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Income inequalities and economic convergence in CEE countries

Tamara NAE
Bucharest University of Economic Studies, Romania
nae.tamara@gmail.com

Abstract. *Convergence has always been considered the fundamental economic mechanism and precondition for achieving socio-economic cohesion in the European Union, so an important task for the Romanian Government is to reduce regional disparities in Romania. In this paper we will attempt to perform a descriptive analysis of inequality and convergence between and within CEE states using the most recent available data of relevant indicators for the analyzed topic.*

Keywords: regional disparities, economic convergence, inequalities, income inequality, Gini coefficient.

JEL Classification: D63; O11; R10.

Introduction

The study of inequalities has recently been a major concern for both researchers and policy makers, as there are worries that the persistence of high income inequality is fueling the populist trend. Inequality is now at the top of the 2030 Sustainable Development Agenda goals, one of its main objectives being to reduce inequalities in and between countries. A major top priority is the need for more inclusive growth and greater convergence to combat excessive inequalities. It is difficult to identify the level at which inequalities become excessive, therefore, those who have dealt with the study of inequalities are reserved to establish a threshold to which inequalities are tolerated.

In order to achieve a high level of convergence between the countries of the European Union, it is necessary to accelerate the living standards of the countries considered peripheral, especially the states in Eastern Europe, thus reducing the inequalities between states and within a state.

An important goal of the European Union is to reduce disparities between Member States. In this paper we will attempt to perform a descriptive analysis of inequality and convergence between and within CEE states using the most recent available data of relevant indicators for the analyzed topic.

The most studied types of inequality that economists tend to be interested in are income inequality and wealth inequality, and these types of inequality are more easily quantifiable. In the first section of the paper we will focus on the most widespread form of inequality, namely income inequality. In this context, "income" means the income according to the fiscal regulations set in place.

In the second section we will discuss the evolution of the regional disparities in the CEE countries at NUTS 2 level, calculating and representing graphically, for each country, the difference between the maximum the minimum value of GDP per capita in PPS before and after the accession to the European Union.

We further analyzed for the period 2000-2017 the dynamics of economic convergence in CEE countries through the difference between the interregional gap at the end of the analyzed period and the beginning of the period.

A review of the literature

According Goldin, for the achievement of the development of a state there is a need for a decrease in poverty, unemployment and inequality. (Goldin, 2017)

According to OECD there must be no compromise between growth and equality. On the contrary, opening up opportunities can lead to stronger economic performance and improved living standards around the world. (OECD, 2015)

Inequality affects economies and societies, with growing evidence that excessive inequality may be bad for growth. There are also concerns that inequality may dampen educational opportunities and social mobility. (Keeley, 2015)

There are many factors that influence the rise in income inequality, including technological change, shifts in who people marry, the rising incomes of top earners.

Despite the positive effects that technological change has had on economic growth, they have also had effects on inequalities, increased demand for highly skilled labor, many jobs have been eliminated through automation, and the difference between highly qualified and low-skilled employees increased significantly. (IMF, 2015; Kelley, 2015; Deaton, 2013)

There are two sides in terms of inequality: those who want to reduce it and those who focus on stimulating motivations.

There are economists who have adopted a firm stance for inequality. Joseph Schumpeter did not agree with equality, but admired individuals who focused on gaining ever greater earnings, arguing that higher-level inequalities should be tolerated and that they are essential for development.

James K. Galbraith is one of the advocates of low inequality, arguing that the benefits associated with a civilized life are generated by the same degree of inequality as public pensions, health insurance, education, cultural facilities, and believes that economic development leads to smaller inequality over time. He argues that there are societies for which temperate inequality generates competitiveness, economic performance, innovation, while excessive inequality foresees future problems.

Galbraith acknowledges the advantages of a low degree of inequality and argues that when it is desired to reduce inequality, this action is intended to address the excessive inequalities to reach that tolerated limit of inequality. (Galbraith, 2016)

Joseph Stiglitz argues that there can be a more efficient and productive economy if there is more equality. He is not the advocate of full equality, but given that his research into inequalities has prevailed in the United States, where inequalities are excessive, he sought solutions to improve the situation of inequalities. (Stiglitz, 2015)

Joseph Stiglitz argues his position also in view of the conclusion that broadly uneven societies do not work efficiently and their economies are neither weak nor sustainable. When an interest group has too much power, it manages to impose public policies that give it the most advantages, rather than those that would benefit all of society as a whole. (Stiglitz, 2015)

Angus Deaton has a balanced position over inequality, claims inequality has both adverse effects: undermining growth or cancelling it, compromising the economy of a state, but also positively impacting: it can inspire fewer people to catch up with that wealth. (Deaton, 2013)

Methodology and data

Research methodology involves quantitative analysis methods supplemented by a descriptive approach that allows comparison of results between countries. Most research studies on inequalities were based on the Gini coefficient, which is an indicator of

inequality that shows the dispersion of the income of a country's population. In this article, we showed the current state of income inequalities in CEE countries based on the Gini coefficient on disposable income compared to Gini before social transfers (including pensions), but also compared to Gini before social transfers (excluding pensions).

