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European Integration Processes in EECCA: Dependencies and Drivers

Shahin Vaqif Bayramov[1]
Mingachevir State University (MSU), Mingachevir, Azerbaijan

Kanan Dadashov
Moscow State Institute of International Relations, Moscow, Russia

Kamilla Dadashova
Moscow State Institute of International Relations, Moscow, Russia

Igor Egorov
Pskov State University, Pskov, Russia

Abstract: The study was conducted using comparative quantitative and qualitative analysis of World Bank and International Monetary Fund data for 1989-2020 and 2000-2020. Two-factor linear econometric models of economic growth in 11 countries of Central and Eastern Europe (depending on their exports and debt) were built on the basis of such analysis. The study also relied on data from the Pew Research Center's Spring 2019 Global Attitudes Survey regarding EU citizens' attitudes toward integration. The research findings were used to examine the causes and consequences of European integration for the countries of Central and Eastern Europe. Since 2004, when the first wave of EU enlargement took place, the combined weight of the economies of Central and Eastern Europe in relation to the EU has increased from 6.7% to 10.8% in 2020. On the other hand, none of the countries that have joined the EU have reached Europe-wide labor productivity. Assessment of the possible accession of other countries of the former eastern bloc revealed that Kazakhstan, where productivity in 2020 reached 58.4% of the average achieved in the EU, has the most enabling economic environment. In this context, Kazakhstan outperformed Bulgaria, where such a parameter amounted to 53.5%. During 1995-2000, the multiple of the ratio between the minimum and maximum levels of per capita GDP in the group of countries under study ranged from 6.3 to 7.7 times. Fifteen years after the first wave of accession to the EU, this figure has decreased to 2.5 times. Proposals to reduce regional economic inequality based on the econometric models have been developed.
Keywords: Eastern Europe, economic growth, export-led growth, foreign debt, neofunctionalism.

After the rapid collapse of the eastern bloc in 1989-1991, many Eastern European countries faced the choice of further growth. Most of these countries have embarked on the path of liberal transformation and transition to a market economy. In the west of the continent, the EU began to emerge in those years as a new geopolitical union under the 1992 Maastricht

[1] Corresponding Author: A Rector, Department of Economics, Mingachevir State University (MSU), Mingachevir, Azerbaijan. E-Mail: shahinvaqifb@gmx.com

Treaty, which entered into force on November 1, 1993, on the basis of the pre-existing European Economic Community, which focused on regional European integration.

During the EU's largest enlargement in 2004, 10 new member states joined the EU, including eight post-Communist countries from Central and Eastern Europe. In 2007 this group was joined by Bulgaria and Romania (Habes et al., 2021). Backed by European integration and (potential) EU membership, the economic transition that the countries of Central Eastern and Southeastern Europe (CESEE) were to undergo stimulated an unheard-of social, political, and economic restructuring and convergence in the region. After an initial economic shock, marked in part by a deep recession, major price increases, and unemployment, countries' domestic strengths came to the fore as state-owned enterprises were privatized and reforms were implemented. That way, capital and foreign investment contributed to increased productivity and competitiveness, which in turn improved economic growth. As a result, up until the onset of the global financial crisis, CESEE economies demonstrated strong growth and economic development (Nowotny, 2019).

Thirty years later, 11 countries joined the EU and achieved certain parameters of economic growth. Today, however, these countries face many problems of a socio-economic and demographic nature. Despite European integration, the differences in economic development and per capita GNP in these countries, although reduced, are still significant. For countries such as Bulgaria and Romania, EU integration has yet to solve many of their social and economic problems. Despite their improved per capita GNP, the Baltic states faced serious demographic problems due to migration to developed EU economies. Yet, Estonia, the Czech Republic, and Slovenia, on the contrary, received important economic advantages from integration and came closer to the EU average in terms of per capita GDP.

The eastern enlargement of the EU was accompanied not only by the emergence of many economically backward regions but also by an increased number of countries with complex internal contrasts. Quite interestingly, the transregional differences observed among the 'old' EU members are primarily due to several large parts with different histories of economic development (West and East Germany in particular), different specializations (e.g., Northern, Central, and Southern Italy), sometimes complicated by ethnic heterogeneity and other contexts.

Traditionally, the EU has been presented as an example of sustainable development in the international system of relations. However, due to systemic changes in the global environment and the crises of European integration, its role in the world is becoming increasingly controversial (Barbé & Morillas, 2019).

Therefore, it is important to study the main causes and assess the consequences of the European integration of Eastern European countries in the context of their development over the past 20-30 years. Based on the previously unresolved issues attributed to the causes and consequences of European integration, the study intended to discover the dependencies and drivers of European integration in the countries of Central and Eastern Europe.

Literature Review

The Theory of European integration

Functionalism attempts to explain why collective action in specific, functionally related areas of collaboration is a more appealing option compared to the government's unilateral actions. For example, participatory practices pertaining to problem-solving, backed up by the necessary technological expertise, seem to be a realistic option for governing humanity. Nationalism and international anarchy are seen as sources of fragmentation of the world into

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competing regional groups, preventing the creation of a 'working peaceful system' through the promotion of societal well-being (Chryssochoou, 2009).

Intergovernmentalism, neofunctionalism and postfunctionalism make up the main strands of theories explaining the development of European integration, rather than decision-making and policymaking in the EU. The key debate in regional integration theory has been between scenarios of intergovernmental and neofunctionalist integration theory. Intergovernmentalism assumes that national governments are key players in regional integration. Governments use regional integration to maximize their national security and economic interests in the context of regional interdependence. The integration results from intergovernmental negotiations and reflects regional preferences and balances of power. Governments delegate authority to regional organizations to enforce the outcomes of their negotiations but retain control over regional organizations and the integration process. In contrast, neofunctionalism argues that governments can control integration. Transnational corporations and stakeholders, as well as supranational actors, are empowered by the integration process and shape it in their own interests. Furthermore, the integration creates many side effects and path dependencies that take integration beyond the intergovernmental deal. More recently, postfunctionalism has enriched and challenged the theoretical debate on regional integration. Unlike neofunctionalism, postfunctionalism provides for the opposite mechanism of integration. As regional integration progresses and undermines national sovereignty and community, it creates economic and cultural losers who are mobilized by integration skeptics. Large-scale politicization based on identity and populism holds back regional integration and can even lead to disintegration (Schimmelfennig, 2018).

Neofunctionalism refers to regional integration and explains how economic interdependence between countries interplays with the ability to resolve disputes and develop international legal standards and how supranational economic rules can replace national rules. As a theoretical ideology, neofunctionalism has been temporarily discredited by the fact that the European Community has not fulfilled its basic obligations under the Treaty of Rome to remove trade barriers, enhance the economic prosperity of its member states, and provide them with a clear vision of their global role. By the early 1980s, intergovernmentalism had become the dominant European ideology, eliminating the national veto, a symbol of national identity and power, was inevitable (Achmad et al., 2022). The national veto was seen as a remnant of neofunctionalism and evidence of national governments refusing to confront domestic rent-seekers, who speculate on the Treaty of Rome, benefit from government assistance programs, and public contracts, and sit comfortably protected by national rules designed to prevent foreign competition (Vaduva, 2016).

The theory of liberal intergovernmentalism retains an important role as the basic theory of integration. This theory has the unique ability to provide reliable micro-foundations for EU decision-making and offers a richer set of innovative opportunities for prospective expansion. Compared with postfunctionalism and historical institutionalism, liberal intergovernmentalism theory creates more consistently satisfactory empirical accounts of recent EU policymaking, especially with regard to the outcomes that ultimately matter most, more specifically those concerning substantive policy. It remains a reliable guide for prescriptive assessment, for example, regarding the issue of democratic legitimacy (Moravcsik, 2018).

Implications of the Integration of New Members into the EU

In the early years of European integration, identity politics played a secondary role in an isolated, elite-driven, and non-politicized integration process. Decades later, however, things changed dramatically. European integration has entered the realm of mainstream politics. Amid recent crises and the Brexit referendum, the development of people's identity as pro-European

or exclusively national might potentially determine the speed and focus of European integration (Kuhn, 2019).

The crises that struck the EU in the 2010s (migration, Brexit, and others) underscored the continuing importance of the integration theory, albeit beyond the classical debate. Postfunctionalism, in particular, has shown how European integration and its problems stand on shifting political divides. Yet, postfunctionalists' claims that such changes would create a deterrent dissensus in the EU are inconsistent with the intensification of European integration since the signing of the Maastricht Treaty (Hodson & Puetter, 2019).

Regional economic divergence has become a threat to economic development, social cohesion, and political stability in Europe. Markets and policies that are supposed to spread prosperity and opportunities for improvements in the standard of living are no longer effective enough (Iammarino et al., 2019).

Considering the net benefits of deep economic integration in terms of higher per capita GDP and labor productivity in the case of Europe, the link between the two should be recognized. The revealed strong evidence of positive net benefits of EU membership, despite considerable heterogeneity among countries, is a major takeaway (Hooghe & Marks, 2019). More specifically, the 1973s, the 1980s, 1995, and 2004 enlargements contributed to per capita GDP and productivity improvements that came with EU membership in Ireland, the United Kingdom, Portugal, Spain, Austria, Estonia, Hungary, Latvia, Slovenia, and Lithuania. The effects tend to be smaller, though still mostly positive, for Finland, Sweden, Poland, the Czech Republic, and Slovakia. Furthermore, only one country (Greece) had lower per capita GDP and labor productivity after EU accession than expected (Campos et al., 2019).

Economic integration can generate both positive externalities that support European integration and negative externalities that threaten EU cohesion. The structure of the international system creates compelling reasons for the EU to stick together to strengthen its strategic autonomy and influence. It also creates expectations and questions as to why one should struggle to maintain harmony in the absence of an external threat. The social environment can lead to a convergence of interests and identities between states and other agents, simultaneously strengthening the perceptions of mistrust, rivalry, and hostility (Maher, 2021).

The Main Hypothesis

The combination of domestic transformation strategies and EU accession policies has led to two different growth patterns on Europe's eastern periphery: dependent, export-led, in the countries of the Visegrad Group; and dependent, based on debt, in the Baltic States. Analysis of the pre- and post-crisis pathways of these two growth patterns suggested that because the market economies of Eastern and Central Europe were largely shaped by EU integration, they ended up being more compatible with deeper integration than the economies of Southern Europe (Bohle, 2017).

European integration is usually perceived as a triple modernization: economic, institutional, and cultural. This implies that the new member states of the European community are largely passive consumers of this cultural environment and must transform themselves in order to fit into the European context. However, the fact that the integrated countries and societies are proactive actors who also interpret cultural influences within their own local cultural arrangements and symbolic systems is often overlooked (Konieczna-Sałamatin & Sawicka, 2021).

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Materials and Methods

This study relies on a comparison of World Bank data from 1990 to 2020 for 11 Eastern European countries. Foreign debt and investment statistics from the International Monetary Fund were used as well. In order to study the influence of the major drivers of economic growth, a correlation and regression analysis were made. Bohle's (2017) methodology of in-depth integration was used to build the model. This methodology stipulates that the countries of Central and Eastern Europe chose an export-led model of economic growth, while the Baltic states used a debt-based model. This study attempts to examine the mutual influence of these two factors on the economic growth in all 11 countries of Central and Eastern Europe, as well as the Baltic states. Per capita GDP (current USD) was used as a resulting evaluation criterion for economic growth. Its major drivers include exports of goods and services in 2020 (% of GDP) and general government gross debt in 2020 (% of GDP).

Research Design

The study will be conducted in the context of 11 Eastern European countries that have joined the EU over the past 30 years: Bulgaria (BGR), Hungary (HUN), Latvia (LVA), Lithuania (LTU), Poland (POL), Romania (ROU), Slovakia (SVK), Slovenia (SVN), Croatia (HRV), Czech Republic (CZE), Estonia (EST). Furthermore, the comparison relied on selected economic parameters of Kazakhstan and the Central Asian countries (per capita GDP, current USD). The study encompassed economic and demographic data for 2000-2020. The research findings were processed in Microsoft Excel. Regression and econometric models were made in Gretl. Linear two-factor regression was used.

