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Article

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Integration of Post-Communist Countries in the EU – Leaders and Losers?

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Abstract

The economic indicators of the new member states of the EU that joined after 2004 have been generally positive. In this paper, we analyse and interpret the economic development results of the 11 new Member States from the Eastern bloc. The set of individual economic indicators gives us a relatively realistic picture of the differences in development in individual post-communist countries. The paper points out several factors which, in principle, create two groups of countries for us in terms of the development of economic indicators: A more progressive group of countries, which for the most part is showing progress towards catching up with the EU average, and a less progressive group, whose pace of convergence is significantly slower.

Keywords: economic, development, the difference, post-communist countries, EU

JEL: E6, E62, F02, F62

Introduction and literature review

The EU is one of the most successful integration projects. It would be difficult to find a grouping of countries that is so diverse and yet still able and willing to deepen their mutual interaction. Integration processes within the EU take place at many levels, in various forms and cover a wide range of areas (Borsi and Metiu 2015; Hamadeh et al. 2017; Behun et al. 2018). The European Union's expansion by the Eastern bloc countries in 2004 was one of the turning points of modern European integration. The list of the countries includes Lithuania, Latvia, Estonia, Poland, the Czech Republic, Slovakia, Hungary, and Slovenia; in 2007, Romania and Bulgaria joined, and in 2013, Croatia became an EU country too. The quantity and quality of disparities between EU member states were therefore increased by the accession of these post-communist countries (Fredriksen 2012; Hagsten 2016; Novosák et al. 2017; Pascual Sáez, Alvarez-García, and Rodríguez 2017).

In general, the economic indicators of the new EU member states have developed positively since their accession (Ciešlik 2014). Post-communist countries that have joined the EU have subsequently seen GDP (gross domestic product) growth, rising purchasing power parities, more stable inflation, rising labour productivity, reduced unemployment, as well as an increase in average hourly and total annual wages (Angus and Heston 2010; López 2011; Jagielski and Kutner 2013; Simionescu 2014; Magone, Laffan, and Schweiger 2016; Beugelsdijk, Klasing, and Milionis 2018; Dudzevičiūtė, Šimelytė, and Liučvaitienė 2018; Musabeh, Alrifai, and Kalloub 2018).

At the same time, this development must be seen in a broader perspective, when non-member European countries (e.g. Iceland, Switzerland, and Norway) have also shown positive development trends in these areas since 2004 (Popa 2012; Terazi and Şenel 2012; Caporale et al. 2014). Therefore, it is vital to sensitively perceive the individual effects of EU membership and to distinguish between the natural global (or at least European) economic trend and the specific impacts that EU membership has brought to a given Member State. If any European country joins the EU and its economic indicators subsequently improve, it does not automatically mean that it is only thanks to EU membership that the country has seen a positive increase (Thalassinos, Ugurlu, and Muratoglu 2012). Of course, we are aware that joining the EU opens a wide range of opportunities for the private sector of a new member state to expand into foreign markets, break down trade barriers and increase the movement of capital and investment. EU membership also brings benefits in the form of the opportunity to participate in the use of EU structural funds; it provides better legal protection for entrepreneurs and reduces corruption – by creating another level of control (Nikulin 2015; Dall'Erba and Fang 2017; Cohen and Ladaique 2018; Hlavacek and Bal-Do-manska 2016).

The economic development of EU member states is also strongly influenced by global trends and stages of the world economic cycle, so it is very difficult to quantify and separate the impacts of macroeconomic economic trends and the impacts result-

ing from EU membership (Janský and Kolcunová 2017; Szeiner et al. 2020). Therefore, as we stated in the introduction, since the accession of post-communist countries to the EU, their economic situation has improved, but we cannot just identify it with their EU membership – we also have to consider global trends in the background. Because of this, we decided to record the results of the economic development of eleven countries of the former socialist bloc (Estonia, Lithuania, Latvia, Poland, Slovakia, the Czech Republic, Hungary, Slovenia, Romania, Bulgaria, Croatia), which are linked by the fact that they are EU member states.

