

4.2. Unions losing power: the impact of wage bargaining on income inequality

Powerful trade worker unions were among the communist legacies that in theory could have helped to mitigate the impact of market forces on income inequality.

Scholars' findings proved that powerful unions managed to mitigate capitalism's outcomes better, helping the workers to obtain a better income. Thus, it is assumed that bigger bargaining power is associated with smaller gap between the rich and the poor.

Figure 11 depicts the union density rate – a percentage of workers that are members of unions from total labour force. Figure 12 reflects the percentage of employees in each country that are covered by collective bargaining agreements.
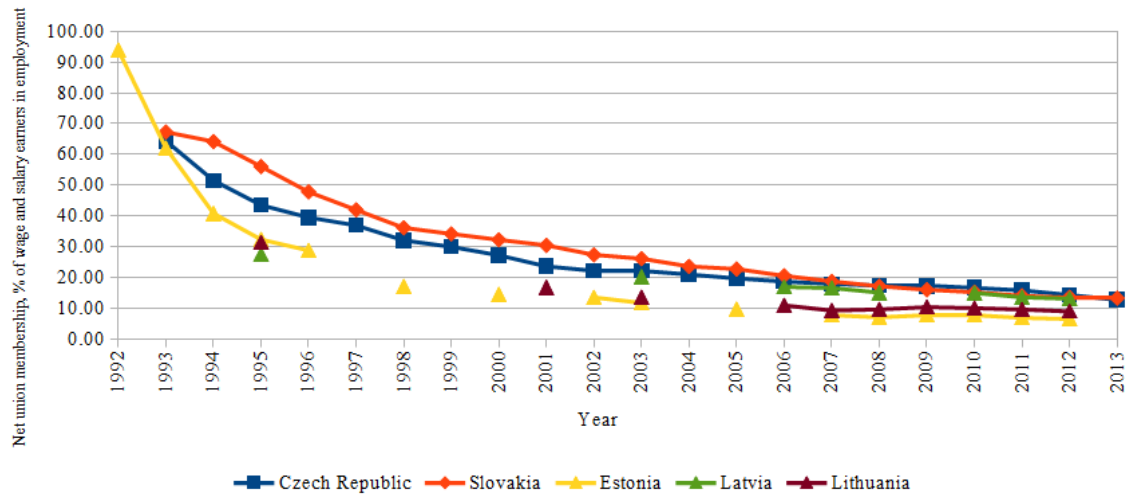

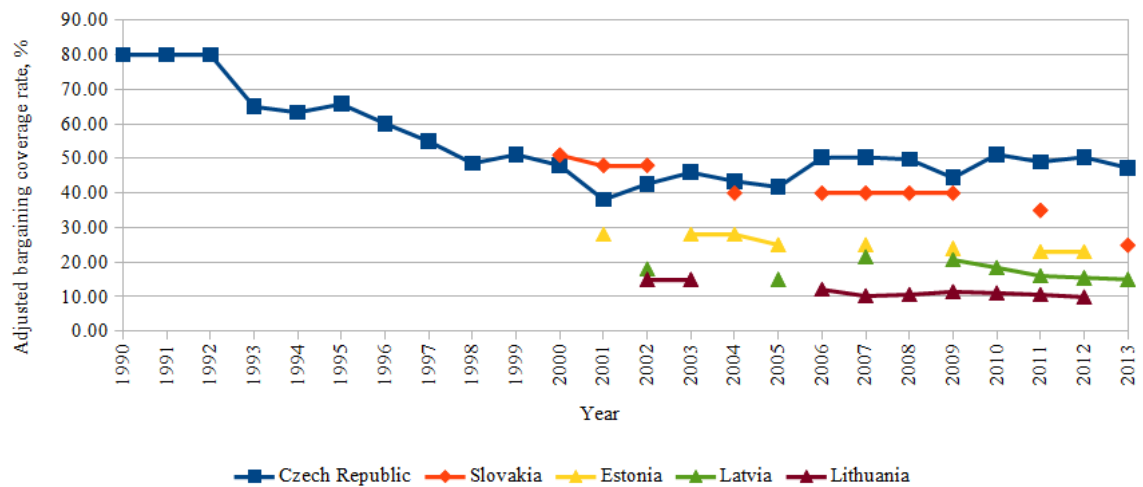*Figure 11. Union density rate, by country, 1992-2013*
Source: ICTWSS 5.0

Figure 12. Adjusted bargaining coverage rate, by country, 1992-2013
Source: ICTWSS 5.0

Since the beginning of 1990s, by 2014 the share of workers participating in unions drastically decreased in all of the countries. For example, about 90% of workers had a union membership in 1990, while in 2012 – less than 7%. The communist regime encouraged the workers to become unionised, while the rules of capitalism do not necessarily require collective workers power.

In 2012-2013, union density rate in all the countries constituted between 6.5%-13.3%. The Czech and Slovak Republics preserved a larger share of union members, as well as Latvia, in which the union density rate was 4-6.5% higher than that of its Baltic neighbours.

The clear difference between the groups of countries is visible when bargaining coverage power is observed. Even being weakly unionised, a larger share of Czech and Slovak workers enjoy the possibility of wage setting by collective bargaining agreements – on average after 2000, 50% of Czech workers and 40% of Slovak ones, even the latter ones' share decreased at 25% by 2013. As for the Baltic states, after 2000 Estonian workers bargaining coverage rate on average constituted about 25%, Latvian – 17%, Lithuanian – 10%.

With time, unions in the countries lost their popularity, and the membership decreased dramatically in all the countries of study. Bargaining coverage rate also shrunk during the capitalism.

Czech and Slovak Republics' workers, even though being weakly unionized, enjoyed a greater degree of bargaining power as compared to the Baltic states. Among Latvian employees, that were unionized to a greater extent compared to the Baltic neighbors, less than one fifth enjoyed some collective bargaining power. Estonian and Lithuanian workers were found in the most volatile position according to both of the indicators.

Thus, in case of the Czech and Slovak Republics and the Baltic states, it might be noted that the former group of unionized workers was larger, and a bigger share of them enjoyed collective bargaining agreements. Therefore, even to a small extent though, Czech and Slovak workers had higher chances to influence their wage and thus improve their income situation, which reduced income inequality in the given countries.

4.3. Privatisation process: shaping capital share in 1990s

The privatisation process in the countries of study was going on for a decade, but the largest part of enterprises were privatised within a rather short period of time: by 1995, more than half of the countries' GDP was constituted by private sector activities. Figure 13 illustrates the changes in the private sector share in GDP.
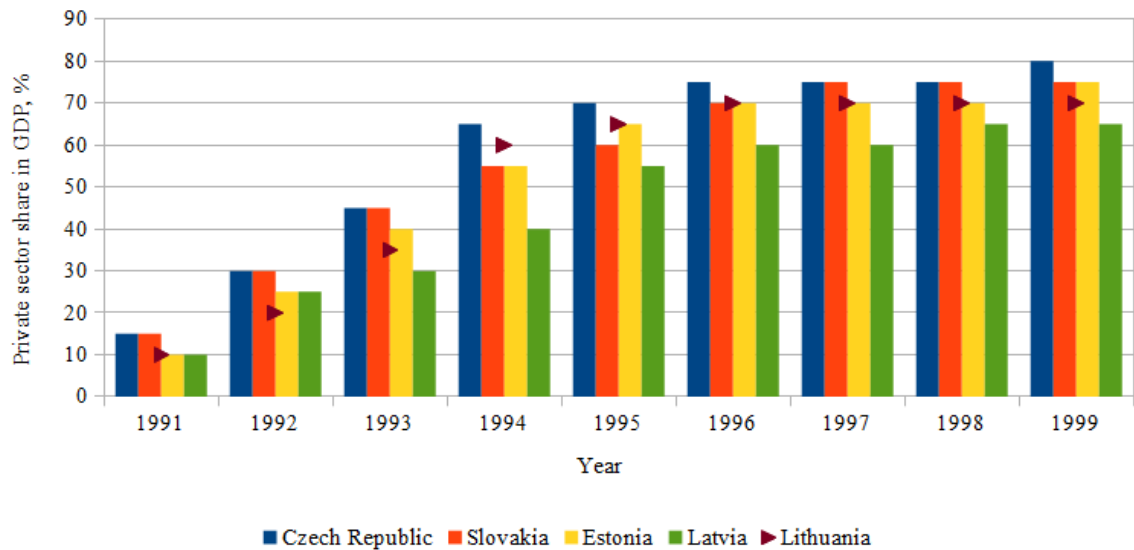

Figure 13. Private sector share in GDP, by country, 1991-1999
Source: EBRD (2000)

The Czech Republic's private sector was growing with the greatest speed: in 1995, it already constituted 70% of GDP. Slovakia's private sector was growing somewhat slower, together with Estonia and Lithuania's one – it constituted 70% in 1996, one year after the Czech Republic. Latvia's private sector in GDP only reached the 60% mark in 1997.

4.3.1. Privatisation started in Czechoslovakia: reliance on the voucher system

The process of redistributing enterprises to private owners in the Czech and Slovak Republics in the 1990s started still under the Czechoslovakia state government. In 1990, the

share of private sector constituted only 4% of GDP (Dyba & Svejnar, 1995). The preference was given to a voucher system, and it was generally considered as a "fair model" by scholars: the information on balance sheets and income statements was easily available.

Voucher privatisation was supposed to redistribute about 40% of state-owned enterprises (Mejstrik et al.,1997, p. 61). Any adult living in Czechoslovakia could buy a book of vouchers for a relatively small fee, 34 US dollars, obtaining a thousand of investment points, which could be directly used to bid for shares or transferred to investment privatisation funds to bid for the shares on their behalf (Gupta et al., 2008). During the first wave of voucher privatisation, they were trusted by two-thirds of the participating public (World Bank, 1999). Moreover, the government held about 20-25% shares during the first wave, some of them were preserved in order to meet the restitution claims, the rest was traded during the second wave. Czechoslovakia designed a clear and comprehensive system of voucher privatisation not only for reaching a "fair" distribution of state property, but also to gain a large public support, ensuring that previous *nomenklatura* will not be enriched, and, thus, fasten the process (Gupta et al., 2008). Indeed, public concerns only stimulated the public interest both in the Czech and Slovak parts in learning about investment and risk-taking, and by the beginning of 1992 already 8.7 million of Czechoslovakia's citizens exercised their opportunity to buy voucher books (Goldman, 1999).

Despite the similar design of privatisation process, initiated in former Czechoslovakia, there was the difference between the practical implementation in Czech and Slovak lands. Gupta et al. (2008) noted that the Czech Republic inherited the most profitable and efficient enterprises in the country, and the privatisation process was mostly concentrated on redistributing their shares with the population.

Since Slovakia's part of the country hosted mostly small state firms or large inefficient armament enterprises, its population raised some concerns about the "fairness" of the privatisation. Slovak lands also suffered from higher unemployment rate. Moreover, since the process was conducted by Prague government, there was suspicion that the initial system design was supposed to benefit Czech people more. These somewhat more modest support in the "fairness" of the system is considered by scholars as the main factor slowing

down the privatisation process. However, already in 1992 the privatisation scheme was implemented (Goldman, 1999).

Both the Czech and Slovak Republic prioritised a voucher system and the countries' population was highly concerned about the "fairness" of the process and wanted the government to take over the process and provide the people with both administrative and educative support. However, privatisation in the Czech Republic initially obtained a larger public support and concentrated on redistribution of the more profitable enterprises shares, therefore, speeding up the process. Slovak people had somewhat more doubts, also due to the inheritance of small or highly inefficient enterprises, and, thus, the process took off one year later, slowing down the speed of privatisation.

4.3.2. Diversified experience of the Baltic States: Estonia as the first and fastest to privatise

The Baltic States had already partially started privatisation under the Soviet umbrella. Estonia was the first one to initiate the process, largely due to the fact that the country was not that much "over-industrialised" and hosted the most profitable enterprises compared to its neighbours. Such conditions generally enabled the government to initiate fast, "big bang" type of economic reforms, privatisation included (Norkus, 2011). Furthermore, due to the low efficiency of ex-Soviet enterprises, a large share of them could not function in the new capitalist order, thus, a significant number of workers lost their jobs during the first years of transition, especially in the case of Latvia (Terk & Reid, 2011).

The most suitable option for fast privatisation was to sell the enterprises with the means of direct sales or investment tenders, also to foreigners. A relatively developed banking system also was able to provide guarantees to the buyers. Initially, though, there was debate both within the government and the public about which type of privatisation to adopt, the voucher system was also considered as an option and was even partially implemented, but still direct sales played the dominant role (Terk & Reid, 2011).

Latvian communist heritage was not as favourable as the Estonian one: large military enterprises, that were essential for Soviet central planned economy, turned out to be technologically out-dated when the iron curtain fell, having low chances of survival in market economy conditions (Norkus, 2011). Another problem was that the politicians were not sure which privatisation model to follow. Declaring to implement a voucher system first, from 1994 Latvia switched to direct sales model. However, by coincidence, at that time Latvia experienced a banking crisis, that reduced the role of financial institutions in the privatisation process and, consequently, could not provide the buyers with guarantees (Terk & Reid, 2011).

The Lithuanian government decided to undertake a more gradual approach towards privatisation and in the first years prioritised a voucher system, which mostly benefited the insiders and did not require the intervention of banks, that were much underdeveloped in the beginning of 1990s. The scholars also underlined that the system itself was not thoroughly designed, but helped to speed up the process, reaching the peak already in 1993 (Terk & Reid, 2011).