Sample Study

Understanding the causes and consequences of the European integration of the countries of Central and Eastern Europe requires first looking at the data of a special-purpose survey. After studying them, it was important to consider the structural changes that were observed in the process of the accession of the countries of Central and Eastern Europe to the EU. The specific weight was used for this purpose. The economic inequality was investigated using the coefficient of variation and assessment of the difference between the minimum and maximum values of economic parameters.

Intervention

The study relies on data from Pew Research Center's Spring 2019 Global Attitudes Survey. The survey results are based on telephone and face-to-face interviews led by Gallup and Abt Associates in the EU and other regions of the world. A probability sampling of households (Random Digit Dial - RDD) with a landline (35% of the sample) stratified by region (NUTS2) and a probability sampling of cell phone users (65% of the sample) were used. Individuals in households with a landline were sampled with the Rizzo method. The interviews in the cell phone users sample were conducted with the person who answered the phone, if such person was 18 years of age or older. For both samples of landline and cell phone users, up to seven phone calls were made to complete the interview with the selected respondent. A multi-stage area probability design was also used. Electoral districts stratified by regions (NUTS2) and cities (DEGURBA) were the primary sampling units. 105 PSUs were selected. Individuals in the households were selected by simple random sampling, with household members aged 18 years and older. Up to three attempts were made to complete the interview with the selected

respondent. The number of respondents and sampling error for the EU member countries where the survey was conducted were as follows: Bulgaria (1,045 and 4.5%), Czech Republic (1,022 and 4.5%), France (1,027 and 4.1%), Germany (2,015 and 2.9%), Greece (1,040 and 4.4%), Hungary (1,030 and 4.4%), Italy (1,028 and 4,5%), Lithuania (1,026 and 4.3%), Netherlands (1,000 and 3.7%), Poland (1,030 and 4.4%), Slovakia (1,012 and 4.4%), Spain (1,069 and 4.1%), Sweden (1,016 and 3.9%), UK (1,031 and 4%). Weighting variables that were considered in the survey included gender, age, education, region, city, and the likelihood of respondent choice.

Research Limitations

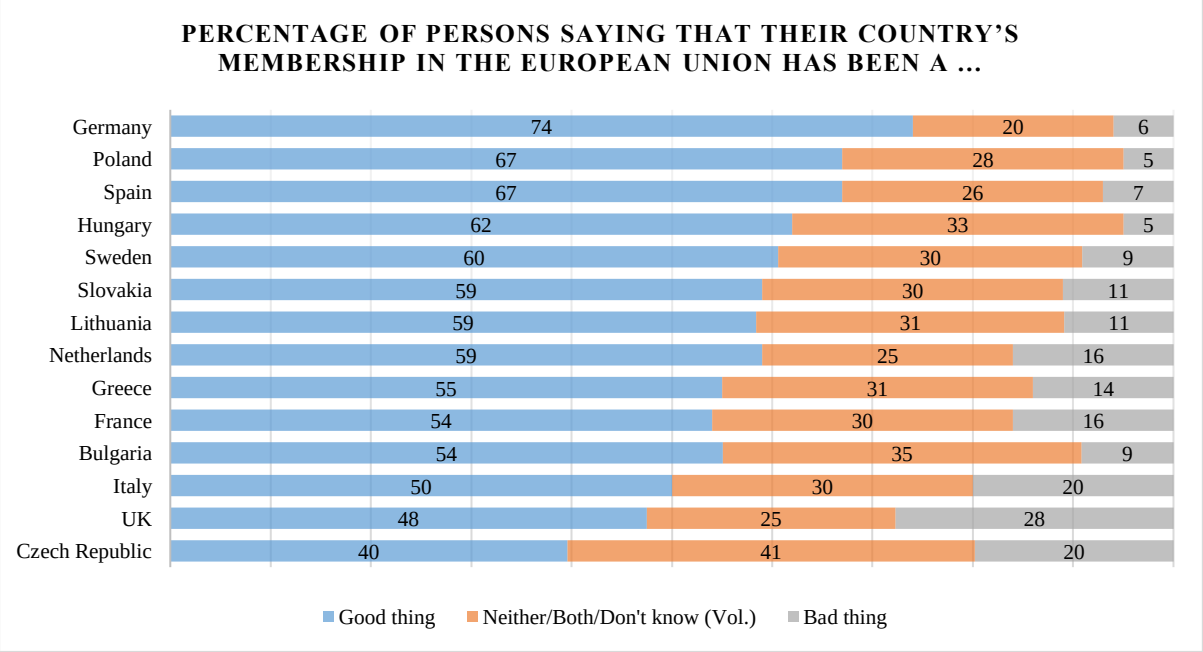
The empirical analysis was limited by the available coherent time series of data for 2000-2020 for all countries under study, without omissions of information, which was necessary for building econometric models. In some cases, the time period of 1989-2020 (demographics, investments and other parameters) and 1995-2020 (GDP, current USD; value-added and other parameters) were used for comparative analysis. Yet, due to the lack of complete data on per capita GDP (current USD) in the World Bank database for all of the countries studied, it was impossible to compare inequality and trends in this parameter in retrospect.

Results

European integration has not only had a significant internal political, economic and social impact on the development of the entire region, but it also had an external impact on other neighboring countries. Many countries of the former eastern bloc that did not join the EU during the first and second waves of accession (2004 and 2007) proclaimed a course towards European integration. In the EU itself, in recent years there have been both positive and critical opinions about the integration's outcomes.

Figure 1

Most Believe EU Membership Has Generally Benefited Their Country (Percentage of Persons Saying That Their Country's Membership in the European Union Has Been a...)



Note. Own development based on Wike et al. (2019, p.57)

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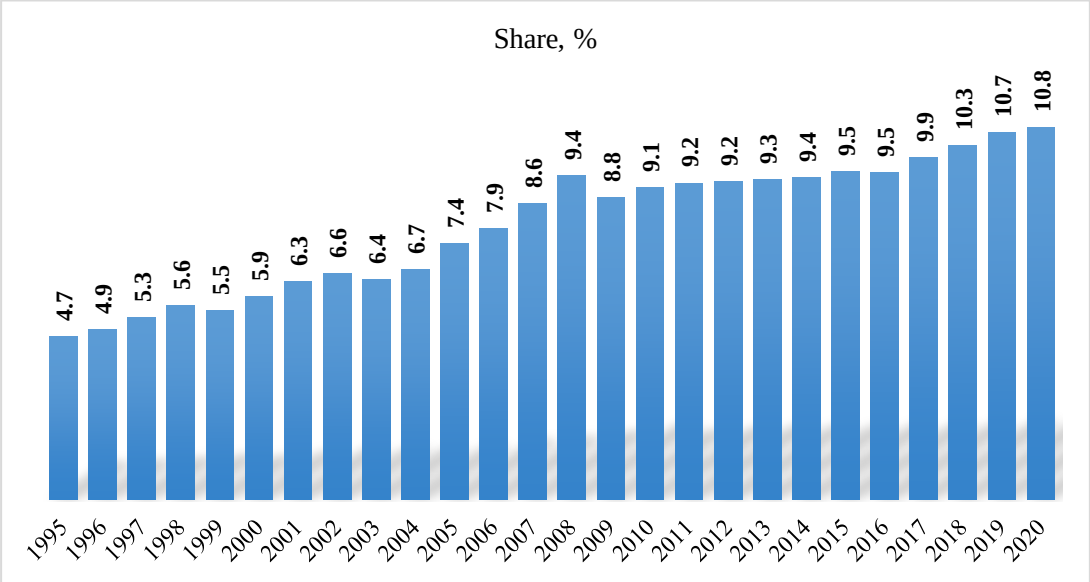
Many decades after the events that played a major role in the development of the European integration project, discussions about its future arise. A majority of respondents in the 14 European Union member states surveyed by the Pew Research Center believe that joining the EU was the best thing for their country. Yet, almost three-quarters of the respondents in Germany hold the same opinion. About half or more of the respondents in all countries except for the Czech Republic agree that EU membership has been a positive factor in their country's development. Overall, despite the respondents' positive reaction to their country's membership in the EU, significant groups in each country felt that European integration was 'neither good nor bad', or 'both good and bad', or gave no answer (Figure 1).

The only exception is the United Kingdom - a country embroiled in a difficult debate over the consequences of Brexit, where about 28% of respondents believe their country's membership in the EU was a bad decision, which is the highest indicator of negative attitudes on this issue among all the countries covered by this survey. Yet, the strong support for European integration in most Central and Eastern European countries is largely due to the purely economic benefits that the population of these countries has received. Since 2004, when the first wave of EU enlargement took place, the aggregate weight of Central and Eastern European economies' GDP (expressed in current USD) in relation to the EU has increased from 6.7% to 10.8% in 2020 (Figure 2).

Figure 2

The Share of GDP (Current USD) of 11 Economies of Central and Eastern Europe in Relation to the EU Economy before and after Accession (%)



Note. Own development based on data from the World Bank (2022).

Essentially, this explains the main reason for European integration. On their own, these countries could not solve their own socio-economic problems, which arose after the collapse of the socialist system. Of particular interest is a comparative study of the structural changes in the weight of the economies of Central and Eastern Europe before and after accession. This is one of the parameters which may be used to judge the effects of the European integration of Eastern Europe.

Before its accession to the EU, the weight of Bulgaria's economy in the group of 11 countries of Central and Eastern Europe had a downward trend. Whereas in 1995 the Bulgaria's share in the total structure of GDP (current USD) of all economies of Central and Eastern Europe was 4.8%, by 2000 it had fallen to 3.1% and in 2005 - to 3.4%. In 2007, Bulgaria, along

with Romania, joined the EU. In 2010, the figure for Bulgaria rose to 3.8%, in 2015 - to 3.9%, and in 2020 it reached 4.2% (Table 1).

Table 1

Share of Each of the 11 Economies of Central and Eastern Europe in Terms of GDP (Current USD), Overall within the Group (%)

	1995	2000	2005	2010	2015	2020
Bulgaria	4.8	3.1	3.4	3.8	3.9	4.2
Croatia	5.8	5.1	5.2	4.6	3.9	3.5
Czech Republic	15.3	14.4	15.5	15.9	14.5	14.8
Estonia	1.1	1.3	1.6	1.5	1.8	1.9
Hungary	11.8	11.0	12.8	10.0	9.7	9.4
Latvia	1.5	1.9	1.9	1.8	2.1	2.0
Lithuania	2.0	2.7	2.9	2.8	3.2	3.4
Poland	36.2	40.2	34.5	36.4	37.0	36.1
Romania	9.5	8.7	11.1	12.6	13.7	15.0
Slovak Republic	6.6	6.8	7.1	6.9	6.9	6.4
Slovenia	5.4	4.7	4.1	3.7	3.3	3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note. Own development based on data from the World Bank (2022).

However, the most significant changes took place in Romania. In 2000, the share of the Romanian economy in the total GDP (current USD) of all Central and Eastern European countries amounted only to 8.7%. In 2010, it rose to 12.6%, and in 2020 to 15%. In other cases, a decrease in the country's weight in the entire group's GDP (current USD) was observed. This applies to Croatia, Hungary, Slovenia, and the Czech Republic. Almost no significant changes were observed over time in the share of Poland, Latvia, Slovakia, and Lithuania in the structure of GDP (current USD). The decreasing role of industry in adding value to the economies of Central and Eastern Europe makes up another apparent trend. This can be seen in Table 2, which shows the value added by industry (including construction).