Our role is to pay attention to several indicators of economic development. Our overview is based on calculating the initial situation of each national economy in the year of accession to the EU and the form it acquired during the membership of the EU. The first thematic area of our review focuses on the aggregate macroeconomic indicators GDP, GDP per capita, Actual individual consumption expressed (real expenditure in PPS), and Purchasing power adjusted GDP per capita (real expenditure per capita in PPS). In order to avoid warnings and objections that the comparison is not adequate, we decided to include selected relative indicators that relativize the aggregate data. The second thematic area compares the development of the GINI Index and Nominal labour productivity per person employed (EU = 100).

Our research sample comprises all post-communist countries that are members of the EU. In 2004 (the so-called great enlargement), a total of ten countries joined the EU, including eight countries of the former socialist bloc: Estonia, Lithuania, Latvia, Poland, Slovakia, the Czech Republic, Hungary and Slovenia. The next round of EU enlargement to the south-east in 2007 meant membership for Romania and Bulgaria. So far, the last EU member state to have joined the EU – and join the post-communist countries – was Croatia in 2013.

Data and methods

The aim of our contribution is to point out the differentiated economic development of post-communist countries in the EU between 2004 and 2019 based on selected macroeconomic variables and indicators. Differentiated development contributed to increasing initial disparities between countries. Due to the monitoring of macroeconomic variables associated with GDP and other economic and economic indicators, we recorded different levels of progress of the post-communist EU countries. The selected quantities in our article are not selected at random; they are a selection that helps us achieve the set goal of the paper.

GDP and its modifications (per capita conversion, real GDP or the aggregate value of GDP) have a very important position for our article. GDP is an indicator of a nation's economic situation. It reflects the total value of all goods and services produced less the value of goods and services used for intermediate consumption in their production. GDP at purchaser's prices is the sum of gross value added by all

resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for the depreciation of fabricated assets or the depletion and degradation of natural resources. Data are in current euros. Euro figures for GDP are converted from domestic currencies using single year official exchange rates.

GDP per capita in Purchasing Power Standards (PPS) is another indicator we monitor. It is a measure of economic activity and is defined as the value of all goods and services produced less the value of any goods or services used in their creation. The volume index of GDP per capita in PPS is expressed in relation to the European Union average, set to equal 100. If the index of a country is higher than 100, this country's level of GDP per head is higher than the EU average and vice versa. Basic figures are expressed in PPS, i.e. a common currency that eliminates the differences in price levels between countries allowing meaningful volume comparisons of GDP between countries.

Information on net earnings (net pay taken home, in absolute figures) and related tax-benefit rates (in %) complements gross earnings data regarding disposable earnings. The transition from gross to net earnings requires the deduction of income taxes and employee's social security contributions from the gross amounts and the addition of family allowances, if appropriate. The amount of these components, and, therefore, the ratio of net to gross earnings, depends on the individual situation. Several different family situations are considered, all referring to an average worker. The data refer to an average worker at the national level for different illustrative cases, defined on the basis of marital status (single vs. married), number of workers (only in the case of couples), number of dependent children, and level of gross earnings expressed as a percentage of the average earnings of an average worker (AW). In the article, we operate with single person data without children earning 50% of the average earning.

The economic progress of post-communist countries in the EU is partly documented by actual individual consumption expressed as real expenditure in PPS. Actual individual consumption (AIC) refers to all goods and services consumed by households. It encompasses consumer goods and services purchased directly by households, as well as services provided by non-profit institutions and the government for individual consumption (e.g., health and education services). In international comparisons, the term is usually preferred over the narrower concept of household consumption, because the latter is influenced by the extent to which non-profit institutions and general government act as service providers. Although GDP per capita is an important and widely used indicator of countries' level of economic welfare, consumption per capita may be more useful for comparing the relative welfare of consumers across various countries.