To graphically represent the regional disparities in the analyzed countries, I used GDP per capita in PPP (purchasing power parity), calculating the difference between GDP per capita in PPP for the most developed region in that country and GDP per capita in PPP for the least developed region.

The analysis of the dynamics of economic convergence refers to the evolution of regional GDP in the CEE countries. The data reflects the evolution of regional GDP per capita in euro, expressed in PPP, the time horizon analyzed being 18 years (2000-2017). These are in line with the NUTS 2 classification of the European Commission, the source being Eurostat.

The indicator on the inter-regional gap in 2017 is highlighted by the ratio of the least developed region to the most developed. A higher ratio indicates a small gap between regions in a state, while a lower ratio indicates a larger gap.

The evolution of the inter-regional gap indicator over the last 18 years is highlighted by the gap between the interregional gap at the end of the period (2017) and the beginning of the period (2000). A positive result indicates a proximity between regions in a state (internal convergence), while a negative result indicates a deepening of the gap between regions in a state (internal divergence).

Income inequalities and regional disparities in CEE countries

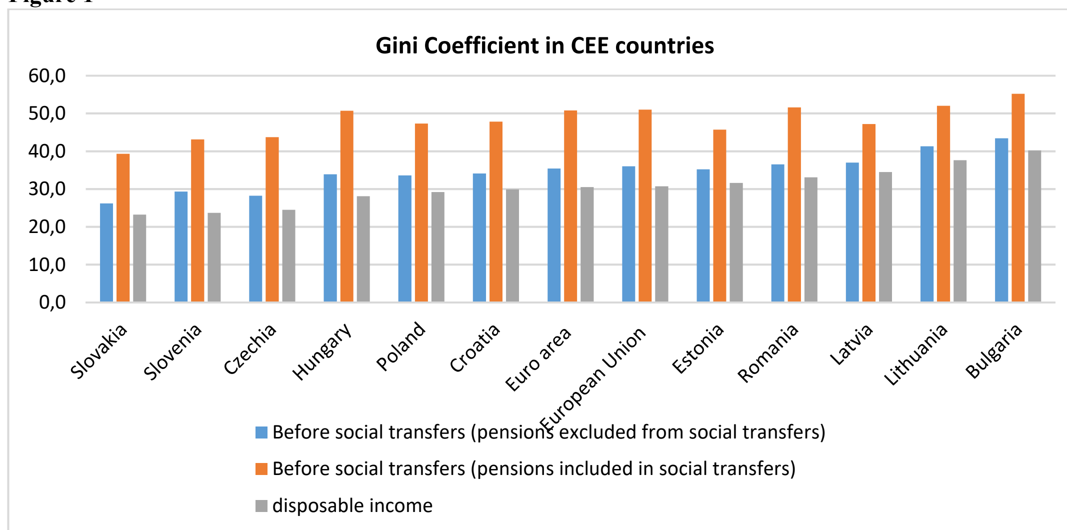
Convergence at the income level is the main aspect of economic convergence between countries and between regions. Income inequality is most often analyzed through the Gini coefficient. It measures the extent to which the distribution of income among individuals in an economy deviates from a perfectly equal distribution. It is expressed as a percentage value, taking values between 0 and 100, where 0 is the perfect equality, and 100 is the perfect inequality.

In 2017, Romania recorded a Gini coefficient of 33.1, being one of the CEE countries with the highest income inequalities. Social transfers (including pensions) played an important role in reducing income inequality in 2017.

For Romania, the impact of social transfers was 18.5 percentage points. Analyzing the most recent comparable data available, Figure 1 shows that Gini's revenue ratios for most CEE economies are higher both in comparison with the euro area average and the EU average, and those that do not exceed their level are very close as value.

The fact that inequality levels are so different among countries, even when countries have similar levels of development, highlights the importance of the role that policies and institutions play in shaping inequalities. (WIR, 2018)

Figure 1



Source: Eurostat.