Table 2

Industry (Including Construction), Value Added (% of GDP)

	1995	2000	2005	2010	2015	2020
Bulgaria	17.9	22.7	24.2	23.8	24.0	21.9
Croatia	26.3	24.1	23.8	21.4	20.6	21.2
Czech Republic	35.4	33.5	33.6	33.2	33.8	30.8
Estonia	27.4	24.9	26.3	24.4	23.9	22.7
Hungary	25.8	27.0	27.2	25.2	26.4	24.5
Latvia	26.8	23.6	20.2	20.4	19.1	19.5
Lithuania	28.2	26.3	29.6	26.2	26.7	25.0
Poland	33.5	28.8	28.6	28.9	30.1	27.7
Romania	36.4	30.3	32.3	38.0	30.1	26.4
Slovak Republic	27.7	29.4	31.9	30.6	30.6	27.4
Slovenia	29.6	30.5	29.8	26.5	28.0	29.4
European Union	26.8	25.4	24.2	22.9	22.8	22.5
Central Europe and the Baltics	31.1	28.9	29.3	29.5	29.2	26.9
Europe & Central Asia	27.1	25.4	24.4	23.6	23.2	22.9
Kazakhstan	30.0	37.8	37.6	40.6	30.9	33.1
Kyrgyz Republic	18.1	29.2	20.0	26.3	25.1	29.5
Uzbekistan	24.1	20.2	26.0	21.2	22.5	31.6

Note. Own development based on data from the World Bank (2022).

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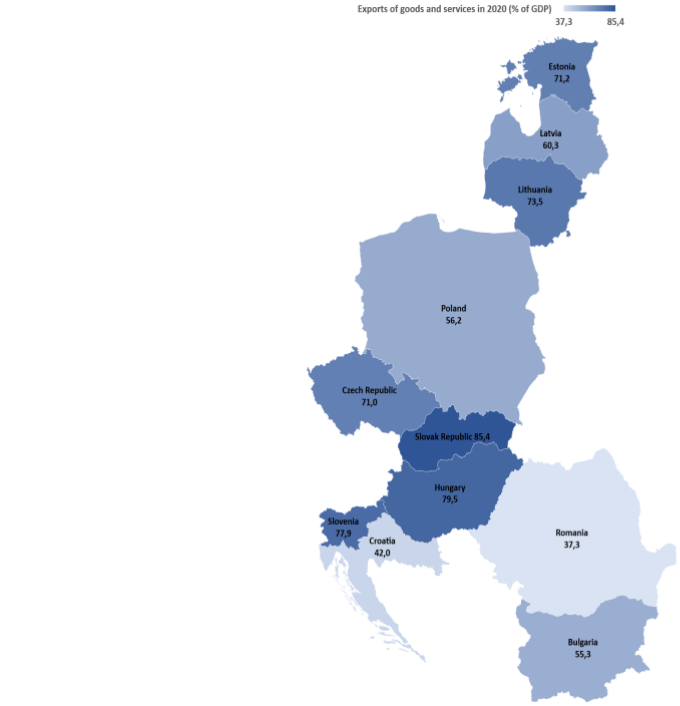
On the other hand, none of the countries that have joined the EU have reached Europe-wide labor productivity. In 2020, only 3 countries were closest to the EU's labor productivity: Slovenia (85.5% of the EU average), the Czech Republic (84.3% of the EU average), and Lithuania (82.3% of the EU average). In the other countries, the figure ranged from 53.2% in Bulgaria to 76.4% in Estonia (Table 3).

Table 3
Ratio of GDP per Person Employed (Constant 2017 PPP USD), %

	1995	2000	2005	2010	2015	2020
Bulgaria	38.2	35.8	43.6	48.6	50.5	53.5
Croatia	51.1	63.1	74.1	69.1	70.1	72.1
Czech Republic	63.4	66.0	74.3	79.9	80.3	84.3
Estonia	36.3	51.1	64.9	67.4	67.5	76.4
Hungary	61.1	61.0	70.8	71.3	67.1	71.7
Latvia	33.4	39.7	52.6	57.6	61.6	68.2
Lithuania	35.6	41.4	55.9	66.7	71.2	82.3
Poland	42.9	51.4	57.3	62.7	66.8	75.5
Romania	33.1	30.0	45.3	52.3	59.1	70.1
Slovak Republic	44.2	48.8	55.2	66.2	68.3	70.5
Slovenia	65.8	70.6	74.5	78.3	80.7	85.5
European Union	100.0	100.0	100.0	100.0	100.0	100.0
Central Europe and the Baltics	44.2	47.6	57.8	63.2	66.3	73.6
Europe & Central Asia	73.0	74.0	77.1	78.8	79.8	82.5
Kazakhstan	25.5	27.8	39.1	45.7	52.3	58.4
Kyrgyz Republic	8.6	9.6	9.8	11.1	12.9	14.7
Uzbekistan	9.4	9.7	10.1	13.1	16.6	20.7

Note. Own development based on data from the World Bank (2022).

Figure 3
Exports of Goods and Services in 2020 (% of GDP) Central and Eastern European Countries



Note. Own development based on data from the World Bank (2022).

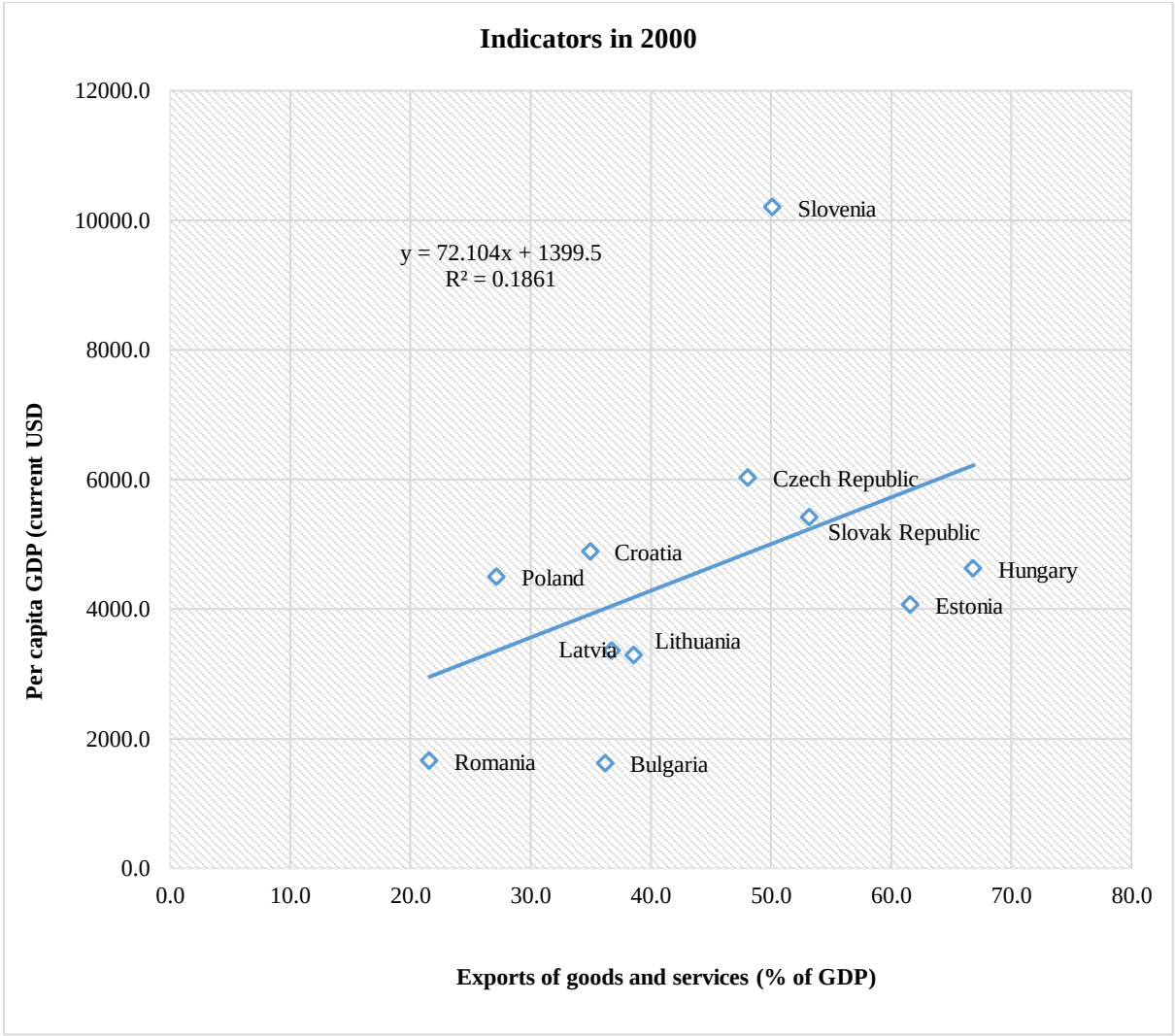
Assessment of the possible accession of other countries of the former eastern bloc revealed that Kazakhstan, where productivity in 2020 reached 58.4% of the average achieved in the EU, has the most enabling economic environment. In this context, Kazakhstan outperformed Bulgaria, where such a parameter amounted to 53.5%. Most countries, with the exception of Croatia and Romania, have an export-led economic growth pattern. As of 2020, the highest share of exports of goods and services (% of GDP) was observed in Slovakia, Hungary, Estonia, the Czech Republic, Slovenia, and Lithuania (Figure 3).

The share of exports of goods and services in Hungary and Lithuania has increased most dramatically. Poland and Slovakia. For example, in 1995 in Hungary, this parameter amounted to only 39.2%, in 2000, it was equal to 66.9%, and in 2020 it will reach 79.5% (Appendix A).

Based on the correlation, such dependence was less pronounced in 2000, as shown in Figure 4. The coefficient of determination R=0.1861, which can be interpreted as the 18.6% influence on the per capita GDP (current USD) of the exports of goods and services (% of GDP), while 81.4% fell on other factors. Similar calculations in 2020 show an increased influence of this factor up to R=0.4585 or 45.8% (Figure 5).

Figure 4

Dependence of per Capita GDP (Current USD) on Exports of Goods and Services (% of GDP) in 2000



Note. Own development based on data from the World Bank (2022).

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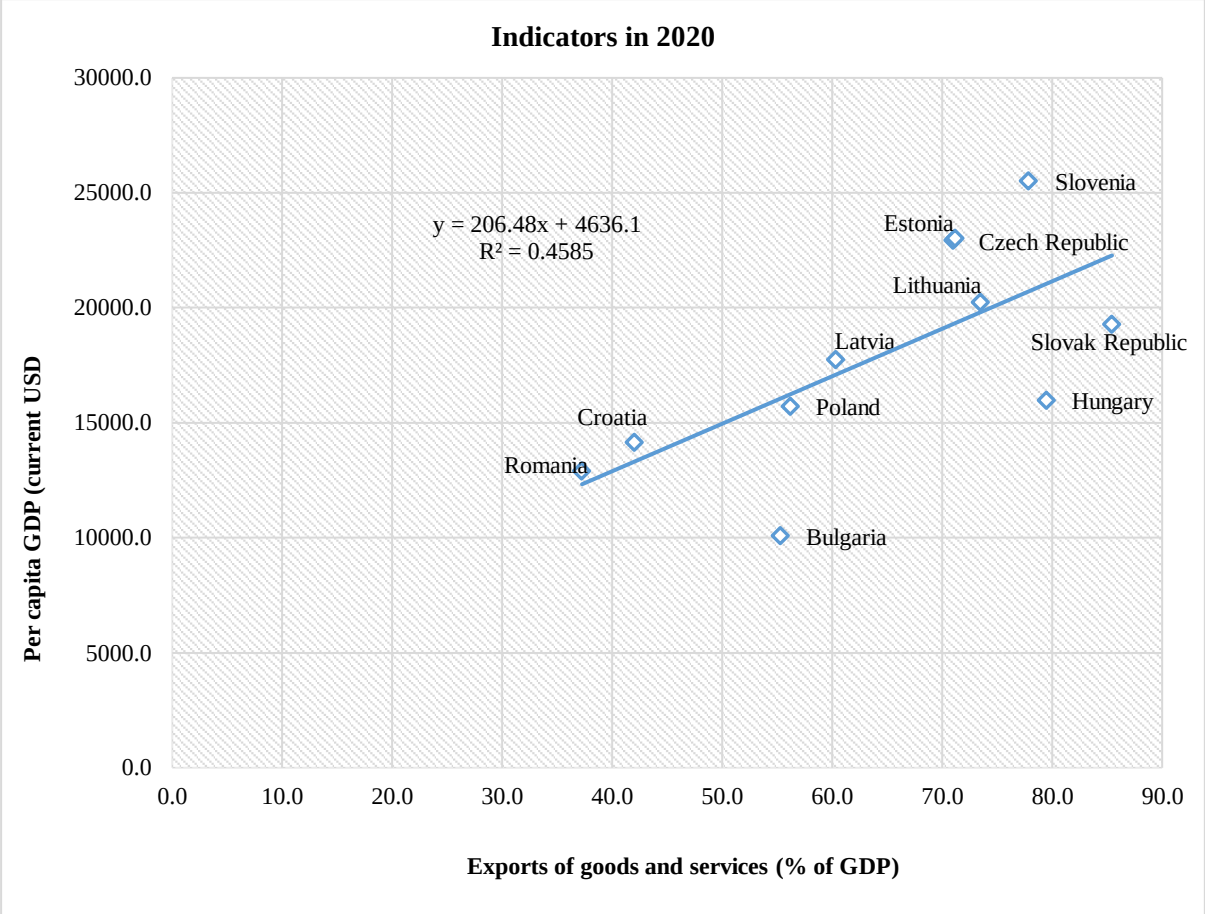
Figure 5

Dependence of per Capita GDP (Current USD) on Exports of Goods and Services (% of GDP) in 2000



Note. Own development based on data from the World Bank (2022).