Real expenditures are expenditures in national currency converted to PPS using PPPs. They are thus denominated in PPS. "Real expenditure" or "expenditure in PPS" refers to an expenditure aggregate, for instance, GDP or actual individual consumption, which has been converted to a common, technical currency, PPS) and a com-

mon price level using PPPs. Purchasing power parities (PPP) scaled to the sum of expenditures of the EU Member States expressed in euro. This means that the PPP of one particular country indicates how many units of national currency one would need in that country in order to maintain the purchasing power of one euro in the EU. This conversion results in a set of data that is comparable across countries and expresses the relative volume underlying each country's expenditure. If the real expenditure on, for instance, GDP is divided by the number of inhabitants in each country, the resulting real expenditure per inhabitant can be used as an indicator of the relative standard of living of the inhabitants of each country.

Thanks to the GINI index, we recorded the different income distribution in post-communist EU countries. The Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus, a Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. In general, the following formula is used to calculate the GINI index:

$$GINI\ index = \frac{A}{(A + B)} \quad (1)$$

where:

- A = is the area above the Lorenz Curve,
- B = is the area below the Lorenz Curve.

Nominal labour productivity per person employed expresses labour productivity per person employed and hour worked (EU = 100). Labour productivity per person employed and hour worked) GDP per person employed is intended to give an overall impression of the productivity of national economies expressed in relation to the European Union average Please note that “persons employed” does not distinguish between full-time and part-time employment. Labour productivity per hour worked is calculated as real output per unit of labour input (measured by the total number of hours worked). Measuring labour productivity per hour worked provides a better picture of productivity developments in the economy than labour productivity per person employed, as it eliminates differences in the full-time/part-time composition of the workforce across countries and years.

The most important source of data and materials for our research was the Eurostat database. In this online and freely accessible database, we monitored the set of information from National accounts and Products Datasets. The completion and verification of these primary data from Eurostat were based on databases of international organi-

zations, i.e. OECD and World Bank (especially in the area of the GINI index, nominal labour productivity per person employed and aggregate GDP).

Evaluating and interpreting the results of the analysis, we focused on determining, identifying and comparing the limit values of individual countries. It is the threshold (max and min) values that are the focus of our interest. They capture the initial situation in the year of accession of post-communist countries to the EU and compare it with the final level in 2019. Thanks to this, we can model the initial economic and economic situation to the EU and compare the resulting values of the monitored variables in 2019. The result of this procedure will be the opportunity to identify the diverse expansion of post-communist countries, their uneven economic progress and the growth of initial differences.

Results and discussion

Almost two decades have passed since the first countries of the former socialist bloc joined the EU.

On the one hand, all post-communist countries in the EU have improved economically, but on the other, this improvement is not proportionate and certainly is not even at all. Since the accession, a situation has developed in which some countries (Poland, the Czech Republic, Romania) are progressing economically faster (increasing GDP) and others are lagging significantly behind. The GDP of these “lagging” countries is gradually growing every year, although the growth is only slow and gradual. This results in a situation where imaginary economic scissors are opening more and more. Therefore, since 2004, post-communist countries have benefited from their membership to varying degrees, which creates room for widening economic disparities between their national economies.

A similar development, when the disparities between the economies of individual post-communist EU countries are deepening, can be illustrated by several more examples. The widening economic scissors and the increase in disparities can be traced, for example, to the development of annual net earnings, real GDP per capita, purchasing power parities or real expenditure per capita in PPS.

In the case of annual net earnings (a single person without children earning 50% of the average earning), the initial difference between the absolute maximum value (Slovenia €4271.2) and the absolute minimum value (Latvia €1211.6) was €3059.6 in 2004. By 2019, this difference between the highest (Estonia €7937.7) and lowest value (Bulgaria €3015.1) had increased to €4922.6. Since the accession of post-communist countries to the EU after 2019, the inequality of their absolute limit values in net annual income has increased by another €1862.9.

We reach a similar conclusion when monitoring the absolute limit values of GDP per capita. When the post-communist countries joined the EU, the difference between the maximum (Slovenia) and the minimum (Poland) was €8730. In the following years, the inequality between the highest and lowest GDP per capita increased

and in the year after, the difference was €13,860 (the highest in Slovenia and the lowest in Bulgaria).

