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CHANGES IN THE FDI REGULATORY FRAMEWORK AND OTHER KEY ECONOMIC ISSUES IN THE EU: IMPLICATIONS FOR BULGARIA AND ROMANIA

Coordinator

Simona Moagăr-Poladian

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ROMANIAN ACADEMY, INSTITUTE FOR WORLD ECONOMY BULGARIAN ACADEMY OF SCIENCES, ECONOMIC RESEARCH INSTITUTE



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25 YEARS OF EUROZONE

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Abstract

The present paper focuses on the main Eurozone achievements, 25 years after the euro's launch. Since the 1st of January 1999, a new chapter of the Economic and Monetary Union (EMU) has opened in Europe, and the euro is the main actor. The EMU started in 1999 with most of the states in the European Union (11 out of a total of 15, at that date). Led by the main core states, Germany and France, they adopted the single European currency, which replaced their national currencies. Subsequent enlargements of the EU (2004, 2007, and 2013) and deep economic integration strengthened the EU. They created the conditions for the entry of new states into the euro area, as they met the economic and financial convergence criteria set out by the Maastricht Treaty. EU economic policy responses to crises and challenges related to global transformations have confirmed that although the EU is generally able to manage crises, its options are limited and often require huge efforts, sometimes with high political costs, to act quickly and target. Although the single currency encourages access to the Eurozone markets, the European currency also increases competition between firms, tempers price increases, and boosts diversification and innovation But there is also a major risk: if a country has a strong gap as compared to the others, its access to a highly competitive market will have negative consequences.

Key-Words: euro, trade, imports, exports, specialization, diversification.

1 Introduction

The former Director of the International Monetary Fund (IMF), Michel Camdessus, appreciated the launch of the euro as one of the greatest opportunities worldwide, but the creation of EMU is seen from the perspective of a broader, ongoing process of European integration. He drew attention not so much to the political aspect of European integration but to the complementarity that monetary integration has brought with its single internal market. In total, the euro area is the main European area having almost 350 million inhabitants, with a GDP totaling almost 12 percent of the total world and a GDP/inhabitant of nearly 37,400 US dollars. It is worth noting the GDP/inhabitant in 2023 was very close to the record level, reached a year earlier (2022) (Trading Economics, 2024).

Worldwide, since the launch of the single currency, we note that its influence remains significant, with the second place in the international monetary system.

Reading the EU official papers for EMU integration we see that the euro project hasn't been set as an alternative to the dollar, but once put into practice is meant to become an element of unity in the whole process of the EU economic integration. The EU's gradual enlargement has been a key element of rising

total European wealth if we take into account total GDP, the share in world exports of goods and services, as well as the level of welfare expressed by purchasing power parity (PPP). At the same time, the euro area accounts for about 85 percent of the total GDP of the EU (Dijmărescu & Moagar-Poladian, 2024).

The Convergence Report analyses the degree to which the national legislation is compatible with the provisions of the EU Treaties, as well as whether the status requirements are in place for the central bank to become part of the Eurosystem.

In the introductory speech, Fabio Panetta, at that time a member of the Executive Board of the European Central Bank (ECB, 2022), underscored that since the publication of the previous Convergence Report in 2000, the seven member states of EMU with derogation, including Romania, have made only limited progress in meeting the convergence criteria, with one exception, Croatia (meantime it adopted the euro on the 1st of January 2023).

2. Factors related to the EMU's economic influence

On the whole, the Eurozone is a European area where about 350 inhabitants live and work. Since the 1990s, the European single currency adoption process has triggered numerous debates, both in Europe, as well as in other parts of the world, but mainly overseas. In the US economy, the Eurosceptics have doubted the strength of this currency. Moreover, pessimists believed it was too early to take such a step, and this type of economic and monetary union would cause a development gap in the EU, between the Eurozone and the rest of EU countries. At the same time, proponents have argued for the EMU advantages, considering the single currency a key to success, and to increase the EU standard of living and unity.