Increased foreign debt is another consequence of European integration. This is the price that the countries of Central and Eastern Europe had to pay for bringing their economies in line with the EU's requirements and their market-driven modernization. Today, many countries in the region have relatively excessive foreign debt in relation to gross domestic product. This is especially true of Croatia, Hungary, and Slovenia. Poland, Romania and Slovakia have debts close to 50% or more of the gross domestic product. Estonia, Bulgaria, and the Czech Republic have the least debt (Figure 6). Yet, Croatia, Slovenia, and Hungary have debts of 80% or more of gross domestic product (Appendix B). Furthermore, excessive debt in Hungary, for example, is coupled with the country's export-led economic growth pattern.

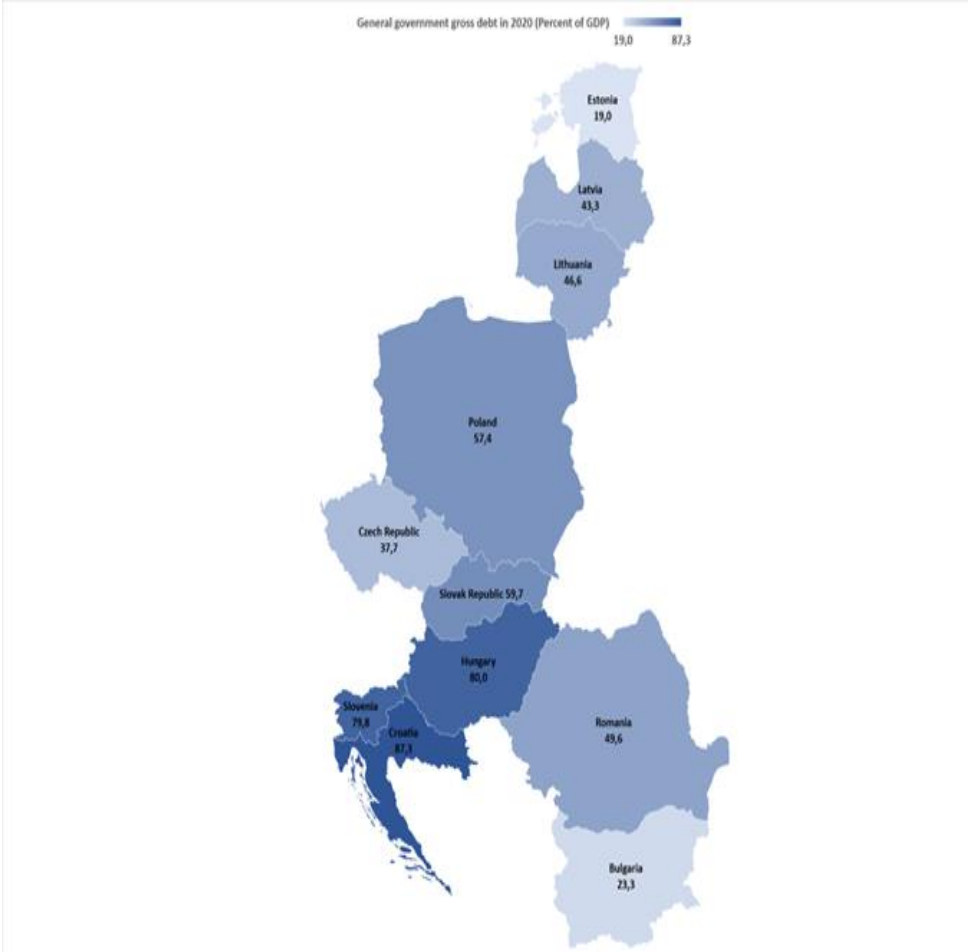
The excessive debt of many economies of Central and Eastern Europe is explained by their structural reforms and the need to maintain strong economic growth in the period before and after accession to the EU through investment and loans (Appendix C). Overall, this had a positive result. The average annual economic growth rate of per capita GDP (current USD) in the countries of Central and Eastern Europe from 1995 to 2020 exceeded the EU and OECD average (Appendix D). This has largely solved the problem of the lag in per capita GDP (current USD) in relation to the EU average (Appendix E).

For example, in 1995 only Slovenia had the highest per capita GDP (current USD) relative to the EU average (54.8%), while in the rest of Central and Eastern Europe and the Baltics it ranged from 8.3% in Romania to 33.1% in the Czech Republic. By 2020, this figure reached 74.7% in Slovenia, 67.4% in Estonia, 67.2% in the Czech Republic, 59.3% in Lithuania, 56.4% in Slovakia, 51.9% in Latvia, 46.8% in Hungary and 46% in Poland, as

compared to the average level in the EU. It remains lowest only in Bulgaria (29.5%) and Romania (37.8%). European integration also addressed the economic alignment of the regions. Before accession to the EU, a strong disparity in economic growth was observed among the 11 Central and Eastern European countries (Table 4).

Figure 6

General Government Gross Debt in 2020 (% of GDP) Central and Eastern European Countries



Note. Own development based on data from the International Monetary Fund (2022).

During 1995-2000, the multiple of the ratio between the minimum and maximum levels of per capita GDP in this group of countries ranged from 6.3 to 7.7 times. Fifteen years after the first wave of accession to the EU, this figure decreased to 2.5 times. The highest per capita GDP (current USD) is observed in Slovenia (USD 25,517.3) with the lowest per capita GDP observed in Bulgaria (USD 10,079.2). Existing disparities contribute to the growth of internal European migration (Appendix F). These factors also significantly affect the demographics of Central and Eastern Europe, which experienced depopulation over the past 30 years. In Latvia and Lithuania, for example, the population decreased by almost 23% between 1995 and 2020 (Appendix G). The difficult socio-economic factors of the transition period and the migration to the western regions of the EU after accession played a role here. Structural change also made its contribution here, when after joining the EU many manufacturers went bankrupt and people were forced to look for work in Germany, the United Kingdom and other industrialized regions. This fact should also be taken into account when choosing a strategy for European integration. Two-factor linear econometric models were developed relying on changes in per capita GDP (current USD) and the assessed impact of exports of goods and services in 2020 (% of GDP) and general government gross debt in 2020 (% of GDP) (Table 5).

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Table 4
Groupwise Analysis of GDP Changes among 11 Central and Eastern European Economies before and after Accession to the EU

Year	Minimum per capita GDP, USD	Maximum per capita GDP, USD	The difference between the minimum and maximum levels, USD	Ratio multiplicity	Coefficient of variation, %
1995	1,650.3	10,730.5	9,080.2	6.5	61.2
1996	1,470.1	10,815.1	9,345.0	7.4	62.1
1997	1,361.4	10,455.0	9,093.6	7.7	58.2
1998	1,820.4	11,175.8	9,355.4	6.1	55.5
1999	1,599.9	11,452.8	9,852.9	7.2	57.9
2000	1,621.2	10,201.3	8,580.1	6.3	52.0
2001	1,770.9	10,479.8	8,708.8	5.9	49.4
2002	2,093.0	11,777.2	9,684.2	5.6	48.5
2003	2,679.4	14,849.0	12,169.6	5.5	48.3
2004	3,389.7	17,233.1	13,843.4	5.1	46.0
2005	3,899.9	18,098.9	14,199.0	4.6	41.2
2006	4,523.1	19,673.0	15,149.9	4.3	38.1
2007	5,885.1	23,787.6	17,902.5	4.0	34.5
2008	7,265.7	27,483.3	20,217.6	3.8	33.0
2009	6,988.2	24,694.2	17,706.0	3.5	35.5
2010	6,853.0	23,509.5	16,656.5	3.4	34.6
2011	7,849.2	25,095.1	17,246.0	3.2	32.6
2012	7,432.5	22,643.1	15,210.6	3.0	30.8
2013	7,681.9	23,496.6	15,814.7	3.1	29.7
2014	7,901.8	24,214.9	16,313.1	3.1	29.4
2015	7,074.7	20,881.8	13,807.1	3.0	28.6
2016	7,569.5	21,663.6	14,094.2	2.9	28.4
2017	8,366.3	23,455.9	15,089.7	2.8	27.8
2018	9,446.7	26,104.1	16,657.4	2.8	27.5
2019	9,879.3	25,943.0	16,063.7	2.6	26.5
2020	10,079.2	25,517.3	15,438.1	2.5	26.5

Note. Own development based on data from the World Bank (2022).

A comparison of these models for different countries of Central and Eastern Europe suggested that the impact of export-led and debt-based models of economic growth differed significantly. This is evidenced by the aggregate R-squared indicator, which makes it possible to determine the degree of influence of these factors on the GDP change in percentage terms. For example, in Bulgaria 85.3% of the change in per capita GDP (current USD) between 2000 and 2020 can be explained by the impact of Exports of goods and services (% of GDP) and General government gross debt (% of GDP), while the other unknown factors amount to 14.7% with a certain probability. Poland had also relatively strong rate of 81.8%, with Slovakia and Lithuania having 81.2% and 80.8%, respectively. This dependence was least pronounced in Croatia (31.9%). Appendix H-S provides statistical evaluation of the adequacy of these econometric models. The practical implications of these models involve their use in short- and medium-term forecasting of macroeconomic models of economic growth to improve the economies' well-being and competitiveness.