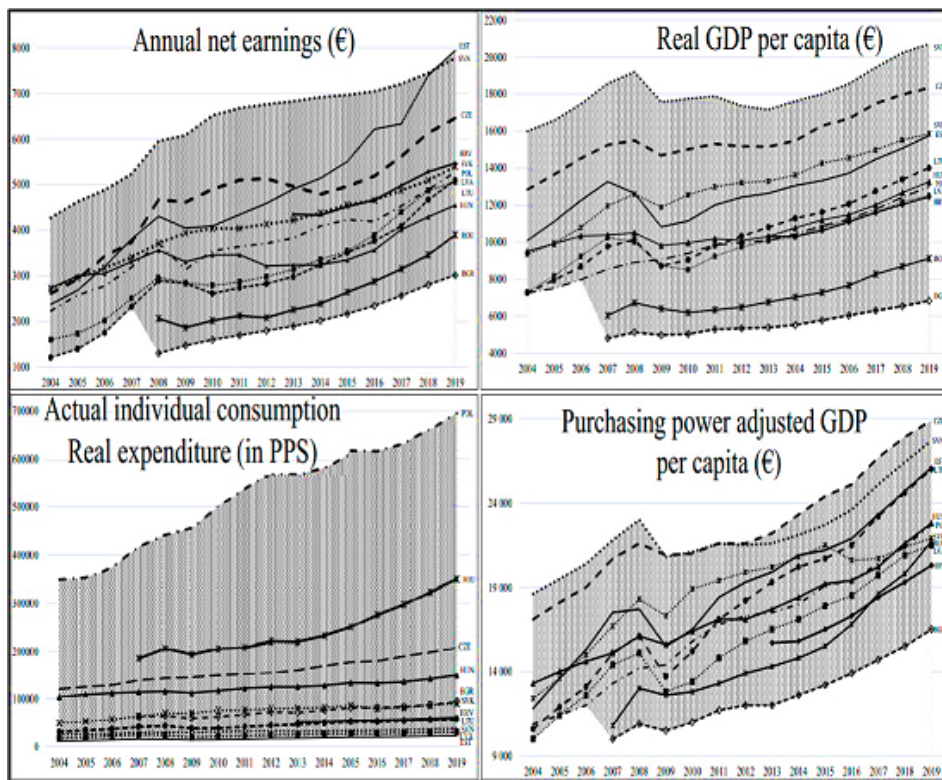


Chart 1. Economic indicators in post-communist EU countries, 2004–2019

Source: own processing based on Eurostat (2020) and World Bank data (2020).

During the first year of the post-communist countries’ membership of the EU, the difference between their maximum (Poland) and minimum (Estonia) individual consumption (expressed in real expenditure in PPS) was €335,787. In 2004, the difference between the absolute maximum and minimum level of individual consumption expressed as real expenditure in PPS was more than €337,000. By 2019, this difference between the absolute values of the post-communist countries in the EU had doubled, representing a difference of €691,909.

The lowest level of purchasing power expressed as GDP per capita (PPS) in the first year of EU membership was reported by Latvia (2004) and Bulgaria (2007). The initial difference in the level of purchasing power expressed as GDP per capita (PPS) in 2004 was €8600. When comparing the absolute maximum (Czech Republic) and minimum (Estonia) value of purchasing power in 2019, we recorded an increase to €12,400. When comparing the values from the border years of purchasing power expressed as GDP per capita, the difference increased by almost half.

Using these examples, we want to demonstrate our claim that all EU countries have improved economically since the accession of the post-communist countries, but this improvement is not uniform. In addition, countries have emerged that have developed more rapidly economically since their accession and others in which progress has not been so significant. This opens the scissors of inequality on the economic level. It also applies to the post-communist countries in the EU, where we are seeing blocs of countries benefiting more from their EU membership and countries that are lagging. Although lagging countries have also improved since joining, we certainly could not call them premiums in this regard, and therefore the economic disparities between the post-communist economies are widening.

In addition, we can identify areas in which individual post-communist EU countries have experienced stagnation or decline since their accession. One such example is the GINI index. The GINI index expresses the degree to which the distribution of income among individuals or households in an economy deviates from a perfectly even distribution. A GINI index with a value of 0 thus represents perfect equality, while 100 represents perfect inequality.