However, against the background of hyperinflation, the full implementation of the reforms was postponed, but that did not mean slowing down privatisation process. According to Norkus (2011), such a situation created clear winners of the reforms, who abused the uncertainty of the situation and the lack of proper legal framework in order to seek rent. The scholar also noted that the first elections in a sovereign Lithuania were won by the ex-communist Lithuanian Democratic Labour Party and, therefore, the privatisation process was considered as benefiting the political elite, who had an easier access to information about the assets as compared to regular citizens. Terk and Reid (2011) added that privatisation in Lithuania also relatively benefited the employees of the enterprises, and these advantages only increased with time.

In 1995, Lithuania switched to direct sales method, and this significantly reduced the speed of privatisation (Terk & Reid, 2011).

The Baltic States started partially privatising state enterprises even before gaining independence. The year of 1991 gave the countries full autonomy to conduct the desired

reforms, and in the end, the role of the state in case of all three countries was reduced almost to zero.

Estonia was the first and the fastest to start the reforms, prioritising direct sales method, including sales to foreigners. The enterprises potential was the most promising among the Baltic States, which attracted the attention of investors. Latvia for the first three years used a voucher system model, but then switched to direct sales. The enterprises put on sale were low efficient and lost their essential role after the collapse of central planned Soviet economy, thus, were not that investment attractive. Lithuania, like Latvia, first was a proponent of gradual reforms and prioritised a voucher system. However, unfavourable macroeconomic situation forced the government to postpone the full implementation of the reforms, which created a window of opportunities for a rent-seeking behaviour, benefiting a smaller part of population. Moreover, the political elite and enterprise employees were in a better position due to the access of the firms information. In 1995, the government also adopted direct sales method of privatisation, following its neighbours.

4.3.3. Privatisation and income inequality dynamics: economic success and inefficient firm legacy fostering unequal income distribution

The main difference between the groups of the countries lies in the type of main privatisation method and the role of the government during the early years that were characterised by massive privatisation. The Czech and Slovak Republics adopted voucher system and to less extent used direct sales, Latvia and Lithuania followed the same path before 1994 and 1995 respectively, Estonia largely relied on direct sales. Czechoslovakia and later on the Czech and Slovak government actively participated in the process, providing its citizens with administrative and educative support, while the Baltic states lacked institutional framework for that or relied almost entirely on market forces.

There is also a difference within the countries' groups. The Czech Republic inherited more profitable and efficient enterprises, that were more attractive for investment, which resulted in a higher increase of income inequality, while Slovak lands hosted mostly either small

enterprises, or large armament that lost their importance, and in the end did not cause great changes in income distribution. The Baltic States generally inherited less efficient firms as compared to the Czech or Slovak Republics, thus a large share of workers lost their jobs and thus wages when de-industrialisation started. Estonia, if compared with its neighbours, although inherited the most compatible enterprises and, while reaching relative economic success, largely failed in mitigating the rise of income inequality. Lithuania, whose enterprises were also relatively profitable, failed to provide a "fair" privatisation system, that benefited only particular groups of population, which resulted in somewhat rapid increase in income inequality. Latvia was in a similar situation with Slovakia, that had to privatise the most inefficient enterprises of the region, that in the end slowed down the process of privatisation itself and restrained to some extent the rise in the Gini coefficient, most probably due to the lower returns on such capital.

4.4. Taxation impact: different revenues from capital income, similar burden borne by consumers

4.4.1. Eagerness to implement neoliberal policies: taxation strategy overview

Shifting towards free market implied increasing the international competitiveness and attraction of foreign capital. All the post-communist countries set liberalisation of the economy as the highest priority, which caused quite similar policy sets implementations. Regardless of the left/right economic division of the governments in charge, neoliberal, or "Avant-guard", policies were supported not only by political elites, but also by populations. There is a common trend among all the transition countries in Europe, especially in the new EU member states that were eager to increase their competitiveness as compared to other, 'older' EU members: at some point, like a domino effect, they implemented flat tax rates on both personal and corporate income, which later was supported by international organisations. Moreover, the corporate profits income tax was cut to the lowest percentage

in the world. The latter policy, though, caused other EU members discontent (Appel & Orenstein, 2018).

However, the flat tax rate, that bears regressive nature, was adopted by the countries of studies in different periods of time. Before the reforms, all of the countries had progressive taxation on personal income. The range of rates varied from a country to country. Czech Republic and Slovakia used to have five income brackets, and in the former case the rate fluctuated between 15% and 40% (Bronchi & Burns, 2001), in the latter one – 10% to 38% (OECD, 2008). Estonia had three income brackets with the rates range of 16%-33%, Latvia – five, ranging from 15%-35%, Lithuania's rates were 18-33% (Stepanyan, 2003).

The Baltic states were one of the first to implement a flat tax rate for personal income. Estonia and Lithuania introduced it in 1994 – of 26% and 33% respectively (Stepanyan, 2003). Latvia followed its neighbours a couple of years after, in 1997, and introduced a single rate on personal income at 25% (Adhikari & Alm, 2013). Slovakia adopted a flat rate in 2004 at 19%, the Czech Republic was the last one, who imposed the flat tax rate in 2008 at 15% (Appel & Orenstein, 2018).

The tax on capital profits was flat and relatively high from the very beginning in Czech Republic and Slovakia, where it constituted 45% (Bonker, 2006) and 40% (Remeta et al., 2015). Among the Baltic States, only Lithuania imposed a flat rate as soon as it got independence, but at a lower rate compared to the Czech and Slovak Republics – 29% up to 2000. Progressive taxation of corporate profit income was in force in Estonia during the first year of independence, varying from 25% to 35%, and in Latvia for the first two years, the rate constituted from 15 to 35% (Stepanyan, 2003).

Value added tax, the main source of consumption taxation, was the one that underwent the biggest number of changes within the time. The Czech Republic and Slovakia always had the group of goods that had reduction in taxation: the standard rate varied between 19 and 25% within the time, while reduced rate started to slowly grow from 2008 in case of the Czech Republic and already in 1999 in case of Slovakia. It should be noted though, that when implementing the flat tax rate system, Slovakia abolished also the reductions of VAT for three years (European Commission, 2018).

The Baltic States standard VAT rate in the beginning was somewhat smaller than in the Czech and Slovak Republics before 2010s, varying from 10 to 19%. However, up to the 2000s, the countries did not have a reduced VAT rate, with the exception of Lithuania, that implemented it at 9% level in 1994 and kept till 1997.

In the end, all of the countries adopted a flat tax rate system on personal and corporate incomes, which was found to have a regressive nature in practice (ECB, 2007). However, the Czech and Slovak Republics did it later than the Baltic States, keeping progressive taxation for a longer period. The larger tax burden on high-income households and high-profit corporations, together with a differentiated VAT tax could have slowed down the growth of income inequality during the period of the 1990s until the 2000s in case of the Czech and Slovak Republics. The Baltic States, which established relatively low fixed rates on corporate profits and introduced the flat tax rates on personal income almost ten years earlier than the Czech and Slovak Republics, were likely to limit the government revenue from capital and high-income households and, thus, to expose the most vulnerable parts of population to rapid market liberalisation process, and this in turn resulted in a faster income inequality increase.

4.4.2. Biggest tax burden carried by labour force: country case analysis of tax revenues by economic function

Tax ratios analysis contributes to the assessment of tax systems because it is more likely to reflect the real impact of the tax rates imposed on the government revenue, and somewhat mitigates the possible effect of tax evasion and tax exemptions exercised by tax payers.

As discussed in Chapter One, the evidence of OECD countries (Iosifidi & Mylonidis, 2017) showed that the greater reliance on labour and consumption taxation relatively to capital one in total tax revenue leads to the increase of income inequality, whilst greater reliance on labour tax revenue over consumption one is likely to improve income inequality situation. Figures 28-32 represent the tax ratios for the countries of study plotted against income inequality levels, supported by the Table 2 with author's calculations (cf. Appendix 4).

In the Czech Republic, the labour taxpayers carried higher tax burden relative to capital ones during the whole period of data coverage. The ratio was increasing throughout the years. If from 1995 to 2007 it was fluctuating between 2.3-2.7, after 2007 it grew up to 3.3 in 2010 by decreasing the revenue from capital taxes, and since then the situation has not changed too much.

Consumption/capital ratio was lower than labour/capital – it was fluctuating between 1.4 and 2.4, but followed a similar trend, rising and dropping in the same years when the consumption/capital one, again, at the expense of consumption taxes.

Labour/consumption tax ratio was always at least 1.4, meaning that consumers carried a smaller burden compared to the labour force. The highest ratios were recorded for the years 2006-2008 – almost 1.8, and in 2009 the Czech Republic experienced a drop in the Gini coefficient by 0.6%. Labour/consumption tax ratio was higher than consumption/capital one from 2001 until 2007, meaning that the labour force tax burden was increased in order to protect consumers.

The Slovakian government relied on the labour taxes the most, especially in relation to capital. Consumers were relatively protected – labour/consumption tax ratio within the years increased by 60%, meaning the improvement of the consumer situation.

Labour/capital tax ratio was always higher than consumption/capital. If from 1999 to 2003 the difference between the ratios constituted about 0.4 points, from 2004 the gap kept increasing and arrived at a mark of about 1.5, meaning the increase of tax burden carried by consumers relatively to capital tax payers, whose share in the governmental revenue was slightly decreasing over the time. The changes in tax revenues from labour and consumption taxes relative to capital were associated with the changes in income inequality for the years 2009-2013.

In the case of Estonia, labour/capital tax ratio was always higher than consumption/capital and followed the same path, keeping the distance between the ratios at about the same level – 2.5. Capital tax share in total tax revenue was only reducing over the time. From 1995 to 2005 and from 2008 until 2011, positive and negative changes in the tax ratios were associated with rises and falls of the Gini coefficient.

Labour tax revenue in Estonia was always higher than consumption. However, the ratio did not change dramatically over time, taking the values from 1.17 in 2006 and 1.8 in 1999.

In Latvia, the tax burden of the labour force was also somewhat higher than consumers' one relatively to capital. Labour/capital and consumption/capital ratios were following the same trend during the whole period of study. The tax revenue from labour and consumption taxes relative to capital were the highest in 2000, 2003 and 2010; capital was taxed a bit heavier as compared to other years in 1999, 2001, and 2008.

Labour taxes constituted about 1.2-1.4 times higher revenue that consumption ones. The lowest burden of labour taxpayers as compared to consumption was in the years of 1998, 2005-2006, and 2014; the highest – in 2000-2002 and 2008-2010.

However, none of the changes in tax ratios can be clearly associated with the dynamics of the Gini coefficient: income inequality was slightly growing with the years, while tax revenue composition went through a number of changes.

In Lithuania, the labour force and consumers were taxed much higher than the capital in the years of 2000-2002, the ratios reaching almost 9 and 7 points respectively. After that, the labour/capital and consumption/capital tax ratios fell down to 2.2-3.8 point due to the increase of capital tax revenue in total revenue, labour still being taxed more than consumers.

As relative to consumption, labour taxes always constituted a bigger share of tax revenue, but the difference was rather small: 1.1-1.4 times larger.

The expected positive correlation between labour/capital and consumption/capital ratio and income inequality was only partially supported by the empirical evidence in the countries of study. In the case of the Czech and Slovak Republics, the decrease of labour and consumption taxes revenue might have helped to prevent dramatic growth of income inequality in the years of 2001-2008 and 2008-2013 respectively. In Estonia, higher tax burden of both labour and consumption relatively to capital is associated with corresponding changes in the Gini coefficient during almost all the time of study.

In the Latvian case the dynamics of qualitative changes in tax system design were not associated with the dynamics of the Gini coefficient. In case of Lithuania, the correlation was found to be the opposite to the one expected.

4.4.3. Same tax system design, different degree of reliance on capital taxes: cross-country overview

Figures 14-16 represent the evolution of each tax ratio in the countries of study.
The Czech and Slovak Republics never imposed such a heavy tax burden to labour relative to capital in comparison with the Baltic States during the whole period of the data available.
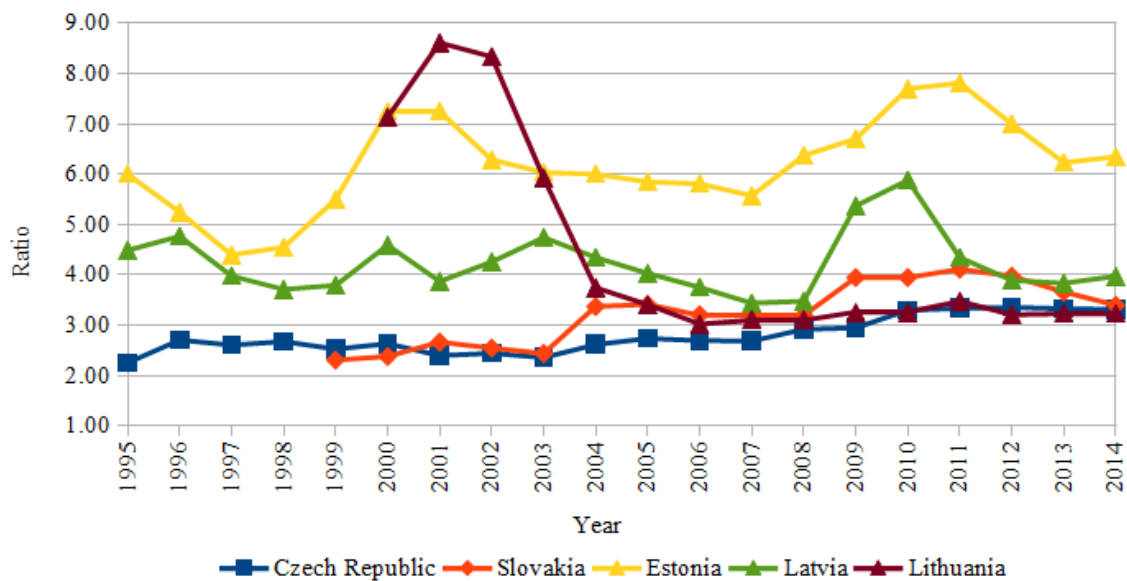
Figure 14. Labour/capital tax ratio, by country, 1995-2014
Source: Author's calculations based on Eurostat data

The labour/capital tax ratio in the Czech and Slovak Republic never exceeded 4 points. Compared to the Baltic States, the trends in the countries were rather similar, Slovakia over a period of time imposed more pressure on labour taxes, especially during 2003-2007 and 2009-2013 years.