Table 5
Models of Dependence of Economic Growth on the Export-led Economy and the Debt in Central and Eastern Europe

Country Name	Model	R-squared
Bulgaria	Per capita GDP (current USD) = 572.635+140.421·Exports of goods and services (% of GDP) − 59.0940·General government gross debt (% of GDP)	0.853588
Croatia	Per capita GDP (current USD) = 7,428.65−28.6328·exports of goods and services (% of GDP) + 101.325·general government gross debt (% of GDP)	0.318673
Czech Republic	Per capita GDP (current USD) = -8,344.46+334.358-Exports of goods and services (% of GDP) + 104.208-General government gross debt (% of GDP)	0.654887
Estonia	Per capita GDP (current USD) = -12,803.5+325.564-Exports of goods and services (% of GDP) + 648.740-General government gross debt (% of GDP)	0.576029
Hungary	Per capita GDP (current USD) = -8,233.10+136.189-Exports of goods and services (% of GDP) + 147.590-General government gross debt (% of GDP)	0.616228
Latvia	Per capita GDP (current USD) = -6,575.56+397.456-Exports of goods and services (% of GDP) - 47.6308-General government gross debt (% of GDP)	0.587658
Lithuania	Per capita GDP (current USD) = −11,202.3+399.653·Exports of goods and services (% of GDP) −42.7912·General government gross debt (% of GDP)	0.807666
Poland	Per capita GDP (current USD) = −9,120.34+282.872·Exports of goods and services (% of GDP) + 173.924·General government gross debt (% of GDP)	0.818068
Romania	Per capita GDP (current USD) = −4,510.71+514.878·Exports of goods and services (% of GDP) − 145.200·General government gross debt (% of GDP)	0.695190
Slovak Republic	Per capita GDP (current USD) = −6,561.60+315.684·Exports of goods and services (% of GDP) − 84.7750·General government gross debt (% of GDP)	0.811823
Slovenia	Per capita GDP (current USD) = −11,129.8+561.257·Exports of goods and services (% of GDP) − 121.244·General government gross debt (% of GDP)	0.678016

Note. Own development

Discussion

European integration has traditionally been one of the important areas of EU development, contributing to the emergence of prosperous, democratic and stable states on the eastern border. For the former eastern bloc countries, which gained EU membership in 2004-2007, this provided an opportunity for investment, economic modernization and financial support. In exchange for financial support, the new members undertook deep economic, political and institutional reforms to meet EU standards. Now, however, the growing unwillingness of members from Central and Eastern Europe to listen to the EU's demands

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threatens to deepen the rift between the western and eastern parts of this integration association, which will create problems for other countries that wish to join the union.

Cultural modernization on EU terms is no longer perceived in Poland as having no real alternatives. Contemporary Polish society no longer accepts the role of a passive absorber of cultural pressures exerted by the EU, though it still accepts and expects the top-down transfer of financial resources from the EU core members to the new members. This suggests that the trends that are often called 'anti-European' do not reject Europe as such. In this case, it is rather an opposition against the newcomer status in the cultural and axiological sense, and a claim to a proactive role in defining the axiological agenda of the EU (Ortega-Villaseñor, 2022). The Polish population generally accepts the country's peripheral status in an economic context and expects financial support from the EU core members. At the same time, in the cultural context, there are marginal but still apparent attitudes based on resistance to cultural pressure and a claim to play a proactive role in shaping the European axiological agenda. Recognizing the three dimensions of this overall process of European integration reveals the source of tensions, which is described as cross-European populist tendencies that call into question the very idea of European integration in EU member societies (Konieczna-Sałamatin & Sawicka, 2021).

Cultural diversity, pluralism and multiculturalism are characteristic of the European context. The European integration is a sophisticated process because it is not imposed or conditioned by the idea of a harmonized or a common culture that includes all Europeans. The specific nature and diversity are precisely the necessary means of intercultural dialogue between Europeans. Each European society must find its own integration solutions, depending on existing traditions and institutions (Brie et al., 2012).

Yet, it is important to recognize that the new stage of European integration in early 21st century revealed new challenges and problems in the EU. Cultural boundaries are essential to the divisions and clashes currently affecting European societies. The British vote for Brexit followed a campaign to expose cultural differences, especially with regard to Eastern Europeans. The economic policy toward Greece is based on the ideas of various economic and work ethics. Cultural differences are being emphasized, both in Northern and Southern Europe and in Western and Eastern Europe, as well as in terms of the borders between Europe and the Middle East and Africa, which have come to the fore through the refugee debate. Disagreement over how to understand Islam is central to the political debate. Discourses on terrorism and security also bring issues of cultural boundaries up to date. For some countries and societies, migrants are undesirable because they do not share the European culture or its national identity (Andrén, 2017).

Fifteen years after the accession of Central and Eastern Europe to the EU, there are growing doubts as to whether this apparent success is sustainable and can be replicated in other cases of European integration. This is because, first, there are signs of a backsliding on democracy and non-compliance with EU law on the distribution of asylum seekers in several new member states in Central and Eastern Europe, which raise concerns about their sustainable ability to follow further conditions of European integration after accession to the EU. Second, the slow progress and failures of European integration in the current group of Southeastern candidates raise questions about the very possibility of the EU being able to repeat its successful European integration policy in another group of candidate countries (Schimmelfennig & Sedelmeier, 2020).

The EU is becoming increasingly politicized not only below because of polarized debates, divided electorates, the decline of mainstream parties, and the rise of populist Euroscepticism but also bottom-up, as domestic policies permeate the positions of member state leaders on the Council. It also emerged exclusively top-down in an increasingly politicized pattern of interaction within and between EU actors. Such politicization involves struggles for power and influence that are both ideological and institutional in nature (Schmidt, 2019). A

European outreach strategy or bilateral partnerships seek to build a European identity. Furthermore, the bilateral partnerships' commitment to Eastern Europe is strategic. It is based on geographic and political considerations, common heritage, and similar economic needs (Braun, 2018).

The economic policies in Hungary and Poland, especially in recent years, suggest that, despite the restrictions imposed by the Single Market on domestic policymaking, priorities and growth options for specific sectors continue to be determined by national governments acting within their local, 'patriotic' political mandates. Under the influence of domestic economic interests, they are willing to violate obligations stipulated under EU laws and go against common European goals, which advocate open domestic markets and national economies where citizens and non-citizens are guaranteed equal treatment. Patriotic sentiments in Hungarian and Polish politics are explained by both exogenous and endogenous factors, such as failed expectations of rapid socio-economic convergence, leading to post-accession fatigue, and the effects of the global financial and economic crisis (Papp & Varju, 2019). National governments, which have adopted neofunctionalism as the only credible ideology of European integration, have become disillusioned with the progress of the European Community. Perhaps, neofunctionalism failed in the Doldrums era because of its own complexity and unfeasibility (Vaduva, 2016).

Conclusions

In the early 21st century, the integration of Central and Eastern Europe was seen as a strategic growth option for the EU, promoting the emergence of prosperous, democratic and stable states on the EU's eastern border. EU membership for these countries has provided opportunities for investment, economic modernization and financial support. In exchange for financial support, the new members undertook deep economic, political and institutional reforms to meet EU standards. Now, however, the growing unwillingness of members from Central and Eastern Europe to listen to the EU's demands threatens to deepen the rift between the western and eastern parts of this integration association, which will create problems for other countries that wish to join the union. The study was conducted using comparative quantitative and qualitative analysis of World Bank and International Monetary Fund data for 1989-2020 and 2000-2020. Two-factor linear econometric models of economic growth in 11 countries of Central and Eastern Europe (depending on their exports and debt) were built on the basis of such analysis.

The research findings were used to examine the causes and consequences of European integration for the countries of Central and Eastern Europe. Since 2004, when the first wave of EU enlargement took place, the combined weight of the economies of Central and Eastern Europe in relation to the EU has increased from 6.7% to 10.8% in 2020. On the other hand, none of the countries that have joined the EU have reached Europe-wide labor productivity. In 2020, only 3 countries were closest to the EU's labor productivity: Slovenia (85.5% of the EU average), the Czech Republic (84.3% of the EU average), and Lithuania (82.3% of the EU average). In the other countries the figure ranged from 53.2% in Bulgaria to 76.4% in Estonia. Assessment of the possible accession of other countries of the former eastern bloc revealed that Kazakhstan, where productivity in 2020 reached 58.4% of the average achieved in the EU, has the most enabling economic environment. In this context, Kazakhstan outperformed Bulgaria, where such a parameter amounted to 53.5%. During 1995-2000, the multiple of the ratio between the minimum and maximum levels of per capita GDP in the group of countries under study ranged from 6.3 to 7.7 times. Fifteen years after the first wave of accession to the EU, this figure decreased to 2.5 times. The paper proposed to reduce regional economic inequality based on the econometric models that have been developed. The practical implications of these

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models involve their use in short- and medium-term forecasting of macroeconomic models of economic growth to improve the economies' well-being and competitiveness.

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Notes on Contributors

Shahin Vaqif Bayramov has PhD degree. He is a rector in Mingachevir State University. His interests: History, Politics, International Relations, econometric models and economic growth.

Kanan Dadashov has Master degree. He is a Postgraduate student in Moscow State Institute of International Relations. His interests: History, Politics, International Relations, econometric models and economic growth.

Kamilla Dadashova has Master degree. She is a Postgraduate student in Moscow State Institute of International Relations. Her interests: History, Politics, International Relations, econometric models and economic growth.

Igor Egorov is a junior researcher in Research Laboratory Center for Integrated Research of Regional Security Problems, Pskov State University. His interests: History, Politics, International Relations, econometric models and economic growth.

ORCID

Shahin Vaqif Bayramov, https://orcid.org/0000-0002-1237-8540
Kanan Dadashov, https://orcid.org/0000-0002-9265-3054
Kamilla Dadashova, https://orcid.org/0000-0002-7142-5298
Igor Egorov, https://orcid.org/0000-0002-0400-9446

Appendix A

Exports of goods and services (% of GDP)

	Bulgaria	Croatia	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovak Republic	Slovenia	European Union	OECD members	World
1989	46.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	25.9	17.0	18.6
1990	33.1	n/a	32.9	n/a	n/a	n/a	n/a	n/a	16.7	23.8	n/a	25.5	17.6	18.9
1991	43.5	n/a	38.4	n/a	28.8	n/a	n/a	n/a	17.6	41.6	n/a	25.3	17.3	18.8
1992	47.1	n/a	39.9	n/a	27.6	n/a	n/a	n/a	27.8	63.2	n/a	25.0	17.3	19.9
1993	38.2	n/a	39.9	n/a	23.2	n/a	n/a	n/a	23.0	52.5	n/a	25.2	16.7	19.0
1994	45.0	n/a	37.1	n/a	25.4	n/a	n/a	n/a	24.9	55.3	n/a	26.6	17.4	19.5
1995	32.3	27.2	40.2	65.9	39.2	34.6	37.2	22.9	25.6	53.9	45.4	28.3	18.7	20.7
1996	48.5	30.2	38.1	61.3	41.9	40.4	42.0	22.1	26.5	49.3	46.1	28.6	19.2	21.2
1997	49.6	31.0	40.2	70.4	47.9	39.7	45.0	23.3	28.2	53.6	47.6	30.9	20.2	22.1
1998	41.9	29.1	42.1	73.6	52.9	39.2	39.1	25.9	23.0	45.5	47.5	31.5	20.3	21.9
1999	42.7	30.1	42.8	69.9	55.6	35.0	32.4	24.1	26.7	46.3	44.1	31.9	19.8	21.9
2000	36.2	35.0	48.1	61.6	66.9	36.8	38.6	27.2	21.6	53.2	50.1	35.7	20.9	23.6
2001	34.9	37.1	48.9	61.3	64.9	38.0	44.1	27.2	22.1	57.1	51.7	35.7	20.5	23.0
2002	33.6	35.9	45.0	58.0	58.1	36.5	47.4	28.7	24.0	57.0	52.3	35.1	20.4	23.2
2003	34.4	35.6	46.7	57.2	56.3	36.0	46.2	33.4	24.2	62.3	51.0	34.3	20.9	24.0
2004	41.0	36.6	57.1	61.1	59.6	38.9	48.8	34.2	25.7	69.0	55.1	36.0	22.4	25.9
2005	42.5	36.4	61.8	65.4	62.5	43.0	55.1	34.6	24.5	72.3	59.8	37.4	23.3	27.2
2006	47.0	37.6	64.9	63.3	73.8	39.7	57.0	37.8	24.8	81.2	64.9	39.6	24.9	28.9
2007	52.4	37.6	66.1	62.6	77.8	38.3	51.6	38.5	24.7	83.4	67.9	40.7	26.2	29.8
2008	52.5	36.1	63.0	66.4	79.2	39.3	57.6	37.8	26.2	80.1	66.3	41.1	27.4	31.0
2009	42.2	32.4	58.3	60.9	74.2	42.2	51.8	37.1	26.0	68.0	57.3	36.3	23.7	26.4
2010	50.1	35.8	65.5	75.0	81.1	53.3	63.9	39.9	32.4	76.9	64.3	40.3	25.9	28.8
2011	58.8	38.4	70.8	86.6	86.0	59.8	72.9	42.4	37.1	84.7	70.2	43.2	28.0	30.6
2012	60.4	39.1	75.6	86.2	85.9	61.4	78.2	44.3	37.5	91.2	72.9	44.8	27.8	30.4
2013	64.6	39.9	76.1	84.6	85.4	60.4	78.7	46.0	40.0	93.8	74.2	45.0	28.3	30.4
2014	64.6	42.8	82.0	81.9	87.1	61.1	72.3	47.2	41.4	91.7	76.2	45.7	28.5	30.0
2015	63.8	45.8	80.6	77.4	87.5	60.3	68.8	49.1	41.4	91.9	77.1	47.1	27.3	28.3
2016	63.9	47.0	79.1	77.0	86.4	59.6	67.6	51.9	41.8	93.8	77.6	46.7	26.7	27.4