The lower the values of the GINI index, the greater the equality of income distribution, and as the index increases, so does the inequality in income distribution. The initial values of the GINI index of post-communist countries upon accession to the EU were different. Among the post-communist countries from the great enlargement of the EU in 2004, the GINI index was between 37.9 (Poland) and 24.8 (Slovakia). Only slightly higher values of the GINI index upon accession to the EU were reported by Romania (38.3); the other acceding countries from 2007 and 2013 declared a GINI index at 35.3 (Bulgaria) and 30.9 (Croatia).

Comparing and analysing the annual height of the GINI index of post-communist countries since EU accession brings us three basic findings. First, it should be mentioned that the absolute inequality in the values of the GINI index is gradually increasing. In the long-term time horizon of 2004–2019, we record an increase in the initial disparity between the absolute limit values from 13.8 to 18.0. This leads us to the further finding that, for the post-communist countries in the EU, there are some that have improved income distribution and reduced income inequality. These countries include the Czech Republic, Slovakia and Slovenia, which have achieved the best average income distribution rate of all post-communist countries during their 16 years of EU membership. In addition to these premium countries in reducing income inequality, other post-communist countries have shown an improvement in their GINI index since joining the EU, including Estonia, Hungary, Poland and Romania. Two post-communist EU countries show a very slight decline or rather stagnation of the GINI index. Latvia and Croatia have reduced their income disparities only minimally, and the positive change is no more than 1.7 points. The third finding is that there are post-communist countries in the EU whose GINI index has increased since their accession, and thus declare an increase in income inequality among their citizens. Income inequality has increased by 0.5 points in Lithuania since 2004 and by

5.5 points in Bulgaria. At the same time, the GINI index in Bulgaria has risen to 40.8, which is clearly the highest declared value of income inequality among all post-communist EU countries. The development of the GINI index in Bulgaria and Lithuania has had the opposite trend to all other post-communist countries, where it is continuously declining.