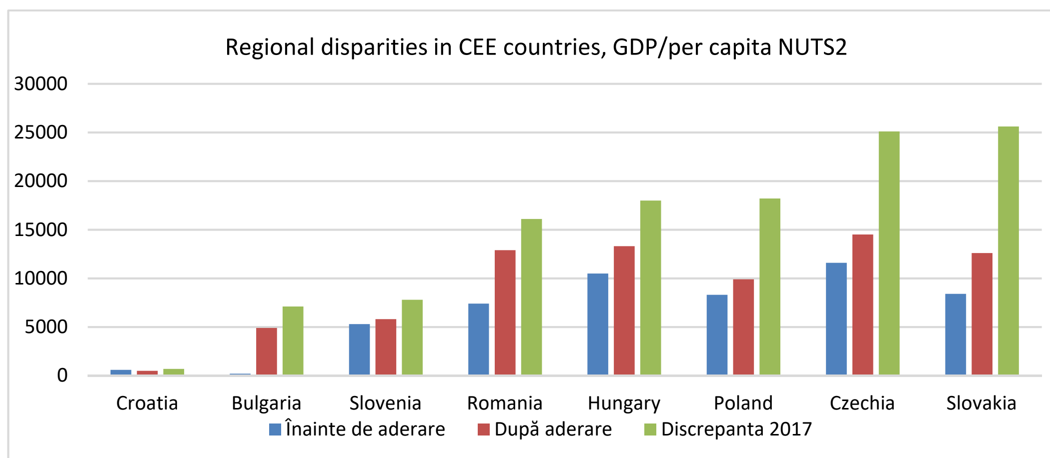
Social transfers can reduce inequities to a certain limit. As the effect is still expected, countries must have a certain degree of development that allows social transfers to have an inequality-reducing effect.

There is a significant difference in terms of levels of development both between and within CEE countries. With the accession of the countries to the European Union, the inequalities between the regions of the same country increased significantly because there were regions that were performing better, for example: (capital regions).In order to have an overview of these differences and to measure regional discrepancies, the most common method is to calculate GDP per capita at regional level. We calculated, by the difference between the highest and lowest regional GDP per capita in PPS, the regional discrepancies within each CEE country one year before joining the European Union one year after accession and the current situation (2017). For example, for Romania, 2006 was taken into account (before accession), 2008 (after accession).

Regional disparities in CEE countries, GDP/per capita NUTS2

Prior to joining the European Union, inter-regional discrepancies in the CEE countries were lower both in the post-accession period and in the current period. Small countries with a small number of regions, such as the Czech Republic and the Slovak Republic, may have large disparities at interregional level in terms of GDP per capita due to the strong concentration of economic activity in the capital. These regional discrepancies suggest that convergence was driven by an impact on more dynamic regions in terms of economic activity. A possible explanation for the regional divergence may be the specialization of the regions, for example: Specialized service regions have a better return than the regions specialized in agriculture. Another cause of accelerating development gaps between regions may be the concentration of investment in the already developed regions.

Figure 2. *Difference between maximum and minimum regional level*



Source: Eurostat.

Results and interpretations

To analyze the dynamics of economic convergence in the CEE countries during the period 2000-2017, we used the most recent data provided by Eurostat reflecting the GDP per capita evolution expressed in purchasing power parity, the period under review being 17 years (2000-2017) at NUTS2 level. The regional gap is highlighted by the ratio of the least developed region to the most developed.

Table 2. *The dynamics of economic convergence in CEE countries 2000-2017*

No.	Country	Interregional gap 2000 (%)	Interregional gap 2017 (%)	Gap evolution 2000-2017 (pp)
1	Bulgaria	56	39,24	-17
2	Czech Republic	39,07	33,81	-5
3	Croatia	96,94	94,18	-3
4	Hungary	32,06	30,79	-1
5	Poland	46,85	31,51	-15
6	Romania	31,86	26,85	-5
7	Slovenia	70,74	68,63	-2
8	Slovakia	34,72	30,3	-4