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2017	67.0	49.3	79.0	75.8	85.9	61.6	73.6	54.2	42.0	95.3	83.1	48.4	27.8	28.3
2018	65.7	49.5	77.0	74.5	83.7	61.5	75.2	55.2	41.9	96.3	84.8	49.2	28.6	29.2
2019	63.9	50.7	73.9	74.0	81.8	59.8	77.3	55.4	40.4	92.3	84.0	49.3	27.9	28.3
2020	55.3	42.0	71.0	71.2	79.5	60.3	73.5	56.2	37.3	85.4	77.9	46.6	25.9	26.5
2020 to 1995	23.0	14.8	30.8	5.3	40.3	25.8	36.3	33.2	11.6	31.5	32.4	18.4	7.2	5.7

Source. International Monetary Fund (2022)

Appendix B

General government gross debt (Percent of GDP)

	Bulgaria	Croatia	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovak Republic	Slovenia
1989	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
1990	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
1991	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
1992	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
1993	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
1994	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
1995	n/a	n/a	13.6	8.7	84.0	n/a	n/a	48.7	n/a	21.6	18.2
1996	n/a	n/a	11.6	7.3	71.3	n/a	n/a	43.1	n/a	30.6	21.6
1997	n/a	n/a	12.2	6.0	61.9	n/a	n/a	42.7	n/a	33.0	22.1
1998	67.3	21.8	14.0	5.4	59.9	9.6	21.8	38.7	n/a	33.9	22.7
1999	78.7	28.0	15.2	5.9	59.8	14.4	28.1	39.3	n/a	47.1	23.7
2000	73.3	33.1	17.0	5.1	55.1	14.7	23.5	36.4	29.6	50.5	25.9
2001	67.1	34.6	22.7	4.8	51.7	17.5	22.9	37.1	27.4	51.1	26.1
2002	53.4	36.4	25.8	5.7	54.9	14.9	22.2	41.5	27.4	45.3	27.4
2003	45.4	37.9	28.2	5.6	57.4	14.3	20.4	46.4	24.9	43.2	26.8
2004	37.8	40.0	28.4	5.1	58.3	14.1	18.7	45.1	21.3	41.7	26.9
2005	28.5	40.9	27.7	4.7	60.2	11.5	17.6	46.6	17.8	34.7	26.4
2006	22.6	38.4	27.6	4.6	64.2	9.6	17.3	47.3	12.7	31.4	26.1

2007	17.6	37.1	27.3	3.8	65.2	8.1	15.9	44.5	12.4	30.3	22.8
2008	14.7	39.0	28.1	4.5	71.2	17.9	14.6	46.7	13.0	28.6	21.8
2009	14.5	48.3	33.4	7.2	77.4	35.6	28.0	49.8	22.5	36.4	34.5
2010	14.1	57.2	37.1	6.7	80.2	46.5	36.2	53.5	30.8	41.0	38.3
2011	14.3	63.5	39.7	6.2	80.4	44.5	37.1	54.7	34.3	43.4	46.5
2012	16.5	69.3	44.2	9.8	78.4	42.7	39.7	54.4	38.0	51.8	53.6
2013	17.2	80.0	44.4	10.2	77.4	40.4	38.7	56.5	39.1	54.7	70.0
2014	26.3	83.7	41.9	10.6	76.7	41.6	40.5	51.1	40.4	53.6	80.3
2015	25.4	83.3	39.7	10.1	75.8	37.1	42.7	51.3	39.4	51.9	82.6
2016	27.0	79.7	36.6	10.0	74.8	40.4	39.9	54.2	39.0	52.4	78.5
2017	22.9	76.5	34.2	9.1	72.1	39.0	39.3	50.6	36.8	51.6	74.2
2018	20.1	73.2	32.1	8.2	69.1	37.1	33.7	48.8	36.5	49.6	70.3
2019	18.3	71.1	30.0	8.6	65.5	36.7	35.9	45.6	36.8	48.1	65.6
2020	23.3	87.3	37.7	19.0	80.0	43.3	46.6	57.4	49.6	59.7	79.8

Source. International Monetary Fund (2022)

Appendix C

Total investment (Percent of GDP)

	Bulgaria	Croatia	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovak Republic	Slovenia
1989	14.2	n/a	n/a	n/a	27.6	n/a	n/a	24.1	27.4	n/a	n/a
1990	14.4	n/a	n/a	n/a	26.6	n/a	n/a	25.2	30.5	n/a	n/a
1991	9.5	n/a	n/a	n/a	22.3	n/a	n/a	19.4	28.2	n/a	n/a
1992	8.3	16.3	n/a	n/a	18.0	22.8	n/a	14.8	31.7	n/a	14.4
1993	6.1	-1.5	n/a	25.7	22.2	10.1	n/a	15.1	29.2	26.3	18.3
1994	1.0	13.1	n/a	26.6	24.3	16.6	n/a	17.2	25.2	22.5	22.0
1995	5.3	16.8	34.2	26.4	23.0	15.7	22.8	18.5	24.7	23.6	25.5
1996	1.2	20.0	36.1	27.5	24.7	19.0	21.1	20.6	26.3	34.1	25.1
1997	9.7	25.6	33.0	30.7	26.2	21.1	24.6	23.1	21.0	34.8	26.2
1998	18.7	21.5	30.9	31.6	28.6	25.6	24.4	24.7	18.1	34.4	27.2
1999	19.8	19.8	29.8	25.9	27.1	22.1	21.4	24.9	15.6	29.3	29.1

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2000	19.0	20.0	31.9	28.5	28.0	24.5	18.8	24.5	19.7	27.1	28.9
2001	21.4	21.2	32.1	29.6	26.1	27.9	19.1	20.5	22.8	30.6	26.7
2002	20.5	24.5	30.6	32.9	25.5	27.9	20.8	18.4	22.2	30.1	25.4
2003	22.1	27.9	29.7	35.2	24.5	29.8	22.0	18.8	23.2	25.6	26.6
2004	23.4	26.7	30.0	34.7	26.8	33.1	22.9	20.2	24.2	26.7	28.8
2005	27.7	26.8	29.6	33.4	25.2	35.1	24.3	19.9	22.9	29.7	28.5
2006	32.1	28.9	30.4	39.8	25.7	39.8	26.9	21.7	27.5	28.5	30.3
2007	33.6	28.8	32.4	40.0	24.2	41.6	32.3	25.2	31.3	28.2	33.0
2008	37.0	30.5	31.3	31.6	24.5	35.3	28.1	24.6	33.1	28.4	32.9
2009	28.5	25.0	26.8	21.0	20.1	22.5	12.7	20.6	27.2	20.5	23.5
2010	22.5	20.9	27.4	21.7	20.4	20.4	18.1	21.5	27.1	23.8	22.4
2011	21.4	19.7	27.2	25.7	20.2	25.7	22.0	22.7	28.1	25.2	21.7
2012	21.9	18.6	26.4	29.4	19.2	27.5	19.8	21.3	27.0	20.6	18.8
2013	21.0	19.2	25.0	27.2	20.8	24.3	19.5	19.3	25.5	20.9	19.6
2014	21.5	18.8	26.0	27.1	23.3	23.9	19.6	20.7	24.8	21.7	19.4
2015	21.0	20.4	28.0	25.0	23.1	23.7	21.3	20.6	25.1	24.3	19.2
2016	19.0	20.7	26.0	25.1	21.4	21.2	19.2	19.7	23.4	22.6	18.4
2017	19.8	21.7	26.4	26.4	22.9	22.0	19.2	19.9	23.4	23.1	20.0
2018	21.2	23.2	27.2	26.9	26.6	23.3	20.4	20.8	22.8	23.2	21.2
2019	21.0	22.8	27.6	26.1	28.3	23.2	17.6	19.7	23.6	23.6	20.6
2020	20.3	23.9	25.9	30.2	27.3	21.7	13.5	17.2	24.4	18.9	20.0

Source. International Monetary Fund (2022)

Appendix D

Per capita GDP (current USD)

	Bulgaria	Croatia	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovak Republic	Slovenia	European Union	OECD members
1989	2,477.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1,817.9	n/a	n/a	12,393.2	15,204.0
1990	2,366.5	n/a	3,941.5	n/a	n/a	n/a	n/a	1,731.2	1,680.7	2,405.5	n/a	15,455.0	16,978.0
1991	1,267.7	n/a	2,896.6	n/a	3,350.3	n/a	n/a	2,235.5	1,260.7	2,691.2	n/a	15,972.3	17,798.9
1992	1,212.0	n/a	3,372.9	n/a	3,735.1	n/a	n/a	2,459.0	1,102.1	2,920.9	n/a	17,510.5	18,964.6
1993	1,278.2	n/a	3,956.2	n/a	3,874.0	n/a	n/a	2,497.2	1,158.1	3,102.3	n/a	15,933.2	19,054.3