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The Baltic States collected a 2-4 times bigger revenue of labour taxes relatively to capital one as compared to the Czech and Slovak Republics. The lowest ratios were recorded for the years 1997-1998 for Estonia and Latvia, and for 2006-2008 for Latvia and Lithuania. Such changes happened due to the increase of capital tax share in the revenue that on average was relatively lower. The highest increase of the ratio took place in 2001 in the case of Estonia and Lithuania and in 2010 in the case of Estonia and Latvia, again, due to relative rapid drops in the capital tax share in the revenue.

Estonia, with the exception of 2001-2002, collected the biggest share of labour taxes relatively to capital ones among all the countries, with the ratio fluctuating between 4.4 in 1997 and 7.8 in 2011. The share of capital tax in revenue as a percentage of GDP on average constituted 2.5-4%.
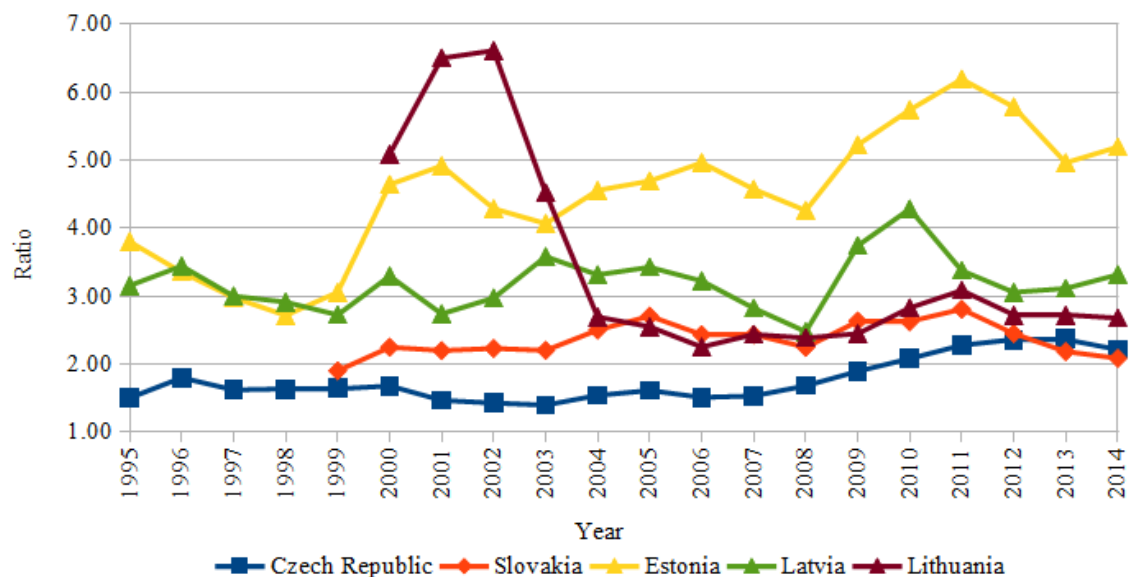

Figure 15. Consumption/capital tax ratio, by country, 1995-2014
Source: Author's calculations based on Eurostat data

Lithuania outperformed Estonia only in 2001-2002, reaching extremely high, the highest for all of the countries of studies, ratio of labour to capital income – 8.6. From 2004 to 2008, Lithuania followed the path of Slovakia, from 2009 to 2014 – the one of the Czech

Republic. The change of trend happened mostly due to the increased revenues from capital taxes.

Latvia on average imposed a smaller burden on labour relatively to capital taxes compared to its neighbours. The ratio rose in 1996, 2000, and 2003 at the level of 4.6-4.7, and in 2010, hitting the mark of 5.9. In 2004-2008, the dynamics of Latvia's labour/capital ratio was similar to the one of Lithuania, from 2011 till 2013 it went in line with the one of Slovakia, because the country started to receive a somewhat bigger revenue from capital taxes.

Consumption/capital tax ratio followed approximately the same path of labour/capital in all the countries of study, with a slight difference between its behaviour in the Czech Republic, where it took relatively lower values than the one of Slovakia. This means that the countries increased or decreased the tax burden of labour and consumption relatively to capital rather simultaneously, while in case of the Czech Republic the government did it to a slighter less extent.
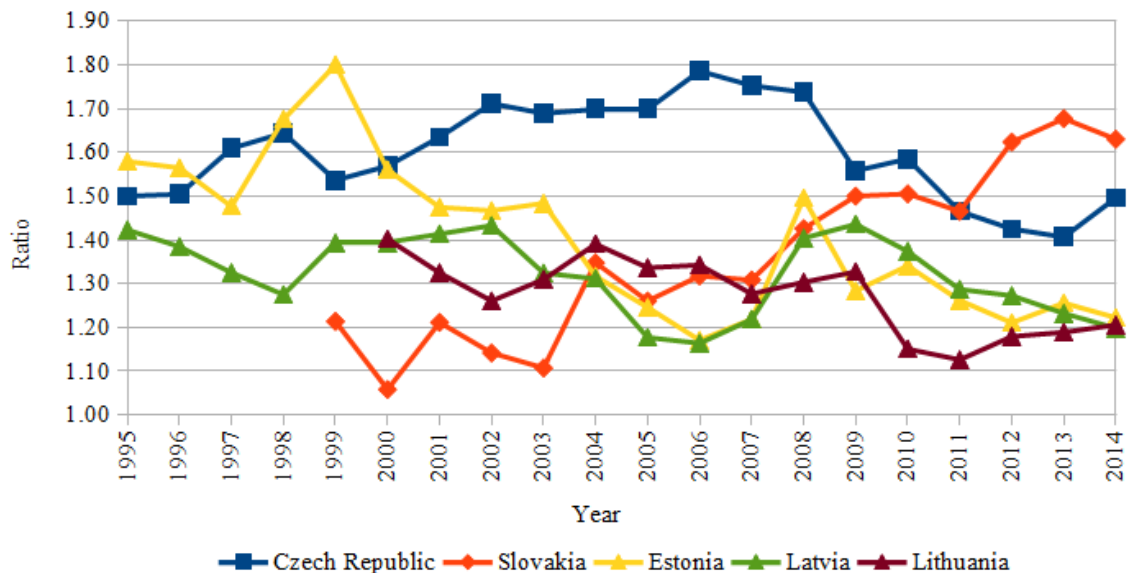

Figure 16. Labour/consumption tax ratio, by country, 1995-2014
Source: Author's calculations based on Eurostat data

Labour taxes constituted a larger part than consumption one in all the countries' tax revenue.

Consumers were protected in the Czech Republic the most – labour taxes revenue was 1.5-1.8 times higher than the consumption ones. During 1999-2003, they were the least protected in Slovakia, where the share of labour taxes was only 20% larger than the consumption ones.

The labour/consumption ratio was kept at a relatively low level in case of the Baltic States with the exception of Estonia before 2004, when the labour taxes revenue was 60-80% larger than the one of consumption taxes. The lowest tax burden relatively to consumption one was recorded for all the Baltic States in 2004-2007 and 2010-2014.

4.4.4. Regressive taxation, different proportions of capital taxes revenue: summary of findings

Regardless of the economic orientation of governments, in the end all of the countries of study implemented the flat tax system, that was found to have regressive nature. The Baltic States were the first ones, fixing the tax rates already during the first years of transition, capital ones at a lower level. The Czech and Slovak Republics implemented the same system 10-14 years later, thus keeping progressive taxation of personal income for a longer period, as well as imposing a heavier taxing on capital even at flat rates in the early years.

The tax systems design in all the countries of study is rather similar: the government relies the most on labour tax revenues both relatively to consumption and capital taxes. Most of the tax ratio dynamics do not clearly resemble the trends in the Gini coefficient, meaning that it is quite likely that changes in taxation cannot cause immediate changes. There is only one period of time when there was a clear difference in the group of countries dynamics. After 2008, all of the countries experienced the increase of consumption/capital ratio, to different extent though, but in case of the Czech and Slovak Republic, unlike in the Baltic States, at the same time labour/consumption ratio was kept at a relatively high value. In other words, the decrease of capital taxes revenue was done more at the expense of labour

taxes rather than consumption ones, that might have prevented income distribution from rapid changes in the case of the Czech and Slovak Republics, as compared to the Baltic States, whose Gini coefficient after 2008 underwent through rapid swinging changes.

On average, the Czech and Slovak Republics always collected a greater share of capital taxes as compared to the Baltic States, and their labour/capital and consumption/capital ratios were considerably lower than in the Baltic States. Thus, it is quite likely that different degree of reliance on capital taxes – to a larger extent in the Czech and Slovak Republics and to a much smaller extent in the Baltic states – has a mitigating effect on income inequality and prevents the Gini coefficient from rapid changes.

4.5. Benefits distribution and universality of welfare

4.5.1. Cash benefits expenditures: less generous Baltic States

The last initial component of a household income is the amount of cash benefits its members receive. After tax deduction, cash transfers are supposed to regulate income distribution.

Figure 17 demonstrates the amount of cash transferred to the targeted households in the countries of study. Figure 33 illustrates the GDP dynamics over the same years to control for the nominal value of cash transfers (cf. Appendix 5).

Overall, the Czech and Slovak Republics spend bigger share of their revenue on cash benefits as compared to the Baltic States. Slovakia spends somewhat more – 12-14% of its GDP, while Czech Republic transfers about 10.5-13% of their GDP to the households in need. The Baltic States expenditures go in line to some extent and largely depend on macroeconomic situation. Normally their cash benefits transfers constitute 6-10% of GDP, while in times of crises, that took place in 1999 (so called Russian crisis) and in 2008-2010, the share went up to 13% or even 16% in case of Lithuania.

When general GDP dynamics are taken into account, the Czech government turns out to have more generous welfare – while spending a smaller share of GDP on cash benefits,

their GDP as such is on average 100 billions US dollars per year more than of Slovak Republic. In the case of the Baltic States, the Lithuanian welfare state seems to be more generous since its GDP is higher by about 30 billion US dollars, as well as its share spent on cash transfers. Latvia's GDP is insignificantly larger – by 7-10 billion U.S. dollars (USD) than Estonia's one, but the former's cash transfers after 2004 constituted less of a percentage of GDP than of the latter one.
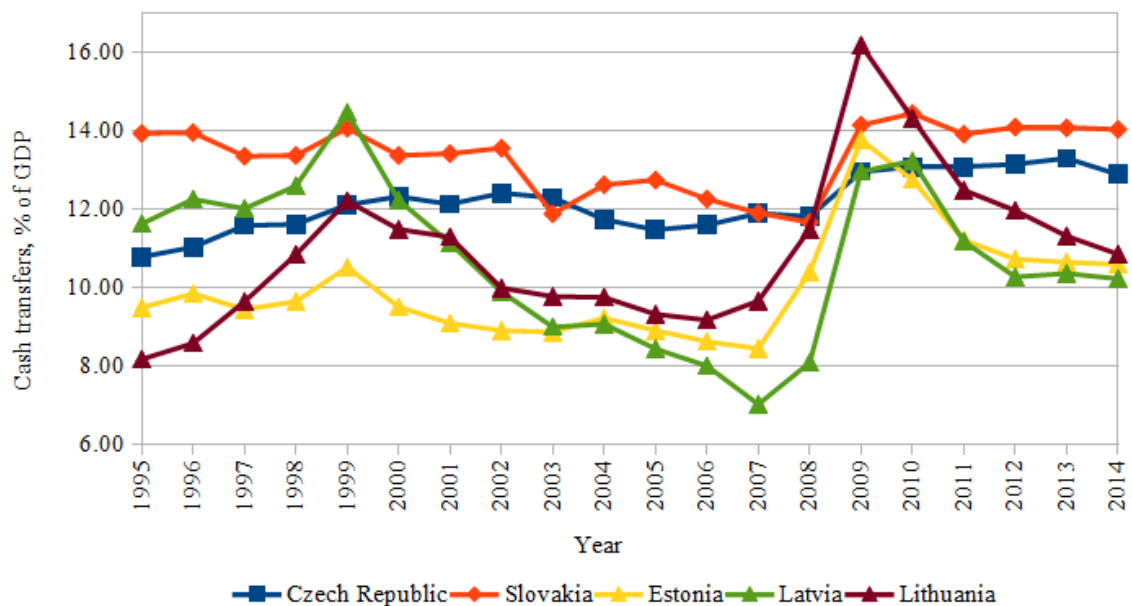

Figure 17. Cash transfers expenditures, by country, 1995-2014
Source: OECD

Among the Baltic States, the most generous in terms of cash benefits was Latvia, which spent on average 2% more of its GDP on benefits transfers. After 2002, Latvia reached the same mark as Estonia, and kept reducing its benefits share, hitting in 2007 the lowest mark for all of the countries of study – 7%. By 2009, cash benefits constituted 13%, which was still the lowest share among the countries. By 2014, the Latvian government had reduced the share of cash benefits at 10.2% level.