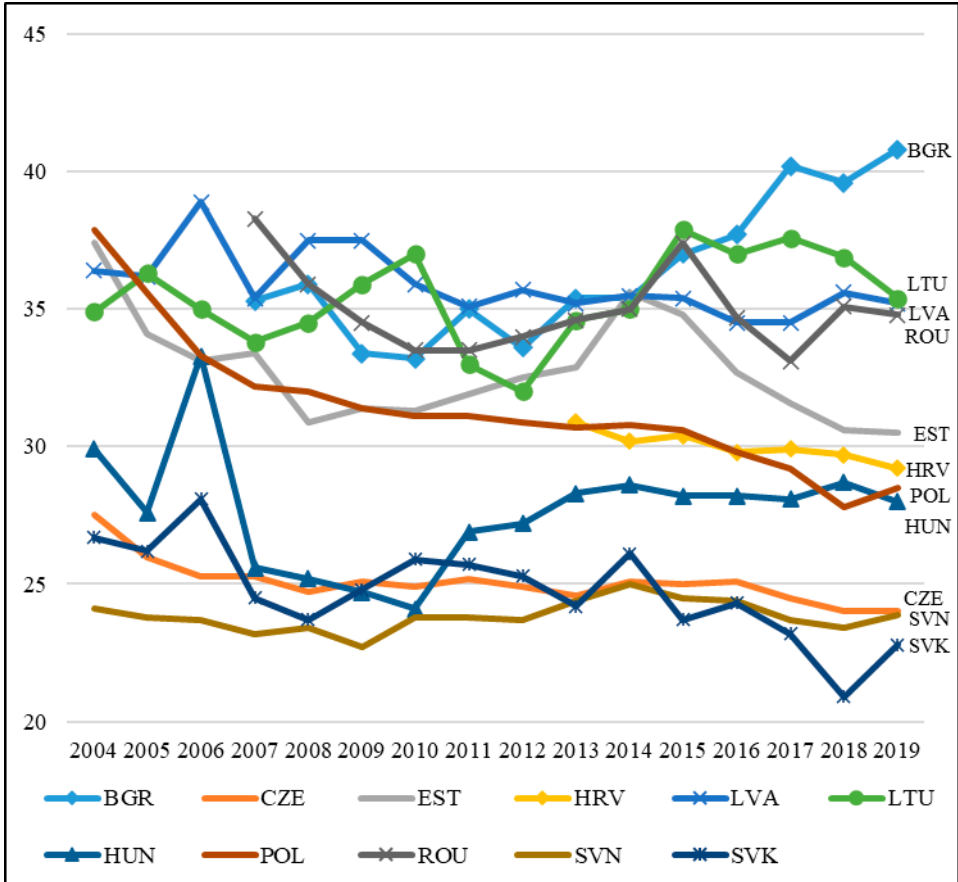


Chart 2. GINI Index in post-communist EU countries, 2004–2019
 Source: own processing based on Eurostat (2020).

One of the other indicators that broaden the view of the economies of post-communist countries since their accession to the EU is nominal labour productivity per person employed, expressed in labour productivity per person employed and hour worked.

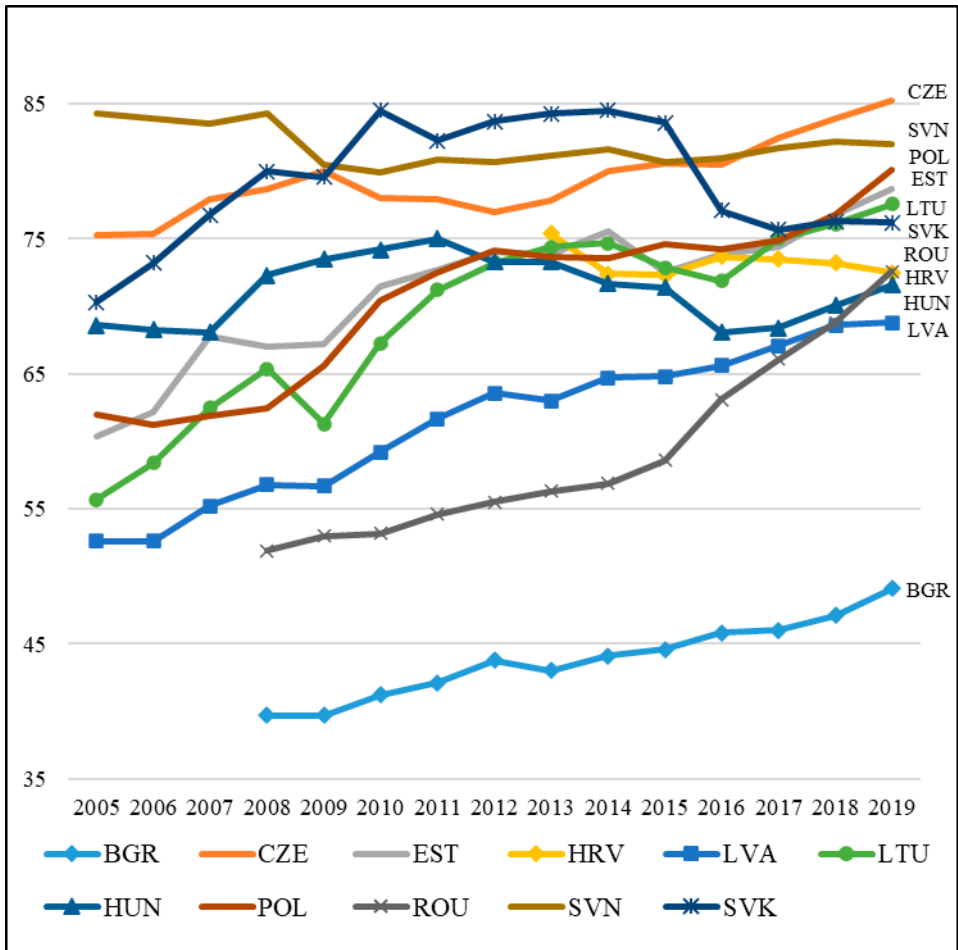


Chart 3. Nominal labour productivity per person employed (EU = 100)
 Source: own processing based on Eurostat (2020).