1994	1,148.5	n/a	4,630.6	n/a	4,173.4	n/a	n/a	2,874.8	1,323.1	3,771.4	n/a	16,835.7	20,278.2
1995	2,258.3	4,917.1	5,824.1	3,134.4	4,494.7	2,329.6	2,167.8	3,686.8	1,650.3	4,819.1	10,730.5	19,464.9	22,178.1
1996	1,470.1	5,283.0	6,532.8	3,380.9	4,525.0	2,431.7	2,327.4	4,147.5	1,633.0	5,196.9	10,815.1	19,750.7	22,192.0
1997	1,361.4	5,312.4	6,034.5	3,683.0	4,596.2	2,683.2	2,830.3	4,123.1	1,577.3	5,146.7	10,455.0	18,089.1	21,686.2
1998	1,820.4	5,691.1	6,489.7	4,093.4	4,744.2	2,973.5	3,166.7	4,518.1	1,852.5	5,538.6	11,175.8	18,616.2	21,747.6
1999	1,659.7	5,246.9	6,337.4	4,140.9	4,793.5	3,151.6	3,113.2	4,398.1	1,599.9	5,643.7	11,452.8	18,477.3	22,671.8
2000	1,621.2	4,887.7	6,029.0	4,070.6	4,624.3	3,361.6	3,293.2	4,501.5	1,659.9	5,413.2	10,201.3	16,910.4	22,995.0
2001	1,770.9	5,412.9	6,637.0	4,505.9	5,276.0	3,578.0	3,525.8	4,991.2	1,825.2	5,717.2	10,479.8	17,186.0	22,615.3
2002	2,093.0	6,293.2	8,060.9	5,341.6	6,655.3	4,136.9	4,141.6	5,207.2	2,119.9	6,533.6	11,777.2	18,682.6	23,407.7
2003	2,719.5	8,129.8	9,818.6	7,203.5	8,421.1	5,145.2	5,499.4	5,701.6	2,679.4	8,712.7	14,849.0	22,923.7	26,004.1
2004	3,389.7	9,747.4	11,749.9	8,914.1	10,303.7	6,378.7	6,700.3	6,681.4	3,494.9	10,671.8	17,233.1	26,266.2	28,738.7
2005	3,899.9	10,621.5	13,430.7	10,412.6	11,225.9	7,594.9	7,854.8	8,021,5	4,617.9	11,685.8	18,098.9	27,335.8	30,181.0
2006	4,523.1	11,797.5	15,261.8	12,639.4	11,493.1	9,723.4	9,230.7	9,035.4	5,757.5	13,159.8	19,673.0	29,072.6	31,604.6
2007	5,885.1	14,046.3	18,466.5	16,744.6	13,945.0	14,113.5	12,285.4	11,254.5	8,360.2	16,085.6	23,787.6	33,554.5	34,324.7
2008	7,265.7	16,416.6	22,804.6	18,205.0	15,777.2	16,467.1	14,945.0	13,996.0	10,435.0	18,677.3	27,483.3	36,920.8	36,101.0
2009	6,988.2	14,653.0	19,861.7	14,711.7	13,081.8	12,331.9	11,820.8	11,526.1	8,548.1	16,531.7	24,694.2	33,369.4	33,554.6
2010	6,853.0	14,067.5	19,960.1	14,663.0	13,223.1	11,421.0	11,987.5	12,613.0	8,214.1	16,825.4	23,509.5	32,943.1	34,973.1
2011	7,849.2	14,757.2	21,871.3	17,464.9	14,240.3	13,339.0	14,376.9	13,879.6	9,099.2	18,406.0	25,095.1	35,716.2	37,429.7
2012	7,432.5	13,401.7	19,870.8	17,404.2	12,989.2	13,847.3	14,367.7	13,097.3	8,507.1	17,430.8	22,643.1	33,160.5	37,174.6
2013	7,681.9	13,837.7	20,133.2	19,050.6	13,720.0	15,007.5	15,729.7	13,696.5	9,547.9	18,203.2	23,496.6	34,569.6	37,431.4
2014	7,901.8	13,762.4	19,890.9	20,234.1	14,298.8	15,721.5	16,551.0	14,271.3	10,043.7	18,631.0	24,214.9	35,245.9	37,962.7
2015	7,074.7	11,933.4	17,829.7	17,395.0	12,720.7	13,780.9	14,258.2	12,578.5	8,969.1	16,335.6	20,881.8	30,474.5	35,612.5
2016	7,569.5	12,527.7	18,575.2	18,282.9	13,107.4	14,322.0	14,998.1	12,447.4	9,548.6	16,501.1	21,663.6	31,168.4	36,072.1
2017	8,366.3	13,629.3	20,636.2	20,387.3	14,623.7	15,656.3	16,843.7	13,864.7	10,807.0	17,494.7	23,455.9	33,023.8	37,407.3
2018	9,446.7	15,227.6	23,419.7	23,052.3	16,427.4	17,856.3	19,176.8	15,468.5	12,399.0	19,380.5	26,104.1	35,737.3	39,372.8
2019	9,879.3	15,311.8	23,660.1	23,397.1	16,735.7	17,926.8	19,575.8	15,732.2	12,899.3	19,303.5	25,943.0	35,083.8	39,552.7
2020	10,079.2	14,134.2	22,931.3	23,027.0	15,980.7	17,726.3	20,233.6	15,721.0	12,896.1	19,266.5	25,517.3	34,148.9	38,218.9
2020 to 1995, %	446.3	287.5	393.7	734.7	355.5	760.9	933.4	426.4	781.5	399.8	237.8	175.4	172.3
Average annual growth rate, %	6.2	4.3	5.6	8.3	5.2	8.5	9.3	6.0	8.6	5.7	3.5	2.3	2.2

Source. Developed by the authors according to The World Bank (2022)

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Appendix E

Per capita GDP (current USD) in relation to the European Union average

	Bulgaria	Croatia	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovak Republic	Slovenia	European Union
1989	20.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	14.7	n/a	n/a	100.0
1990	15.3	n/a	25.5	n/a	n/a	n/a	n/a	11.2	10.9	15.6	n/a	100.0
1991	7.9	n/a	18.1	n/a	21.0	n/a	n/a	14.0	7.9	16.8	n/a	100.0
1992	6.9	n/a	19.3	n/a	21.3	n/a	n/a	14.0	6.3	16.7	n/a	100.0
1993	8.0	n/a	24.8	n/a	24.3	n/a	n/a	15.7	7.3	19.5	n/a	100.0
1994	6.8	n/a	27.5	n/a	24.8	n/a	n/a	17.1	7.9	22.4	n/a	100.0
1995	11.6	25.3	29.9	16.1	23.1	12.0	11.1	18.9	8.5	24.8	55.1	100.0
1996	7.4	26.7	33.1	17.1	22.9	12.3	11.8	21.0	8.3	26.3	54.8	100.0
1997	7.5	29.4	33.4	20.4	25.4	14.8	15.6	22.8	8.7	28.5	57.8	100.0
1998	9.8	30.6	34.9	22.0	25.5	16.0	17.0	24.3	10.0	29.8	60.0	100.0
1999	9.0	28.4	34.3	22.4	25.9	17.1	16.8	23.8	8.7	30.5	62.0	100.0
2000	9.6	28.9	35.7	24.1	27.3	19.9	19.5	26.6	9.8	32.0	60.3	100.0
2001	10.3	31.5	38.6	26.2	30.7	20.8	20.5	29.0	10.6	33.3	61.0	100.0
2002	11.2	33.7	43.1	28.6	35.6	22.1	22.2	27.9	11.3	35.0	63.0	100.0
2003	11.9	35.5	42.8	31.4	36.7	22.4	24.0	24.9	11.7	38.0	64.8	100.0
2004	12.9	37.1	44.7	33.9	39.2	24.3	25.5	25.4	13.3	40.6	65.6	100.0
2005	14.3	38.9	49.1	38.1	41.1	27.8	28.7	29.3	16.9	42.7	66.2	100.0
2006	15.6	40.6	52.5	43.5	39.5	33.4	31.8	31.1	19.8	45.3	67.7	100.0
2007	17.5	41.9	55.0	49.9	41.6	42.1	36.6	33.5	24.9	47.9	70.9	100.0
2008	19.7	44.5	61.8	49.3	42.7	44.6	40.5	37.9	28.3	50.6	74.4	100.0
2009	20.9	43.9	59.5	44.1	39.2	37.0	35.4	34.5	25.6	49.5	74.0	100.0
2010	20.8	42.7	60.6	44.5	40.1	34.7	36.4	38.3	24.9	51.1	71.4	100.0
2011	22.0	41.3	61.2	48.9	39.9	37.3	40.3	38.9	25.5	51.5	70.3	100.0
2012	22.4	40.4	59.9	52.5	39.2	41.8	43.3	39.5	25.7	52.6	68.3	100.0
2013	22.2	40.0	58.2	55.1	39.7	43.4	45.5	39.6	27.6	52.7	68.0	100.0
2014	22.4	39.0	56.4	57.4	40.6	44.6	47.0	40.5	28.5	52.9	68.7	100.0
2015	23.2	39.2	58.5	57.1	41.7	45.2	46.8	41.3	29.4	53.6	68.5	100.0
2016	24.3	40.2	59.6	58.7	42.1	46.0	48.1	39.9	30.6	52.9	69.5	100.0

2017	25.3	41.3	62.5	61.7	44.3	47.4	51.0	42.0	32.7	53.0	71.0	100.0
2018	26.4	42.6	65.5	64.5	46.0	50.0	53.7	43.3	34.7	54.2	73.0	100.0
2019	28.2	43.6	67.4	66.7	47.7	51.1	55.8	44.8	36.8	55.0	73.9	100.0
2020	29.5	41.4	67.2	67.4	46.8	51.9	59.3	46.0	37.8	56.4	74.7	100.0

Source. Developed by the authors according to The World Bank (2022)

Appendix F

Net migration

Country Name	1992	1997	2002	2007	2012	2017
Bulgaria	-356,464.0	-133,824.0	-85,500	-83,742	-24,472	-24,001
Croatia	143,579.0	188,129.0	-2,580	-10,499	-38,493	-40,004
Czech Republic	29,999.0	-46,002.0	47,402	250,889	59,997	110,057
Estonia	-111,876.0	-1,197.0	-18,406	-15,151	-10,516	19,555
Hungary	-99,980.0	-78,562.0	61,589	25,150	29,999	29,999
Latvia	-116,474.0	-46,601.0	-72,490	-86,594	-83,325	-74,186
Lithuania	-100,301.0	-93,925.0	-99,104	-150,930	-146,217	-163,902
Poland	-159,999.0	-85,199.0	-183,471	-178,456	-320,806	-146,976
Romania	-520,001.0	-580,778.0	-468,204	-774,651	-300,001	-369,997
Slovak Republic	-15,108.0	-2,964.0	1,199	-8,855	11,346	7,423
Slovenia	-17,461.0	-1,487.0	14,998	39,348	16,571	9,999
Total	-1,411,284.0	-1,006,566.0	-804,567.0	-993,491.0	-805,917.0	-642,033.0
European Union	-3,259,577.0	-1,621,033.0	6,853,594	3,767,581	3,377,263	4,281,648

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Appendix G
Population, total million

	Bulgaria	Croatia	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovak Republic	Slovenia	Total	European Union	Share of the population of 11 countries of CEE, %
1989	8.9	4.8	10.4	1.6	10.5	2.7	3.7	38.0	23.2	5.3	2.0	110.8	-419.1	26.4
1990	8.7	4.8	10.3	1.6	10.4	2.7	3.7	38.1	23.2	5.3	2.0	110.7	420.5	26.3
1991	8.6	4.7	10.3	1.6	10.4	2.7	3.7	38.2	23.0	5.3	2.0	110.5	421.7	26.2
1992	8.5	4.6	10.3	1.5	10.4	2.6	3.7	38.4	22.8	5.3	2.0	110.1	423.0	26.0
1993	8.5	4.6	10.3	1.5	10.4	2.6	3.7	38.5	22.8	5.3	2.0	110.0	424.3	25.9
1994	8.4	4.7	10.3	1.5	10.3	2.5	3.7	38.5	22.7	5.3	2.0	110.0	425.4	25.9
1995	8.4	4.6	10.3	1.4	10.3	2.5	3.6	38.6	22.7	5.4	2.0	109.9	426.2	25.8
1996	8.4	4.6	10.3	1.4	10.3	2.5	3.6	38.6	22.6	5.4	2.0	109.6	426.9	25.7
1997	8.3	4.5	10.3	1.4	10.3	2.4	3.6	38.6	22.6	5.4	2.0	109.4	427.5	25.6
1998	8.3	4.5	10.3	1.4	10.3	2.4	3.5	38.7	22.5	5.4	2.0	109.2	428.1	25.5
1999	8.2	4.5	10.3	1.4	10.2	2.4	3.5	38.7	22.5	5.4	2.0	109.1	428.8	25.4
2000	8.2	4.5	10.3	1.4	10.2	2.4	3.5	38.3	22.4	5.4	2.0	108.4	429.3	25.3
2001	8.0	4.3	10.2	1.4	10.2	2.3	3.5	38.2	22.1	5.4	2.0	107.7	429.9	25.0
2002	7.8	4.3	10.2	1.4	10.2	2.3	3.4	38.2	21.7	5.4	2.0	107.0	430.9	24.8
2003	7.8	4.3	10.2	1.4	10.1	2.3	3.4	38.2	21.6	5.4	2.0	106.6	432.4	24.7
2004	7.7	4.3	10.2	1.4	10.1	2.3	3.4	38.2	21.5	5.4	2.0	106.3	434.0	24.5
2005	7.7	4.3	10.2	1.4	10.1	2.2	3.3	38.2	21.3	5.4	2.0	106.0	435.6	24.3
2006	7.6	4.3	10.2	1.3	10.1	2.2	3.3	38.1	21.2	5.4	2.0	105.8	437.0	24.2
2007	7.5	4.3	10.3	1.3	10.1	2.2	3.2	38.1	20.9	5.4	2.0	105.4	438.5	24.0
2008	7.5	4.3	10.4	1.3	10.0	2.2	3.2	38.1	20.5	5.4	2.0	105.0	439.9	23.9
2009	7.4	4.3	10.4	1.3	10.0	2.1	3.2	38.2	20.4	5.4	2.0	104.8	440.9	23.8
2010	7.4	4.3	10.5	1.3	10.0	2.1	3.1	38.0	20.2	5.4	2.0	104.4	441.5	23.6
2011	7.3	4.3	10.5	1.3	10.0	2.1	3.0	38.1	20.1	5.4	2.1	104.2	440.7	23.6
2012	7.3	4.3	10.5	1.3	9.9	2.0	3.0	38.1	20.1	5.4	2.1	103.9	441.4	23.5