Estonia from 1997 to 2003 had the lowest share of cash benefits, even during the Russian crisis the expenditures were increased only by 1%, when its neighbours increased them by 2%. From 2004 until 2014, Estonia's cash benefits share of GDP was somewhat between Latvia and Lithuania's indicators.

Lithuania, from 2001 was found to be the most generous in terms of cash benefits, spending about 0.5% of its GDP more than Estonia, and about 1% more than Latvia. The Lithuanian response to the macroeconomic crisis of 2008-2010 resulted in the highest amount of cash benefits constituting 16% of the country's GDP.

The GDP was constantly rising in all the countries of study, with the exception of the year 2009, when all of them lost about 1-9 billion USD as compared to 2008.

Lithuania experienced the biggest lost in nominal values, and at the same time the share of its benefits expenditures from GDP constituted the highest values among the countries of study. Estonia's loss in GDP was somewhat less than in Latvia, but Estonia in the same year spent a larger share of its GDP to provide households with cash benefits. The Czech and Slovak Republics did not suffer such huge losses, but at the same time also somewhat increased the share of cash benefits. Thus, it seems that all the countries, but especially the Baltic States, spent a larger share of GDP on cash benefits, but somewhat the same amount in nominal values during the crisis of 2008. Unlike the Russian crisis of 1999, when the Baltic States increased their cash benefits expenditures against a background of slow but stable GDP growth.

For the rest of the years, when GDP was growing, the increase of benefits expenditures taken as a GDP share that was evident in the years of 2005-2008, actually meant preserving approximately the same amount in nominal values. After 2009, when the macroeconomic situation stabilised, the Czech and Slovak Republic only increased the share of GDP spent on benefits, while the Baltic States drastically decreased it, preserving somewhat the same nominal value.

The main difference between the two groups of countries lies in the dynamics of cash transfers. The Czech Republic and Slovakia generally spent larger share of their GDP, regardless the macroeconomic conditions. The Baltic States normally spent a lower share,

increasing the share of cash benefits only during times of crises that largely resulted in the relatively same amount of cash transfers in nominal value. Thus, it can be concluded that the Czech Republic had the most generous system of cash benefits, followed by Slovakia. The Baltic States, on the contrary, spent a smaller share of their GDP on cash benefits, given that their GDP rates are significantly lower than the one of the Czech and Slovak Republics.

4.5.2. The matter of targeting: welfare policies analysis

As discussed in Chapter One, the evidence from OECD countries show that not only the generosity of welfare state matters in income distribution, but the success of governmental programmes in targeting those in need.

Figure 18 represents the types of welfare policies in the countries of study. It clearly shows that on average the Czech Republic and Slovakia exercise more means-tested policies, meaning that their welfare programmes largely benefit those in need, the room for universalistic policies is also left though.

The Baltic states, on the contrary, give more preference in their governmental expenditures to the programmes that potentially can benefit any member of the society, like healthcare and education. However, Latvia stands a bit different from its neighbours: before 2005, its governmental policies were more targeted and means-tested than the ones of Estonia and Lithuania.

Slovakia almost did not change its approach to welfare policies within the time, paying only slighter bigger attention to universalistic programmes in 2011-2012. The Czech Republic used to be more universally oriented than Slovakia until 2000. From 2001-2009, the country somewhat increased the number of its means-tested policies. From 2010, the trend had reversed: the Czech Republic started to move towards universalistic policy direction, by 2013 even outperforming Lithuania.

Estonia was found to have the most universalistic policies among the countries throughout the time of study, and changed its approach towards somewhat larger number of means-

tested policies in 2008. In 2012, like the Czech Republic, Estonia increased the number of its universalistic welfare policies again.
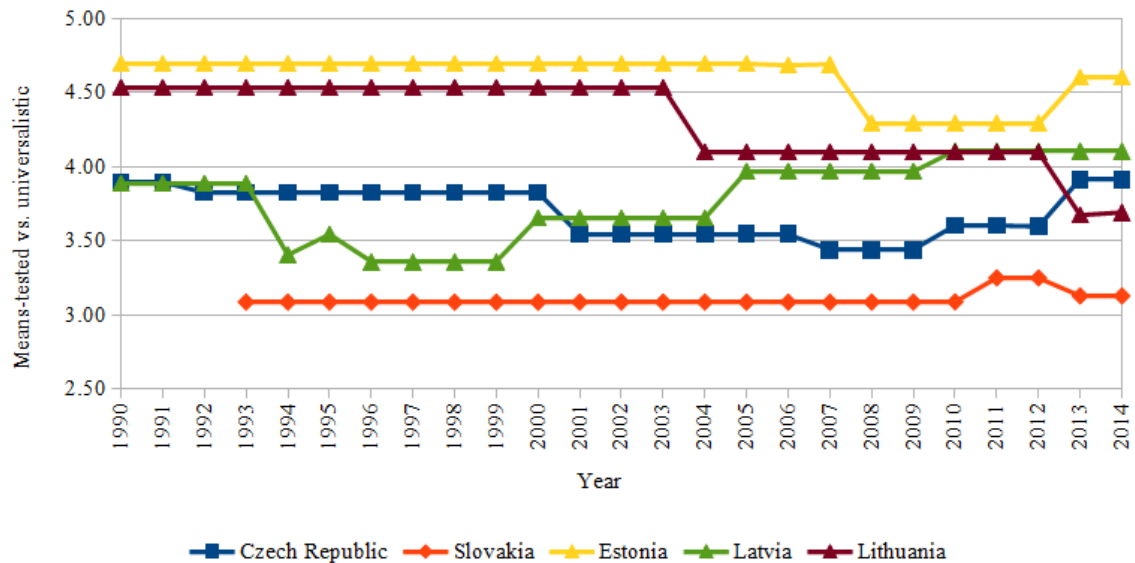

Figure 18. Type of welfare policies, by country, 1990-2014
Source: Varieties of Democracy (V-Dem) database

Lithuania was performing quite similar to Estonia, shifting more towards means-tested system a bit earlier though – in 2003. Unlike most of the countries of study, Lithuania concentrated its welfare programmes on a means-tested basis even more in 2013.

Latvia's welfare policy type during the years has changed the most. Before 1994, its welfare policies design was close to the Czech Republic's one, after that until 2000 Latvia was more concentrated on means-tested approach. In 2001, the share of universalistic policies increased, and the welfare policies design again looked somewhat similar to the Czech one. In 2005, Latvian policymakers became more concerned about universalistic policies, and the country performed somewhat similar to Lithuania. Unlike other countries of study, Latvia did not change its policy approach in 2013.

The Czech and Slovak Republics' welfare programmes design on average was more concentrated on those in need, while the Baltic States preferred to invest in universalistic

policies that can potentially benefit any member of the society. Latvia during 1990-2004 rather followed Czech and Slovak trends, and in 2005 changed the focus of its policies on a more universalistic one, following the trend of other Baltic States.

4.5.3. Welfare state and income inequality: generous and targeted benefits keep Gini coefficient at a lower mark

The Gini coefficient is plotted against welfare expenditures for every country on figures 34-38 (cf. Appendix 5).

In the case of the Czech Republic, it does not reveal an expected correlation between the variables of interest. Neither the change of focus on more universalistic or means-tested welfare policies is associated with allegedly corresponding increases or decreases in the Gini coefficient.

Cash transfers are not associated with the dynamics of income distribution in case of Slovakia either. When the government cut the expenditures on social benefits in 2003-2008 against relatively fast growth of GDP, the Gini coefficient went up, and then had already dropped by 2008. The type of welfare programmes were also stable in Slovakia, while income distribution situation was changing.

The expected correlation between the variables in case of Estonia was not found during the majority of this period, with the exception of 2010-2014, when gradual decrease in cash benefits expenditures along with faster GDP growth is associated with a rise of the Gini coefficient. Although, the welfare programmes type change in 2008 towards a more means-tested basis can be one of the reasons of income inequality decrease, as well as the shift back towards more universalistic approach in 2013, might have partially resulted in the Gini coefficient rise.

In the case of Latvia, the gradual decrease of cash benefits amount was associated with the rise of income inequality in the period of 1999-2006, as well as the increase of cash transfers might have partially resulted in slight improvement of income inequality situation by 2011. As for the welfare policies, Latvia was gradually shifting towards means-tested

approach before 1999, but it did not result into the drop of the Gini coefficient. When choosing a slightly more universalistic approach, the Latvian government kept cutting the share of cash benefits when GDP growth was slowing down, that went along with continuous increase of income inequality. In 2005, the welfare policies moved closer to the universalistic approach again and, along with the cut of benefits expenditures share, might have resulted in a rapid rise of the Gini in 2006.

The dynamics of income distribution is not correlated with the cash transfers spending in case of Lithuania – the highest share of 16% of GDP in 2009 is associated with the decrease of GDP and one of the highest values of the Gini coefficient – about 37%. However, the shift to more means-tested policies in 2004 given the continuous growth of GDP resulted in a sharp decrease of income inequality the following years. On the other hand, moving towards means-tested welfare policies even more in 2013 is associated with a rapid increase in the Gini coefficient.

4.5.4. Cash benefits and welfare policies: long-term effect

The changes in the cash benefits expenditures most of the time were not associated with the dynamics of the Gini coefficient in the countries of study. The alleged correspondence was found only in case of Estonia, where in 2010-2014 the cash benefits were shrinking and income inequality was growing, and in case of Latvia, where the government was gradually cutting the share of cash benefits expenditures against the background of a rising Gini coefficient.

Changes in welfare programmes approach did not also result into immediate changes with the income distribution situation in the countries of study. Only in the case of Estonia, shifting towards more means-tested approach in 2008, might have contributed to a more equal income distribution, as well as the reverse situation in 2013 might have been the cause in the Gini coefficient's upwards leap. Lithuania seems to be the most affected by the change of welfare policies focus: in the years when the government implemented a more means-tested approach in 2004, the income inequality situation significantly improved.

Nevertheless, the evidence from the countries of study does not allow us to make solid conclusions about cash benefits expenditures and type of welfare policies in the short run. However, such particularities as a generally more generous welfare state and means-tested welfare policies approach in case of the Czech and Slovak Republics seem to mitigate income inequality situation and prevent it from dramatic changes, rather than periodical changes in cash transfers share and welfare policies approach of the Baltic states, that seem only to contribute to the average level of income inequality.

4.6. Provisional conclusions: policies matter in a long run

In this chapter, the effect of national policies, including workers wage bargaining power, privatisation, taxation and benefits distribution were analysed.

Worker unions were constantly losing their members throughout the whole period of study in all of the countries, ending at rather the same low level by 2013. The bargaining coverage rate was also constantly falling. However, in the case of the Baltic States it decreased to a relatively larger degree. Thus, it might be noted that even small but relatively more powerful worker unions in the Czech and Slovak Republics managed to preserve the wages of workers at a better level than in case of the Baltic states in a long run. Although, the effect should not be overestimated due to the fact that lately, in 2011-2013, Slovakia's worker unions were losing power, but income inequality kept slightly falling.

Privatisation policies implementation explain the difference in the speed of income inequality increase in the beginning of 1990s in all the countries. The Czech and Slovak Republic, that provided their population with broad governmental support, experienced 5-7% rise of Gini coefficient by 1996. The Baltic States that either relied entirely on market forces and banks as Estonia or failed to establish a legal framework for "fair" privatisation, by the same year of 1996 experienced the increase of income inequality by 6-12%. At the same time, the analysis of privatisation process revealed that Slovakia and Latvia, due to lower speed of privatisation and lower efficiency of their enterprises, experienced a slower increase of the Gini. Furthermore, the Baltic States generally inherited low-efficient firms,

Latvia to a bigger extent though, and thus a number of workers in the region lost their jobs during transition period.

Taxation design established in the countries was found rather similar in all the states, that relied on labour taxes to a greater extent as compare to both consumption and capital ones, although favouring capital tax payers. Changes in the shares of tax revenues by economic function generally was not found significant in a short run. However, the principle difference lies in the degree on capital taxes reliance of the state: the share of capital taxes in the Baltic States was multiple times less than in the Czech and Slovak Republic. Thus, the Baltic States relatively failed to obtain revenue from capital, and such taxation policy favouring capital, not labour or consumers, only contributes to higher rates of income inequality.

Welfare expenditures expressed in cash benefits that are distributed directly to the households in need was not found to have a significant effect on income inequality in the short term apart from a couple of exceptional cases among the Baltic States. However, the Czech and Slovak Republic generally were more generous in cash benefits, while the Baltic States' governments kept the average amount smaller, that in the long run influence the income inequality situation.