Most post-communist countries have gradually caught up with the average EU level of nominal labour productivity per person employed since joining the EU. During their membership in the EU, several countries (Romania, Lithuania) increased their nominal labour productivity per person employed by more than 20 points. Meanwhile, Estonia, Latvia and Poland increased their nominal labour productivity per person employed and approached the EU average by 18.3 – 16.2 points. We also recorded a less progressive increase in the Czech Republic (+10) and Bulgaria (+9.4). Slovakia and Hungary also show a minimum increase of 5.9 – 3 points and an approach to the EU average during their membership. Significantly, the value of nominal labour productivity per person employed in two post-communist countries decreased compared to the EU average, i.e. Croatia and Slovenia, where from 2005 to 2019, the value decreased compared to the EU average by –2.3 and –2.9 points, respectively. This creates a situation where the vast

majority increase nominal labour productivity per person employed and approaches the EU average at different speeds, but there are also two post-communist countries that have seen a decline compared to the EU average since joining the EU.

For this reason, it is necessary to look at economic development very sensitively and to understand the partial economic indicators of post-communist countries in the EU. It cannot be said unequivocally that the economic situation of all post-communist countries has improved since joining the EU because the economies of post-communist countries are also showing a deterioration in some economic indicators. In support of our claim, we have cited examples of the GINI index and Nominal labour productivity per person employed (EU = 100), which show that the initial values of several of the new Member States had deteriorated by 2019.

Conclusion

The article presented the development of the situation in the post-communist countries of the Eastern bloc after 2004. The economic development of individual countries was significantly influenced by several internal and external influences. In our paper, we compared countries in terms of several economic indicators and pointed out the different developments of economies of individual countries after accession to the EU. The reasons for the different developments lie in a number of factors that influence the actors of public policies in individual countries, as well as various economic measures. Several external factors also contribute to various developments, and it is also necessary to realize that the initial state of EU accession shows particular economic values, but it is also necessary to take into account the trend of these economic indicators before EU accession. The predispositions of the economy to grow, the orientation of the economy, the degree of its diversification, as well as various fiscal policies contribute to the different pace of selected economic indicators.

Several significant findings could be considered the added value of the article. These findings are based on the presentation of the results of the analysis of selected macroeconomic indicators. Individual macroeconomic indicators of the economic development of selected countries point to differentiation and, in several cases, show an increase in differences. All countries in our research sample grew in terms of GDP per capita. On the other hand, it should be noted that in this important macroeconomic indicator, countries have been successful. The current gap between the countries with the highest and lowest GDP per capita is higher than in 2004. The Baltic States, Romania and Poland show the most progressive GDP per capita growth compared to the EU average. The title of our article speaks of countries that are more progressively moving towards the European average in terms of economic indicators and, conversely, a group of countries that have even worsened their numbers in several indicators.

The main finding is that since the accession of the post-communist countries to the EU in 2004, their mutual differences have increased, and a more significant eco-

conomic disproportion is emerging. We can see the “leading” post-communist countries, which have very quickly established themselves in the common market and can use the economic benefits of the EU more effectively.

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Integracja krajów postkomunistycznych z UE – liderzy i przegrani?

Wskaźniki ekonomiczne nowych państw członkowskich UE, które przystąpiły do UE po 2004 roku, są generalnie pozytywne. W niniejszym artykule przeanalizowano i zinterpretowano wyniki rozwoju gospodarczego 11 nowych państw członkowskich z byłego bloku wschodniego. Zestaw poszczególnych wskaźników ekonomicznych daje stosunkowo realistyczny obraz różnic rozwojowych między poszczególnymi krajami postkomunistycznymi. W artykule wskazano na kilka czynników, które tworzą dwie zasadnicze grupy krajów różniące się pod względem kształtowania się wskaźników ekonomicznych: bardziej zaawansowana grupa krajów, które w większości wykazują postęp w procesie osiągnięcia średniej unijnej, oraz mniej zaawansowaną grupę, której tempo konwergencji jest znacznie wolniejsze.

Słowa kluczowe: gospodarka, rozwój, różnice, kraje postkomunistyczne, UE



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