2013	7.3	4.3	10.5	1.3	9.9	2.0	3.0	38.0	20.0	5.4	2.1	103.7	442.5	23.4
2014	7.2	4.2	10.5	1.3	9.9	2.0	2.9	38.0	19.9	5.4	2.1	103.5	443.6	23.3
2015	7.2	4.2	10.5	1.3	9.8	2.0	2.9	38.0	19.8	5.4	2.1	103.3	444.5	23.2
2016	7.1	4.2	10.6	1.3	9.8	2.0	2.9	38.0	19.7	5.4	2.1	103.0	445.5	23.1
2017	7.1	4.1	10.6	1.3	9.8	1.9	2.8	38.0	19.6	5.4	2.1	102.7	446.2	23.0
2018	7.0	4.1	10.6	1.3	9.8	1.9	2.8	38.0	19.5	5.4	2.1	102.5	446.9	22.9
2019	7.0	4.1	10.7	1.3	9.8	1.9	2.8	38.0	19.4	5.5	2.1	102.4	447.2	22.9
2020	6.9	4.0	10.7	1.3	9.7	1.9	2.8	38.0	19.3	5.5	2.1	102.3	447.8	22.8
2020 to 1995, %	82.5	87.6	103.6	92.7	94.4	76.5	77.0	98.3	85.0	101.8	105.5	93.1	105.1	-
Average annual growth rate, %	-0.8	-0.5	0.1	-0.3	-0.2	-1.1	-1.0	-0.1	-0.6	0.1	0.2	-0.3	0.2	-

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Appendix H

Model 1: OLS, using 2000-2020 observations (T = 21)

Dependent variable: BGRGDPpercapitacurrentUS
HAC standard errors, bandwidth 2 (Bartlett kernel)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	572.635	1,828.14	0.3132	0.7577	
BGRExportsofgoodsandservic	140.421	27.3102	5.142	<0.0001	***
BGRGeneralgovernmentgrossde	−59.0940	14.7628	-4.003	0.0008	***

Mean dependent var	6,204.302	S.D. dependent var	2,679.895
Sum squared resid	21,030,194	S.E. of regression	1,080.900
R-squared	0.853588	Adjusted R-squared	0.837320
F(2, 18)	124.8311	P-value(F)	2.81e-11
Log-likelihood	−174.8757	Akaike criterion	355.7513
Schwarz criterion	358.8849	Hannan-Quinn	356.4314
rho	0.912736	Durbin-Watson	0.551248

Appendix I

Model 2: OLS, using 2000-2020 observations (T = 21)

Dependent variable: HRVGDPpercapitacurrentUS
HAC standard errors, bandwidth 2 (Bartlett kernel)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	7,428.65	5,637.05	1.318	0.2041	
HRVExportsofgoodsandservic	-28.6328	152.963	-0.1872	0.8536	
HRVGeneralgovernmentgrossde	101.325	54.7063	1.852	0.0805	*

Mean dependent var	12,123.64	S.D. dependent var	3,377.486
Sum squared resid	1.55e+08	S.E. of regression	2,938.665
R-squared	0.318673	Adjusted R-squared	0.242970
F(2, 18)	2.160735	P-value(F)	0.144194
Log-likelihood	-195.8790	Akaike criterion	397.7581
Schwarz criterion	400.8917	Hannan-Quinn	398.4382
rho	0.757367	Durbin-Watson	0.334025

Appendix J

Model 3: OLS, using 2000-2020 observations (T = 21)

Dependent variable: CZEGDPpercapitacurrentUS
HAC standard errors, bandwidth 2 (Bartlett kernel)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	-8,344.46	5,388.10	-1.549	0.1389	
CZEExportsofgoodsandservic	334.358	91.5286	3.653	0.0018	***
CZEGeneralgovernmentgrossde	104.208	134.847	0.7728	0.4497	

Mean dependent var	17,185.67	S.D. dependent var	5,665.324
Sum squared resid	2.22e+08	S.E. of regression	3,508.200
R-squared	0.654887	Adjusted R-squared	0.616541
F(2, 18)	11.47715	P-value(F)	0.000612
Log-likelihood	-199.5992	Akaike criterion	405.1983
Schwarz criterion	408.3319	Hannan-Quinn	405.8784
rho	0.754626	Durbin-Watson	0.466077

Appendix K

Model 4: OLS, using 2000-2020 observations (T = 21)

Dependent variable: ESTGDPpercapitacurrentUS
HAC standard errors, bandwidth 2 (Bartlett kernel)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	-12,803.5	8,919.36	-1.435	0.1683	
ESTExportsofgoodsandservic	325.564	116.186	2.802	0.0118	**
ESTGeneralgovernmentgrossde	648.740	183.115	3.543	0.0023	***

Mean dependent var	15,100.36	S.D. dependent var	6,170.830
Sum squared resid	3.23e+08	S.E. of regression	4,235.361
R-squared	0.576029	Adjusted R-squared	0.528921
F(2, 18)	9.266295	P-value(F)	0.001711
Log-likelihood	−203.5548	Akaike criterion	413.1097
Schwarz criterion	416.2432	Hannan-Quinn	413.7897
rho	0.706270	Durbin-Watson	0.456464

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Appendix L

Model 5: OLS, using 2000-2020 observations (T = 21)

Dependent variable: HUNGDPpercapitacurrentUS
HAC standard errors, bandwidth 2 (Bartlett kernel)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*
const	-8,233.10	4,867.29	-1,692	0.1080
HUNExportsofgoodsandservic	136.189	92.8959	1.466	0.1599
HUNGeneralgovernmentgrossde	147.590	123.464	1.195	0.2474

Mean dependent var	12,327.16	S.D. dependent var	3,492.371
Sum squared resid	93,614,587	S.E. of regression	2,280.529
R-squared	0.616228	Adjusted R-squared	0.573587
F(2, 18)	10.77651	P-value(F)	0.000837
Log-likelihood	-190.5545	Akaike criterion	387.1091
Schwarz criterion	390.2426	Hannan-Quinn	387.7891
rho	0.633755	Durbin-Watson	0.534859

Appendix M

Model 6: OLS, using 2000-2020 observations (T = 21)

Dependent variable: LVAGDPpercapitacurrentUS
HAC standard errors, bandwidth 2 (Bartlett kernel)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	-6,575.56	6,396.51	-1.028	0.3176	
LVAExportsofgoodsandservic	397.456	146.124	2.720	0.0140	**
LVAGeneralgovernmentgrossde	-47.6308	80.5642	-0.5912	0.5617	

Mean dependent var	11,877.92	S.D. dependent var	4,936.370
Sum squared resid	2.01e+08	S.E. of regression	3,341.297
R-squared	0.587658	Adjusted R-squared	0.541843
F(2, 18)	6.513835	P-value(F)	0.007442
Log-likelihood	-198.5755	Akaike criterion	403.1511
Schwarz criterion	406.2846	Hannan-Quinn	403.8311
rho	0.720227	Durbin-Watson	0.493118

Appendix N

Model 7: OLS, using 2000-2020 observations (T = 21)

Dependent variable: LTUGDPpercapitacurrentUS
HAC standard errors, bandwidth 2 (Bartlett kernel)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	-11,202.3	3,056.66	-3.665	0.0018	***
LTUExportsofgoodsandservic	399.653	65.0492	6.144	<0.0001	***
LTUGeneralgovernmentgrossde	-42.7912	87.1547	-0.4910	0.6294	

Mean dependent var	12,256.96	S.D. dependent var	5,348.318
Sum squared resid	1.10e+08	S.E. of regression	2,472.427
R-squared	0.807666	Adjusted R-squared	0.786296
F(2, 18)	27.96249	P-value(F)	3.01e-06
Log-likelihood	-192.2512	Akaike criterion	390.5024
Schwarz criterion	393.6360	Hannan-Quinn	391.1825
rho	0.630716	Durbin-Watson	0.777564

Appendix O

Model 8: OLS, using 2000-2020 observations (T = 21)

Dependent variable: POLGDPpercapitacurrentUS
HAC standard errors, bandwidth 2 (Bartlett kernel)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	-9,120.34	2,415.42	-3.776	0.0014	***
POLExportsofgoodsandservic	282.872	50.6089	5.589	<0.0001	***
POLGeneralgovernmentgrossde	173.924	67.5955	2.573	0.0192	**

Mean dependent var	11,156.49	S.D. dependent var	3,813.513
Sum squared resid	52,916,272	S.E. of regression	1,714.582
R-squared	0.818068	Adjusted R-squared	0.797853
F(2, 18)	55.36857	P-value(F)	2.04e-08
Log-likelihood	-184.5645	Akaike criterion	375.1291
Schwarz criterion	378.2627	Hannan-Quinn	375.8092
rho	0.552778	Durbin-Watson	0.893653

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Appendix P

Model 9: OLS, using 2000-2020 observations (T = 21)

Dependent variable: ROUGDPpercapitacurrentUS
HAC standard errors, bandwidth 2 (Bartlett kernel)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	-4,510.71	2,178.70	-2.070	0.0531	*
ROUExportsofgoodsandservic	514.878	106.421	4.838	0.0001	***
ROUGeneralgovernmentgrossde	-145.200	118.986	-1.220	0.2381	

Mean dependent var	7,734.722	S.D. dependent var	3,670.701
Sum squared resid	82,140,342	S.E. of regression	2,136.200
R-squared	0.695190	Adjusted R-squared	0.661323
F(2, 18)	24.31484	P-value(F)	7.66e-06
Log-likelihood	-189.1816	Akaike criterion	384.3632
Schwarz criterion	387.4968	Hannan-Quinn	385.0432
rho	0.925658	Durbin-Watson	0.449286

Appendix R

Model 10: OLS, using 2000-2020 observations (T = 21)

Dependent variable: SVKGDPpercapitacurrentUS
HAC standard errors, bandwidth 2 (Bartlett kernel)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	-6,561.60	4,243.53	-1.546	0.1394	
SVKExportsofgoodsandservic	315.684	26.4633	11.93	<0.0001	***
SVKGeneralgovernmentgrossde	-84.7750	74.1035	-1.144	0.2676	

Mean dependent var	14,807.95	S.D. dependent var	4,738.802
Sum squared resid	84,514,763	S.E. of regression	2,166.856
R-squared	0.811823	Adjusted R-squared	0.790915
F(2, 18)	71.94367	P-value(F)	2.60e-09
Log-likelihood	-189.4808	Akaike criterion	384.9616
Schwarz criterion	388.0952	Hannan-Quinn	385.6417
rho	0.698700	Durbin-Watson	0.671412

Appendix S

Model 11: OLS, using 2000-2020 observations (T = 21)

Dependent variable: SVNGDPpercapitacurrentUS
HAC standard errors, bandwidth 2 (Bartlett kernel)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	-11,129.8	6,583.72	-1.690	0.1082	
SVNExportsofgoodsandservic	561.257	110.108	5.097	<0.0001	***
SVNGeneralgovernmentgrossde	-121.244	38.8714	-3.119	0.0059	***

Mean dependent var	20,990.60	S.D. dependent var	5,280.685
Sum squared resid	1.80e+08	S.E. of regression	3,158.536
R-squared	0.678016	Adjusted R-squared	0.642241
F(2, 18)	13.49631	P-value(F)	0.000263
Log-likelihood	−197.3943	Akaike criterion	400.7885
Schwarz criterion	403.9221	Hannan-Quinn	401.4686
rho	0.585199	Durbin-Watson	0.761231