Welfare policies of the Baltic states were more universalistic during the most period of time as compared to the Czech and Slovak Republics, that preferred to pay more attention to targeting those in need. Latvia stands out as an exceptional case that first, before 2004, focused its policies on means-tested benefits more, although it did not prevent income inequality from continuous growth.

Summary and conclusions

When going through transition, the countries prioritised economic efficiency and the attraction of foreign capital, often failing to provide the population with social safety nets. Neoliberal policies were adopted by the majority of the transition countries, regardless of the political orientation of the governments in charge.

The data especially on the late communist years and first years of independence is rather scarce and, thus, only rather approximate estimations are available. Moreover, literature on the topic shows that income inequality is rising everywhere in the world, meaning that a number of processes, including global ones, take place simultaneously and are hard to separate from the outcomes of national governments decisions. Scholars debated about the causes of rising income inequality, naming urbanisation, rising share of capital, weakening power of worker unions, open trade, foreign direct investment, and price liberalisation particularly in the case of transition countries. Generally stimulating Gini coefficient rise, these processes had their influence on the countries to different extent. Thus, literature proposed to look at particular cases separately in order to capture the complexity of the processes, take into account national policies, and thus outline possible causes.

The case of transition countries implies methodological restrictions. All the data that covers pre-transition and first years of transition was derived from the surveys that lacked unified design and thus imposed constraints on cross-country and across time comparisons. However, the differences in estimations, even though sometimes relatively different, did not prevent from plotting the trend lines for each country.

The study analysed the income inequality trends in two group of countries: the Czech and Slovak Republic, that under communism were ruled by the united governance of Prague, and the Baltic states, namely Estonia, Latvia, and Lithuania, that operated under Moscow regulations. If preserving similar, relatively low income inequality levels under the Soviet umbrella, as soon as the countries acquired independence, the dynamics of Gini coefficients became rather different.

This thesis contributed to collecting statistical data from various sources that used distinctive methodological approaches and explaining the differences in scholars and databases estimations of income inequality in the given countries. The research is based on a comparison of small number of cases with similar preconditions and different outcomes in terms of Gini coefficients also helped highlight the role of national policies in new EU member states that lead to dramatically different patterns of income distribution. Moreover, the final results of the research, even though being limited to some extent, provide suggestions for further investigation of the problem.

The overview of statistical data proved that all of the countries of study experienced a rise in income inequality, the Czech and Slovak Republics – to much smaller extent. The Baltic States went through two periods of income inequality rise. First one took place in 1990-1995, at the same time when the Czech and Slovak Republics. The second was noticed during recent years – 2012-2014. Latvia to some extent can be considered as an outlier among the Baltic States during the first years of transition – income inequality there was rising slower, somewhat repeating the Slovak tempo of the Gini growth.

According to the research results, the Czech and Slovak Republics, even though implementing neoliberal policies along with other transition countries, managed to keep income inequality at a lower level due to a number of policies. First, the two states provided vast governmental support to the population during privatisation process, which helped redistribute former national property in a more "fair" way. Secondly, the Czech and Slovak Republics implemented a regressive flat tax on personal income ten years later than it was done in the Baltic States, also keeping generally higher tax rates on capital during first 20 years of independence. Thirdly, the taxes on capital constitute a greater share in total revenue in the Czech and Slovak Republics as compared to the Baltic States, the latter ones relying much more strongly on labour and consumption taxes. Finally, the welfare states of the Czech and Slovak Republics are more generous, and a larger number of their policies concentrate on cash benefits distribution, that helps improving the situation of the low-income households.

During the research, some similarities between Slovakia and Latvia' income inequality trends were also found. With regard to privatisation, the two countries shared a similar feature – the process in these countries was slowed down by the greater inefficiency of their enterprises as compared to their neighbours. Taking into account also less incentive to obtain the shares of such enterprises and lower returns on their capitals, Slovakia and Latvia experienced slower growth of income inequality during 1990-1996 as compared to their neighbours. Moreover, receiving larger share of capital taxes in total revenue and reliance on bigger variety of cash benefits welfare programmes before 2000, explain Latvia's slower rate of growing inequality as compared to its neighbours.

Empirical evidence showed that public policies had greater influence on countries' peculiar trends of income distribution rather than macroeconomic or demographic indicators.

The level of urbanisation failed to explain the differences between the countries: an urbanised Czech Republic and a relatively less urban Slovakia performed rather similar in terms of income inequality trends.

Wage share as opposed to capital share that constitutes household income can only partially explain the existing differences between the countries of study, being correlated with income inequality level only in some particular periods, or having no correlation with Gini coefficient at all like in the case of Lithuania.

Unions bargaining power was found to explain the existing difference in income inequality situations only in a long term run. Worker unions in all the countries of study had significantly shrunk in size, but the bigger share of the Czech and Slovak workers enjoyed the wage setting power of collective bargaining agreements, that helped them keep the wages at better level.

Different privatisation paths are strongly associated with income inequality performance. The Czech and Slovak Republics provided the population with needed bureaucratic and educational support, creating more "fair conditions" for privatisation. The Baltic States largely relied on market forces, and even when voucher method was used in Latvia and Lithuania, the governments failed to provide institutional framework for privatisation. Moreover, de-industrialisation of former Soviet heavy production enterprises proved their

inefficiency, that resulted in high unemployment rates in the Baltic States, to a greater extent in Latvia.

Tax system designs in the countries were found to explain income inequality dynamics in the long run – light taxation of capital inevitably lead to the increase in income inequality. Although, the Baltic States implemented regressive flat tax systems ten years earlier than the Czech and Slovak Republics, the latter countries also maintained higher capital tax rates for a longer period of time. Also, even though all the countries of study collect the smallest tax revenue from capital taxes, the Baltic States' revenue is even smaller, that results in larger burden carried by labour and consumption tax payers and results in higher income inequality. However, Latvia's case stands out from its Baltic neighbours due to larger reliance on capital income until 2000, which also contributed to slowing down the growth of income inequality.

Benefits distribution systems of two groups of countries are rather different: on average spending less, rather universalistic welfare policies are prevalent in the Baltic States. The Czech and Slovak Republics, on the contrary, allocate a greater share of their GDP to cash transfers, having rather means-tested approach at the same time. Latvia's early years of transition, again, stand separately from its neighbours – the country exercised more means-tested approach in the beginning of the period of study, which might have contributed to slowing down the increase of income inequality.

Thus, governmental policies, namely privatisation, taxation, and benefits distribution seemed to play greater role in mitigating income inequality in the countries of study, explaining the main differences in countries' Gini coefficient trends. Macroeconomic and demographic conditions turned out to have only limited effect on income distribution.

The research gave a general insight to different patterns of income distribution between the two groups of countries – the Czech and Slovak Republics and the Baltic states, and reached the goal to explain different paths that countries followed. However, the methods that were used failed to explain smaller changes of the Gini coefficients in each particular country. In order to draw more precise conclusions that would explain the differences not only between the groups of countries, but also within them, governmental policies should

be studied closer and in greater detail. Special attention should be paid to benefits redistribution systems. Another approach that might be implemented in order to investigate income inequality phenomenon can lie in its decomposition, that will help to reveal the influence of other important variables, such as, for example, foreign direct investment, or returns on education.

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Table 1. Income deciles' ratios, by country, 2004-2014.

Country	Decile ratio	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Czech Republic	D10/D1		5.55	5.21	5.19	5.14	5.29	5.32	5.32	5.27	5.10	5.24
	D5/D1		2.10	2.00	2.00	2.02	2.00	2.07	2.07	2.07	2.00	2.02
	D10/D5		2.64	2.61	2.60	2.54	2.64	2.56	2.56	2.54	2.55	2.59
Slovakia	D10/D1		6.32	6.62	5.25	5.00	5.62	6.06	6.00	5.64	5.57	6.52
	D5/D1		2.53	2.22	2.15	2.20	2.32	2.46	2.46	2.42	2.54	2.61
	D10/D5		2.50	2.99	2.44	2.27	2.42	2.47	2.44	2.33	2.19	2.50
Estonia	D10/D1	14.74	10.71	9.41	9.25	7.80	7.97	8.14	9.19	9.31	9.46	11.82
	D5/D1	3.84	3.21	2.85	2.79	2.73	2.63	2.72	3.04	3.00	3.00	3.41
	D10/D5	3.84	3.34	3.30	3.32	2.85	3.03	2.99	3.03	3.10	3.15	3.47
Latvia	D10/D1		13.19	14.60	10.88	12.55	13.05	13.25	12.38	11.78	11.35	12.09
	D5/D1		3.57	3.55	3.13	3.36	3.57	3.80	3.62	3.26	3.26	3.45
	D10/D5		3.69	4.11	3.48	3.73	3.65	3.49	3.42	3.61	3.48	3.50
Lithuania	D10/D1		12.36	11.52	10.28	10.48	11.42	14.42	10.61	8.85	10.15	10.68
	D5/D1		3.41	3.35	3.08	3.12	3.13	4.00	3.48	2.89	2.96	3.00
	D10/D5		3.63	3.44	3.34	3.36	3.65	3.61	3.05	3.06	3.43	3.56

Source: Author's calculations based on EU-SILC survey (Eurostat)
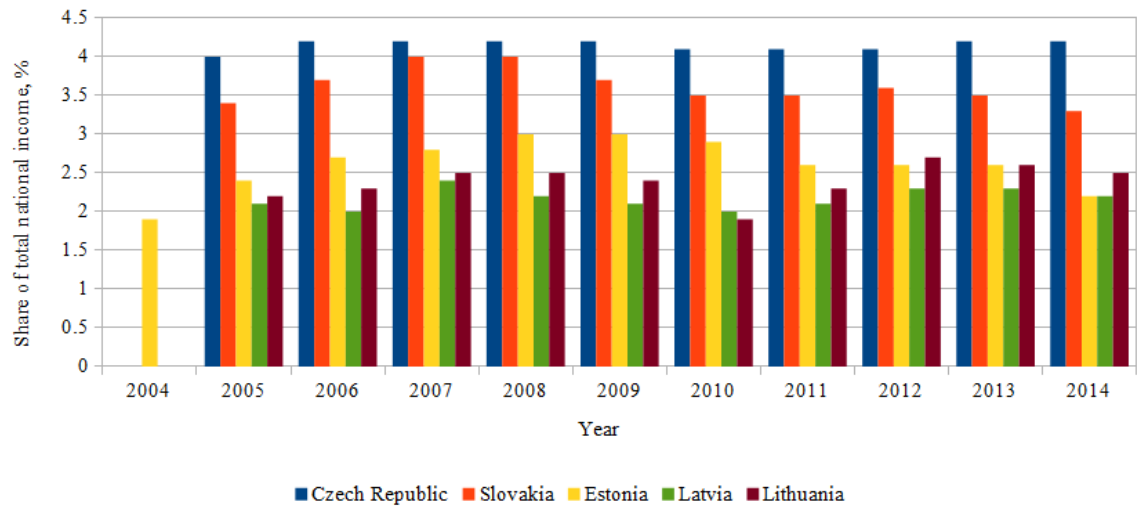
Figure 19. The share of total national income by bottom income decile (D1), by country, 2004-2014
Source: EU-SILC survey (Eurostat)
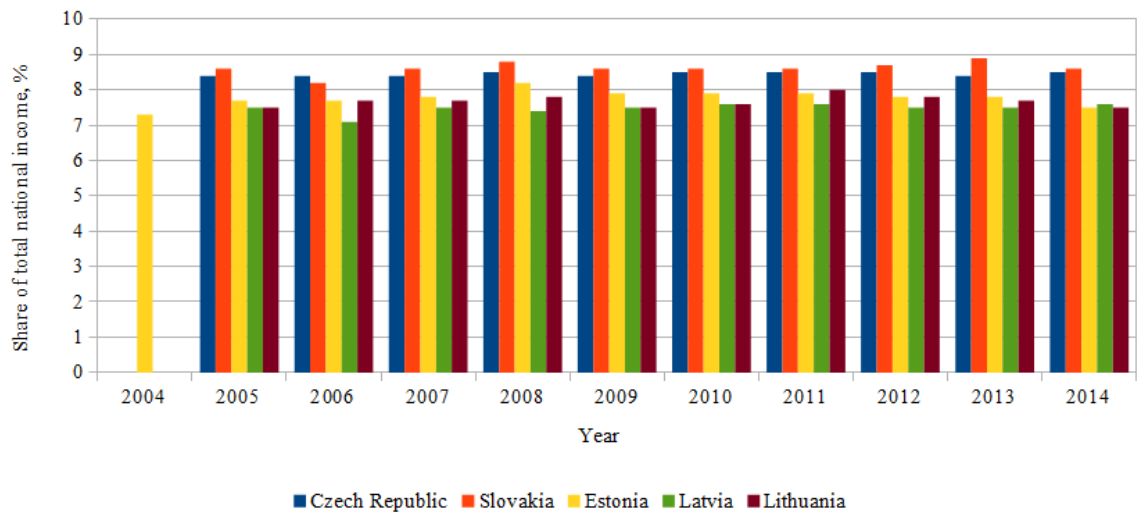
Figure 20. The share of total national income by middle-income decile (D5), by country, 2004-2014
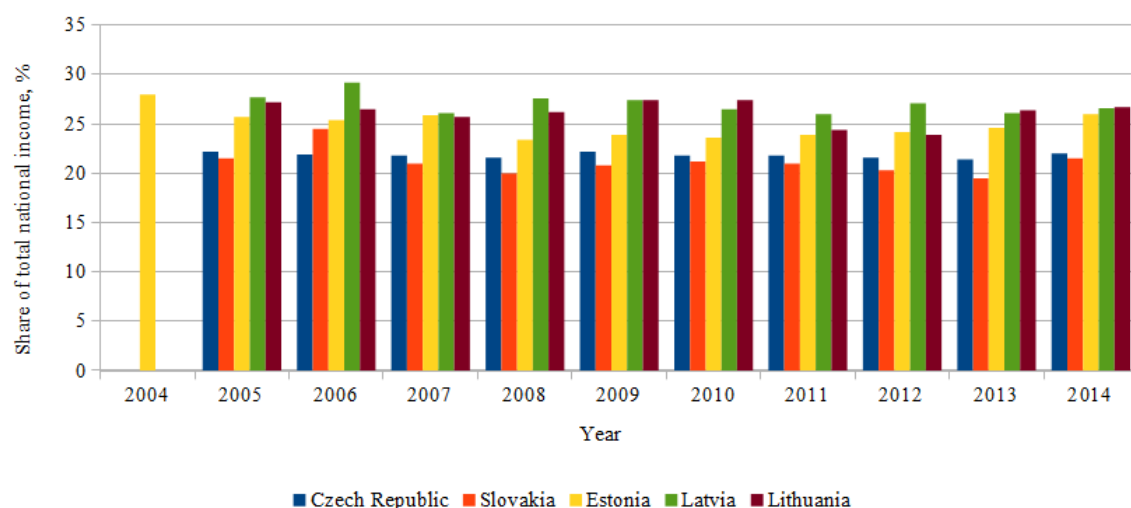*Source: Author's calculations based on EU-SILC survey (Eurostat)*