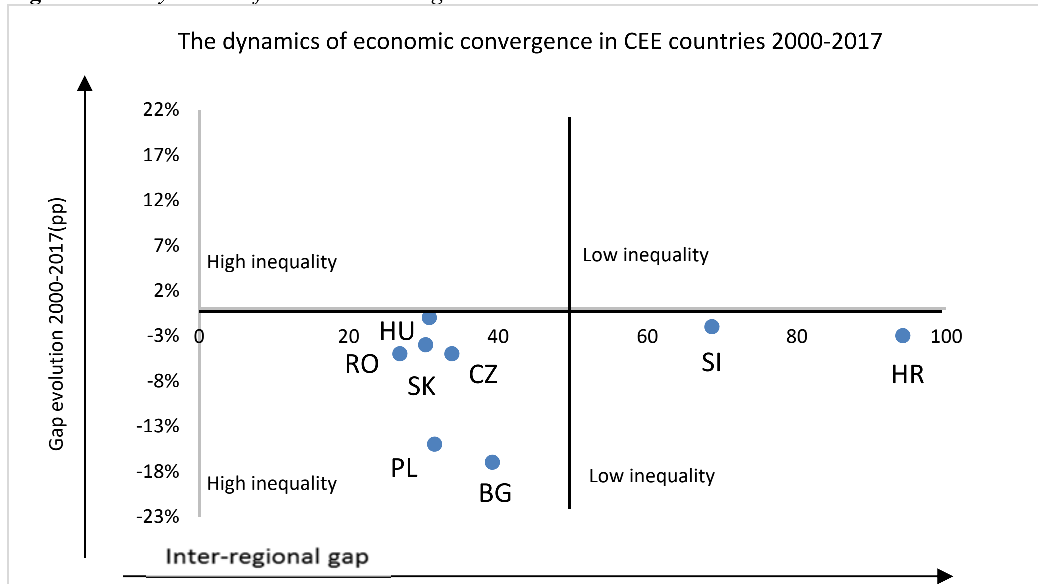
Note: Interregional gap has been calculated as the ratio of the least developed region value to the most developed region's value at GDP/capita in PPP. Gap Evolution was calculated as the difference between the interregional gap in 2017 and the interregional gap in 2000.
Source: Eurostat, author calculations.

For the year 2017, the lowest regional gap is found in Croatia (94.18%), followed by Slovenia (68.63%), it should be noted that these two countries are not very divided and the economic activity is distributed equitable between the regions of the countries. These two countries are found in the Low inequality, Convergence quadrant. Most CEE countries can be found in the High inequality, Divergence, where Romania is also found.

In Romania, the interregional gap for 2017 is the ratio of the most developed region (Bucharest-Ilfov: 43,200 euro/capita) and the least developed region (Northeast: 11,600 euro/capita) is 26.85%.

We note that the largest inter-regional gap between the analyzed countries is found in Romania, the data shows that its evolution from 2000 to 2017 worsened by 5 percentage points. It should be noted that 5 development regions in Romania are among the least developed regions of the European Union.

Figure 3. *The dynamics of economic convergence in CEE countries 2000-2017*



Source: Eurostat.

The dynamics of economic convergence in the CEE countries during the period 2000-2017 is highlighted by the difference between the interregional gap at the end of the analyzed period (2017) and the beginning of the analyzed period (2000).A positive result would indicate an approximation between regions in a state (internal convergence), while a negative result indicates a deepening of the gap between regions in a state (internal divergence).The biggest domestic divergence in a CEE country is found in Bulgaria where, from 2000 to 2017, the indicator of the inter-regional gap worsened by 17pp, from 56% in 2000 to 39.24% in 2017.On the opposite, the smallest internal divergence in an CEE country is found in Hungary where, in 18 years, the indicator of the inter-regional gap worsened by only 1 percentage point, from 32.06% in 2000, to 30.79% in 2017.In Romania, the gap between regions increased in the analyzed period from 31.86% in 2000, reaching 26.85% in 2017, which means the gap worsened by 5 pp. As far as Romania is concerned, it is positioned among the last CEE states as a level of economic development, but in the same country there are regions like Bucharest-Ilfov that have a GDP per capita that exceeds the value of the same indicator in major capital cities such as Budapest, Madrid. Due to a phenomenon of polarization and concentration of economic activity in big cities, regions are harder to converge, comparing Romania's regions with the European Union average, we will see that the Bucharest-Ilfov Region exceeds the European Union average and the other regions are well below this average.

Conclusions

Both in Romania and in the rest of the CEE countries there are significant regional discrepancies. All the analyzed countries registered a divergence between regions in the period 2000-2017.

In Romania, over the last 18 years, the divergence in terms of GDP has increased by 5 percentage points.

The regional discrepancies in Romania in terms of income distribution are caused by several factors such as the concentration of economic activity in the capital city, the location of natural resources, the ability of regions to attract structural and investment funds, population structure, etc.

To reduce this polarization effect, it is necessary to develop the other regions of Romania so that there is a balance that will allow Romania to develop homogeneously. A solution by which regions can develop is to attract structural and investment funds, but this topic will be analyzed in another paper.

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