Figure 21. The share of total national income by upper income decile (D10), by country, 2004-2014
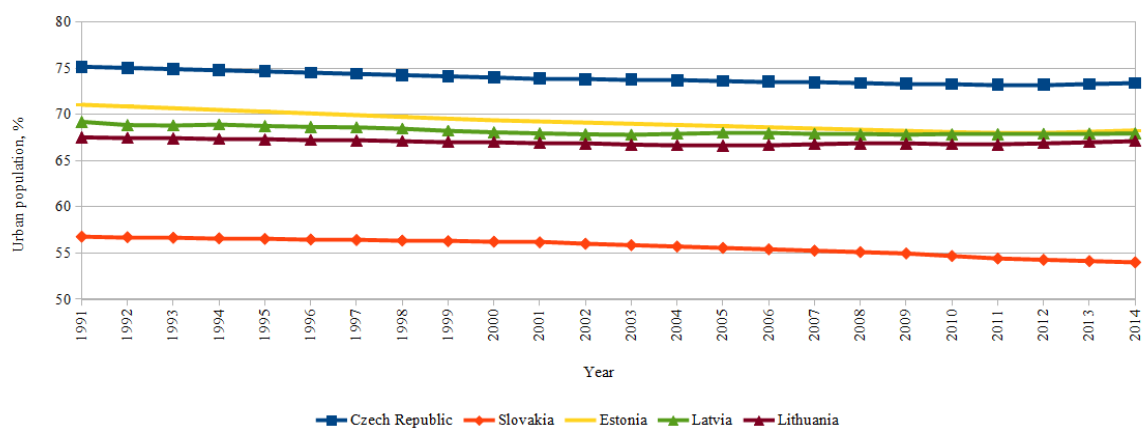*Source: EU-SILC survey (Eurostat)*

Figure 22. Share of urban population, by country, 1991-2014
Source: World Bank
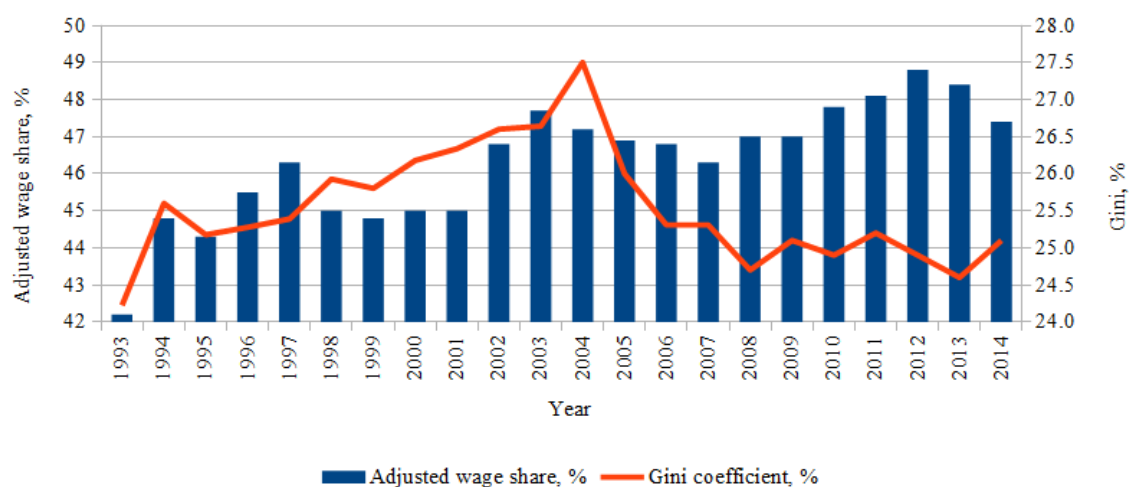
Figure 23. Adjusted wage share and income inequality, the Czech Republic, 1993-2014
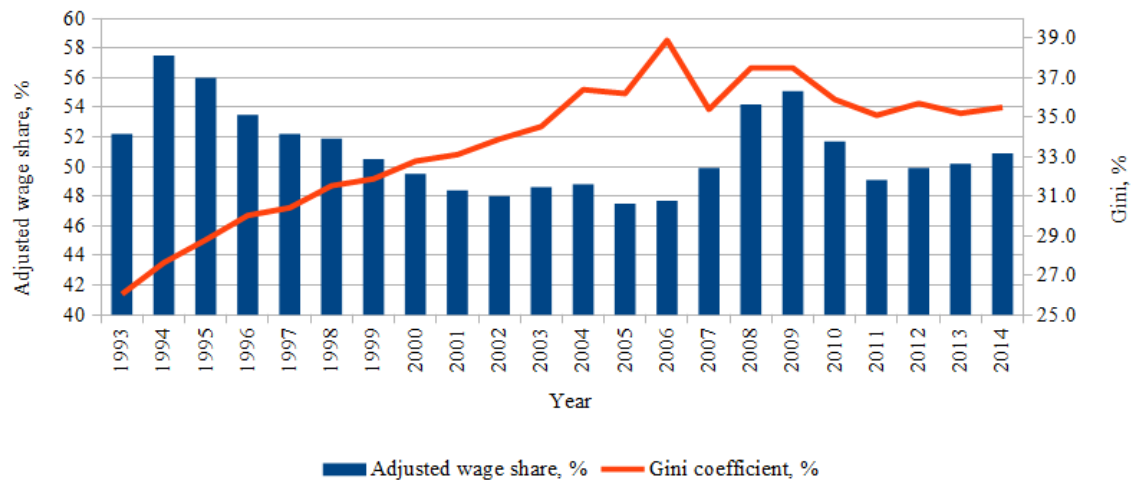*Source: AMECO (Adjusted wage share, %), SWIID 4.0 (Gini coefficient, before 2005), Eurostat (2005 and after)*
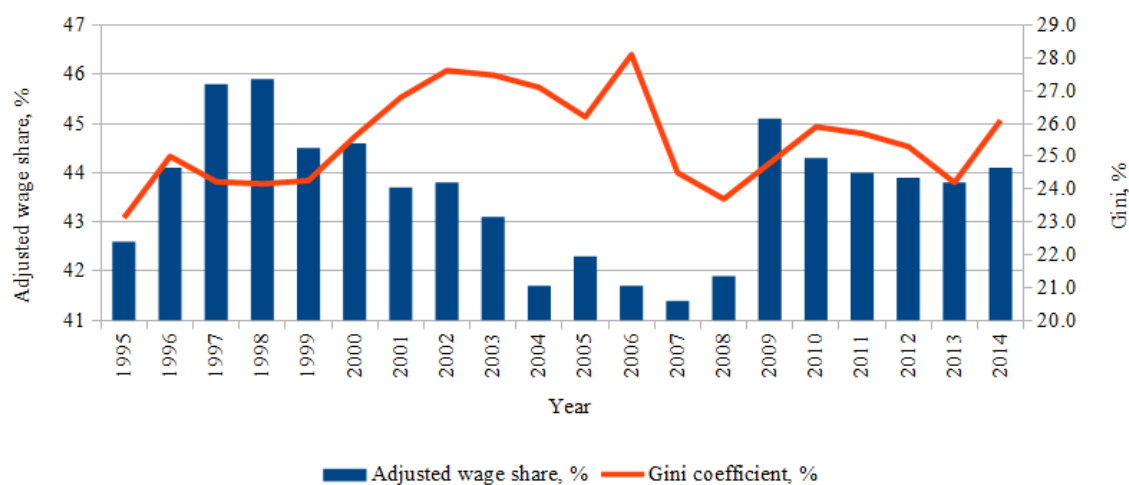
Figure 24. Adjusted wage share and income inequality, Slovakia, 1995-2014
Source: AMECO (Adjusted wage share, %), SWIID 4.0 (Gini coefficient, before 2005), Eurostat (2005 and after)
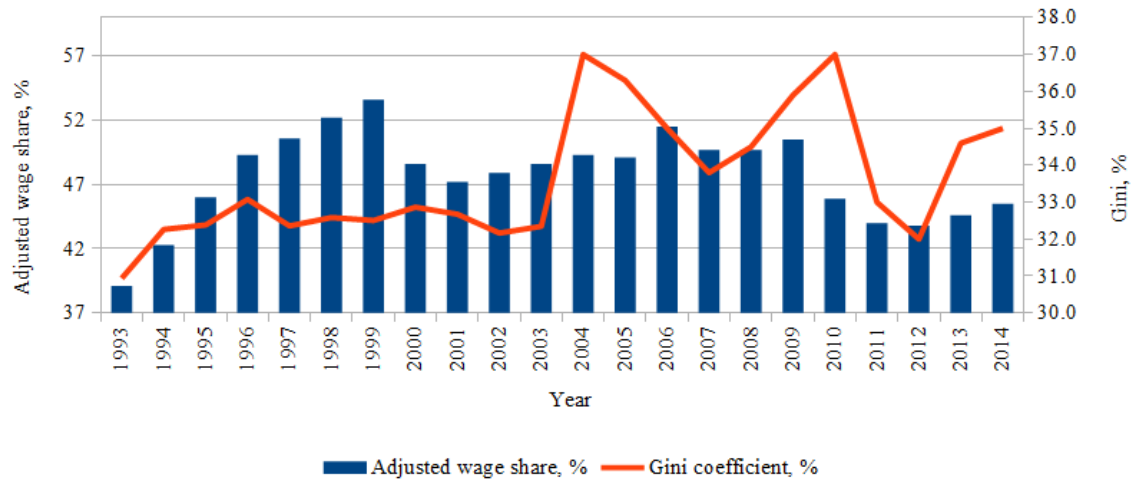
Figure 25. Adjusted wage share and income inequality, Estonia, 1993-2014

Source: AMECO (Adjusted wage share, %), SWIID 4.0 (Gini coefficient, before 2005), Eurostat (2005 and after)

Figure 26. Adjusted wage share and income inequality, Latvia, 1993-2014

Source: AMECO (Adjusted wage share, %), SWIID 4.0 (Gini coefficient, before 2005), Eurostat (2005 and after)

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Figure 27. Adjusted wage share and income inequality, Lithuania, 1993-2014

Source: AMECO (Adjusted wage share, %), SWIID 4.0 (Gini coefficient, before 2005), Eurostat (2005 and after)

Appendix 4

Table 2. Tax ratios, by country, 1995-2014

Country/year	Labour/capital	Consumption/capital	Labour/Consumption
The Czech Republic			
1995	2.25	1.50	1.50
1996	2.70	1.80	1.50
1997	2.60	1.62	1.61
1998	2.67	1.63	1.64
1999	2.52	1.64	1.54
2000	2.63	1.68	1.57
2001	2.39	1.46	1.63
2002	2.44	1.42	1.71
2003	2.36	1.39	1.69
2004	2.61	1.54	1.70

Country/year	Labour/capital	Consumption/capital	Labour/Consumption
The Czech Republic			
2005	2.73	1.61	1.70
2006	2.69	1.51	1.79
2007	2.68	1.53	1.75
2008	2.92	1.68	1.74
2009	2.95	1.89	1.56
2010	3.29	2.08	1.58
2011	3.33	2.27	1.47
2012	3.35	2.35	1.43
2013	3.33	2.37	1.41
2014	3.31	2.21	1.50
Slovakia			
1999	2.30	1.90	1.21
2000	2.38	2.25	1.06
2001	2.66	2.20	1.21
2002	2.54	2.23	1.14
2003	2.44	2.20	1.11
2004	3.37	2.50	1.35
2005	3.41	2.70	1.26
2006	3.20	2.43	1.32
2007	3.18	2.43	1.31
2008	3.20	2.24	1.43
2009	3.95	2.63	1.50
2010	3.95	2.62	1.51
2011	4.11	2.81	1.47
2012	3.97	2.45	1.62
2013	3.66	2.18	1.68
2014	3.40	2.08	1.63
Estonia			
1995	6.00	3.80	1.58
1996	5.24	3.35	1.56
1997	4.40	2.98	1.48

Country/year	Labour/capital	Consumption/capital	Labour/Consumption
Estonia			
1998	4.55	2.71	1.68
1999	5.50	3.06	1.80
2000	7.24	4.64	1.56
2001	7.25	4.92	1.47
2002	6.29	4.29	1.47
2003	6.03	4.07	1.48
2004	6.00	4.56	1.32
2005	5.85	4.69	1.25
2006	5.81	4.96	1.17
2007	5.57	4.57	1.22
2008	6.37	4.26	1.50
2009	6.70	5.22	1.28
2010	7.70	5.74	1.34
2011	7.81	6.19	1.26
2012	7.00	5.78	1.21
2013	6.23	4.96	1.26
2014	6.35	`5.19	1.22
Latvia			
1995	4.49	3.15	1.42
1996	4.76	3.44	1.38
1997	3.98	3.00	1.33
1998	3.71	2.91	1.27
1999	3.79	2.72	1.39
2000	4.59	3.29	1.39
2001	3.87	2.74	1.41
2002	4.26	2.97	1.43
2003	4.74	3.58	1.32
2004	4.34	3.31	1.31
2005	4.03	3.42	1.18
2006	3.75	3.22	1.16
2007	3.44	2.82	1.22

Country/year	Labour/capital	Consumption/capital	Labour/Consumption
Latvia			
2008	3.48	2.48	1.40
2009	5.37	3.74	1.44
2010	5.88	4.28	1.37
2011	4.34	3.38	1.29
2012	3.89	3.06	1.27
2013	3.83	3.11	1.23
2014	3.97	3.31	1.20
Lithuania			
2000	7.13	5.09	1.40
2001	8.61	6.50	1.32
2002	8.33	6.61	1.26
2003	5.92	4.52	1.31
2004	3.74	2.69	1.39
2005	3.40	2.55	1.34
2006	3.02	2.25	1.34
2007	3.11	2.43	1.28
2008	3.11	2.38	1.30
2009	3.24	2.44	1.33
2010	3.25	2.83	1.15
2011	3.47	3.08	1.13
2012	3.21	2.72	1.18
2013	3.23	2.72	1.19
2014	3.23	2.68	1.21

Source: Author's calculations based on Eurostat data
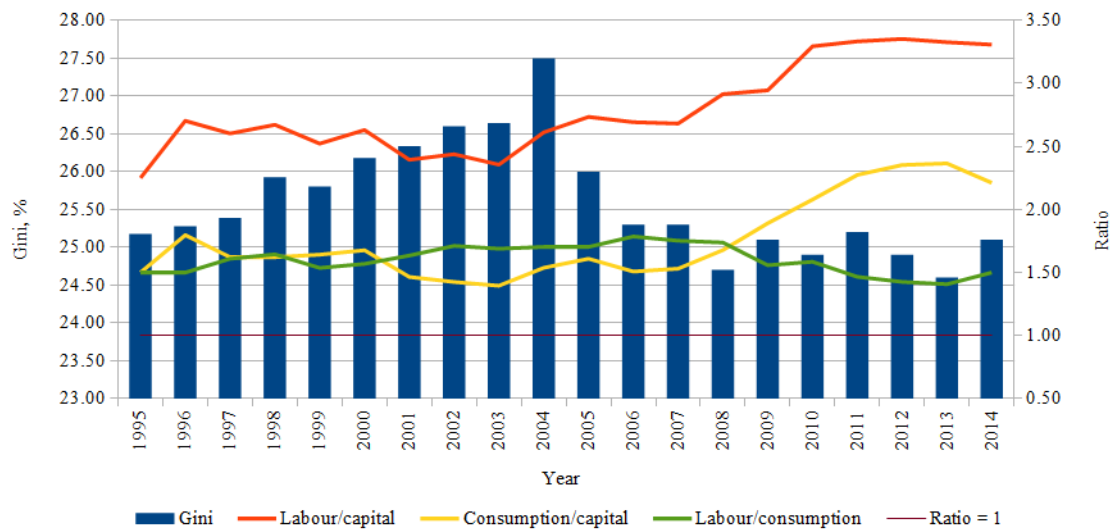
Figure 28. Tax ratios and income inequality, the Czech Republic, 1995-2014

Source: SWIID 4.0 (for Gini coefficients, before 2005), Eurostat (for Gini coefficients, 2005 and after), author's calculations based on Eurostat data (tax ratios)
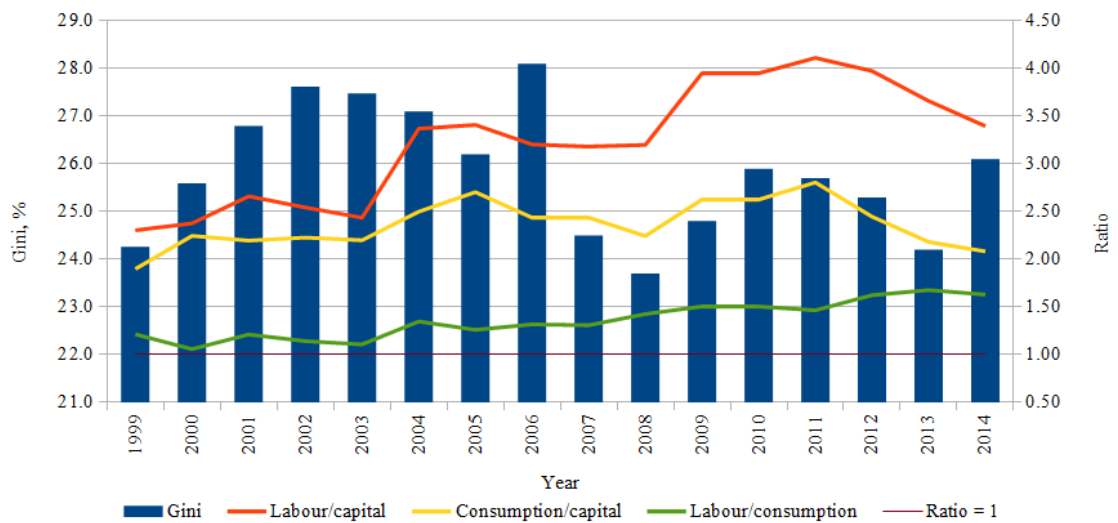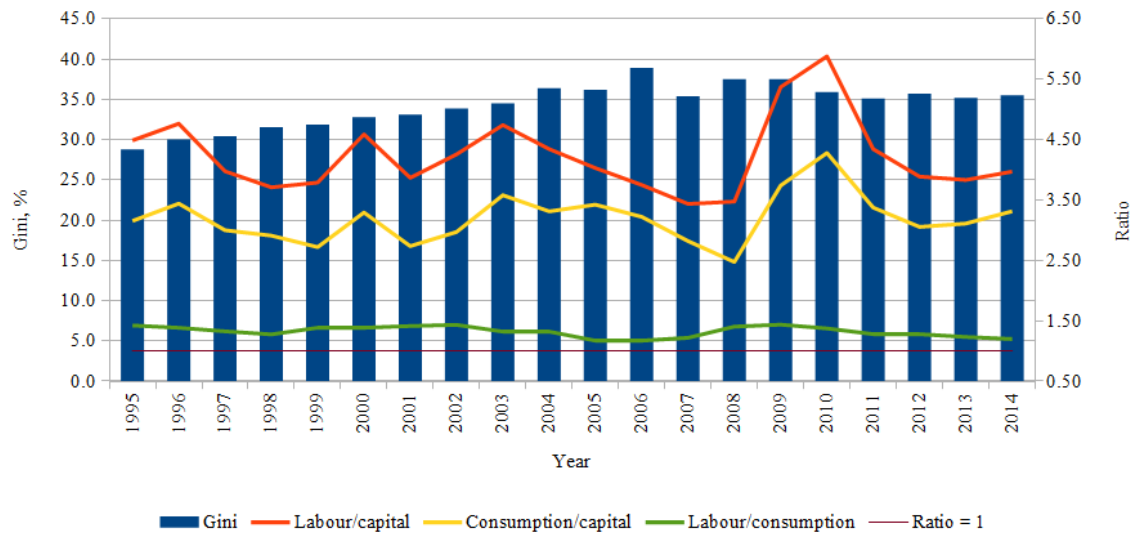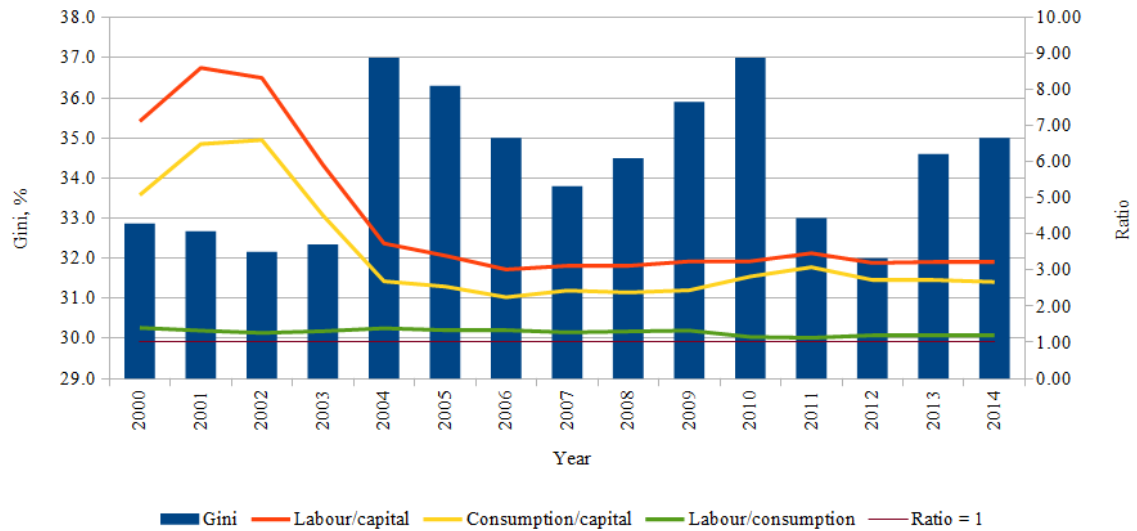

Figure 29. Tax ratios and income inequality, Slovakia, 1999-2014

Source: SWIID 4.0 (for Gini coefficients, before 2005), Eurostat (for Gini coefficients, 2005 and after), author's calculations based on Eurostat data (tax ratios)
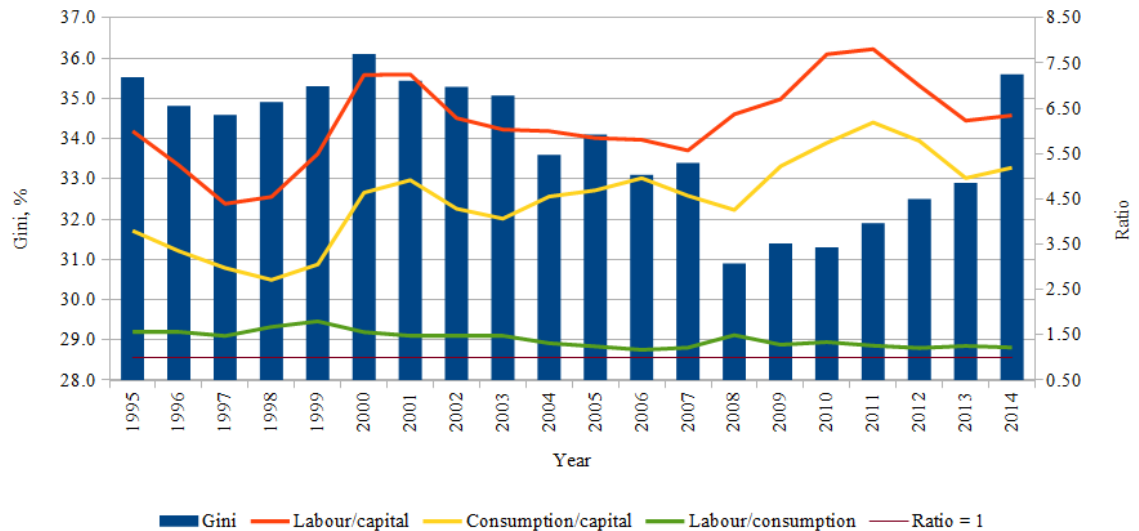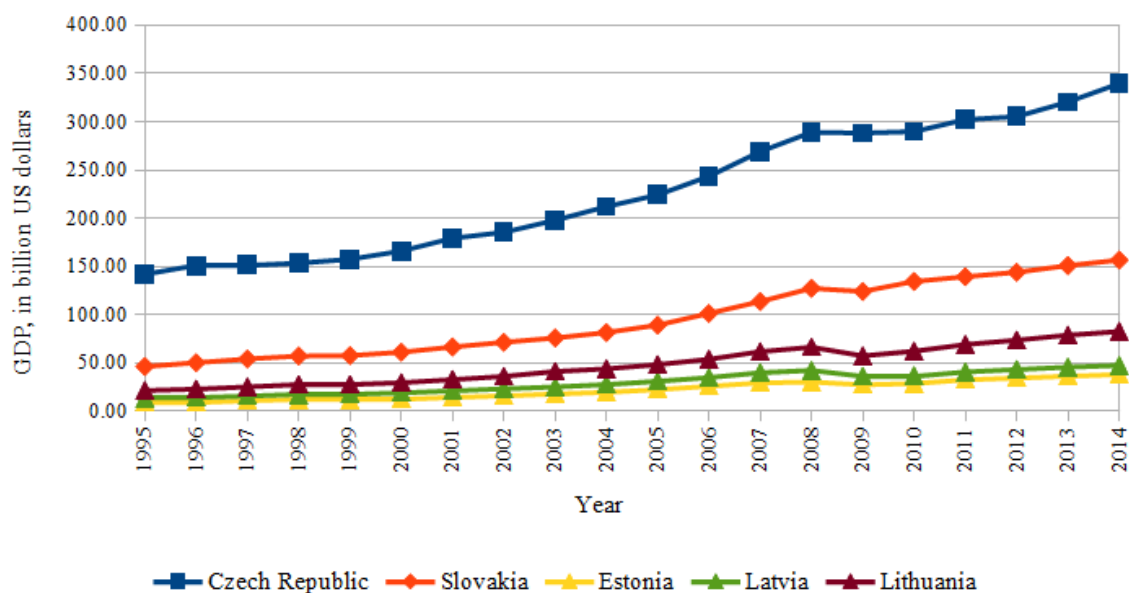
Figure 30. Tax ratios and income inequality, Estonia, 1995-2014

Source: SWIID 4.0 (for Gini coefficients, before 2005), Eurostat (for Gini coefficients, 2005 and after), author's calculations based on Eurostat data (tax ratios)

Figure 31. Tax ratios and income inequality, Latvia, 1995-2014

Source: SWIID 4.0 (for Gini coefficients, before 2005), Eurostat (for Gini coefficients, 2005 and after), author's calculations based on Eurostat data (tax ratios)

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Figure 32. Tax ratios and income inequality, Lithuania, 2000-2014

Source: SWIID 4.0 (for Gini coefficients, before 2005), Eurostat (for Gini coefficients, 2005 and after), author's calculations based on Eurostat data (tax ratios)

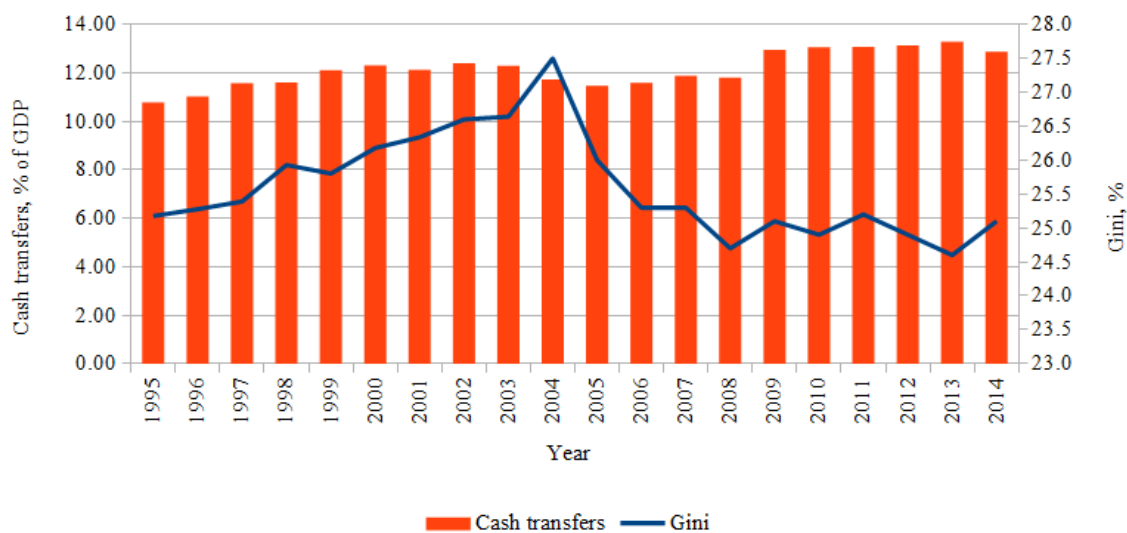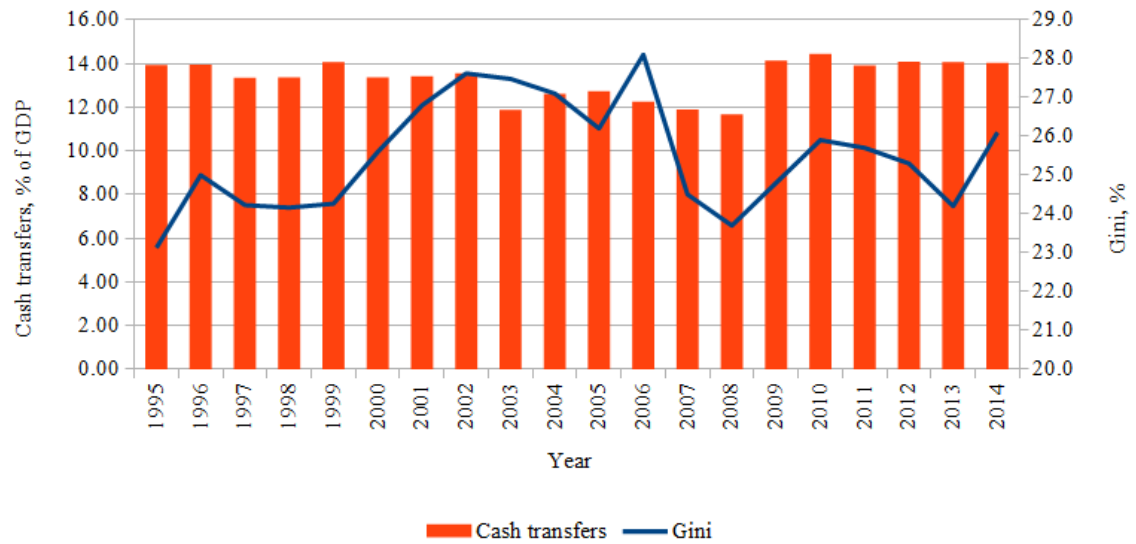*Figure 33. GDP rates, in billion US dollars, by country, 1995-2014*
Source: OECD database

Figure 34. Cash transfers and income inequality, the Czech Republic, 1995-2014
Source: SWIID 4.0 (for Gini coefficients, before 2005), Eurostat (for Gini coefficients, 2005 and after), OECD database (for cash transfers)

Figure 35. Cash transfers and income inequality, Slovakia, 1995-2014
Source: SWIID 4.0 (for Gini coefficients, before 2005), Eurostat (for Gini coefficients, 2005 and after), OECD database (for cash transfers)
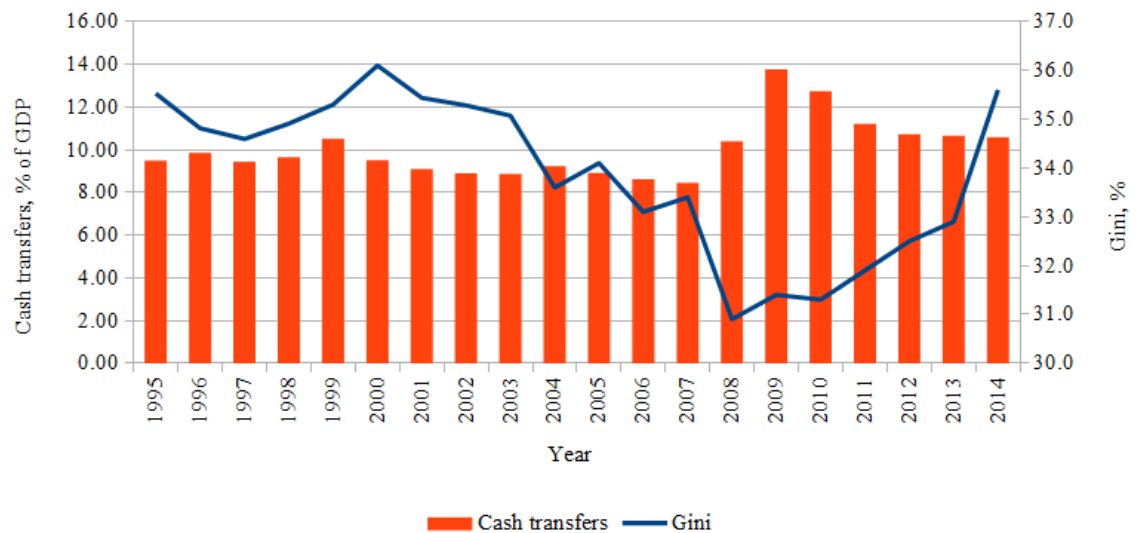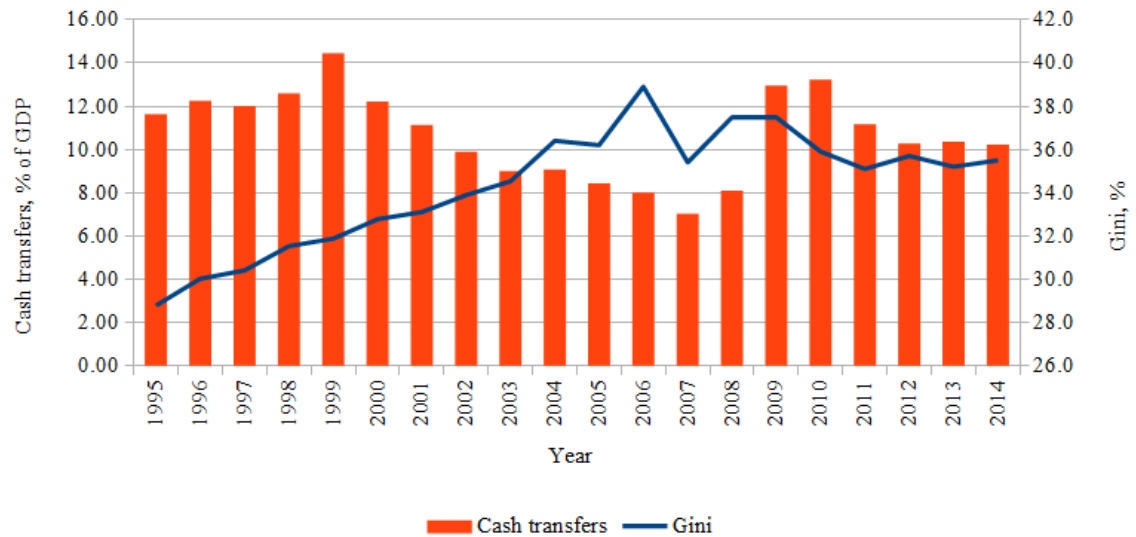

Figure 36. Cash transfers and income inequality, Estonia, 1995-2014
Source: SWIID 4.0 (for Gini coefficients, before 2005), Eurostat (for Gini coefficients, 2005 and after), OECD database (for cash transfers)

Figure 37. Cash transfers and income inequality, Latvia, 1995-2014

Source: SWIID 4.0 (for Gini coefficients, before 2005), Eurostat (for Gini coefficients, 2005 and after), OECD database (for cash transfers)
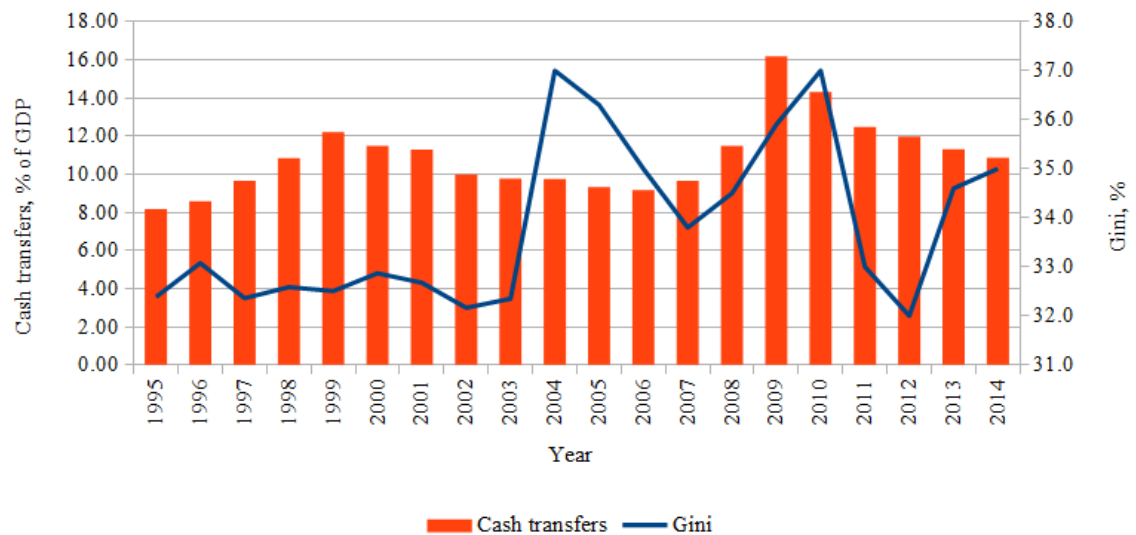

Figure 38. Cash transfers and income inequality, Lithuania, 1995-2014

Source: SWIID 4.0 (for Gini coefficients, before 2005), Eurostat (for Gini coefficients, 2005 and after), OECD database (for cash transfers)

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