In this paper, we will refer also to the convergence between GDP/inhabitant in the EU as a whole and GDP/inhabitant in the euro area. Eurostat data illustrates an increase in convergence over the period 2000-2022, with real GDP per capita in the EU growing from 86% to 91% compared to real GDP per inhabitant of the Eurozone. This increase to almost 5 pp is mainly due to the reception of new Eurozone member states, from 11 to 20 member states, at present. The catching-up process of the Central and Eastern European countries (CEEC) that have not yet adopted the euro shows that Romania had the fastest growth rate of real GDP/inhabitant at PPP in 2022, as compared to 2000.

Comparatively, we note that the growth index of real GDP/total inhabitants in the EU was in the period under review, 2000-2022 of only 1.29, and in the case of the Eurozone as a whole, the increase was even lower, 1.21.

Next, we will refer to the convergence between GDP/capita in the EU. With the onset of the sovereign debt crisis, the EMU has begun to face a worsening of economic divergences. Based on Mundell's theory that countries joining the optimum currency area must be similar in economic structure, otherwise, the costs of adopting the euro may outweigh the benefits, we have seen concretely what happened to some states that once entered the Eurozone no longer had the adjustment tools such as the temporary depreciation of the national currency.

Wages and prices have recorded the highest differences, resulting from various competitiveness levels. And then, without having the instrument of currency depreciation at their disposal, the authorities faced a slowing of the economic growth rate or a reduction in real wages.

In theory, the monetary union could positively influence the growth of trade and financial integration, mainly by lowering transaction costs and eliminating foreign exchange risks. But is the EMU the necessary and sufficient condition to create surplus value to achieve objectives as mentioned in the European Union

treaties or better to be expected to achieve even greater large structural convergences so that financial crises can be more easily borne? We find the answer by observing how the tools to go through the powerful crises have succeeded at the international level and have affected to a greater or lesser extent Eurozone member states. In particular, the sovereign debt crisis that has particularly affected PIIGS (Portugal, Ireland, Italy, Greece, and Spain) has demonstrated in practice how important the achievement of the fiscal union in the euro area is. Although the EU has tried to revise economic governance mechanisms, the failure of European authorities to coordinate the fiscal policy adopted by member states is visible.

3. The Concentration and Diversification Indexes in the EU

In the 20th century, the Bretton Woods system, which was based on fixed exchange rates against the dollar, was associated with the Marshall Plan, which made the US the main trading partner of Europe for decades. The capital flows became, before the single currency came into operation, 40 times higher than the trade flows. Thus, the importance of the international transactions' payment function is argued with IMF official figures, an important factor being the size of the market. The higher the market, the lower the trading costs and risks. This is where the natural question arises: how does the size of a market influence the power of a currency? According to the author, 3 elements are crucial for ensuring the payment function in international transactions, as follows:

Inertia. A market with high commercial volume strengthens its position through transactions that are added to existing ones, which already have an advantage of cost (through the bilateral exchange rate).
Value of reserves. The international currency is becoming, as a result of its use in commercial transactions, increasingly attractive for the formation of foreign exchange reserves.
Official reserves reduce the risk of volatile exchange rates and increase demand for official reserves and interventions that contribute to market consolidation. By reducing the currency risk, the storage function, that is, the foreign exchange reserves, is strengthened.

A positive aspect of euro adoption is also highlighted by the author by revealing the increasing share of the euro in international transactions. Concerning the use of the dominant currency, the dollar, we note that in 1995 its share in international transactions was 83%., while the German mark was used for only 37 percent and the yen for 24 percent. The gradual decline of the US dollar in international invoicing was visible, from 56 percent of the world total (1980) to 48 percent (1992), mainly as a result of less use by the Organization of the Petroleum Exporting Countries states (OPEC). In addition, the predominance of the US dollar has gradually weakened since the international financial crisis eruption in 2008. In Europe, the sovereign debt crisis has been the particular form of the 2008 financial crisis in the EU, and it has eroded the desire of the CEE countries to advance into the Eurozone. In addition, the countries that entered the Eurozone have recorded more modest GDP growth rates compared to those that have not yet taken this step. We note that no EU new member country considered a favorite in the 1990s (such as the Czech Republic, Poland, and Hungary) has taken this step of joining the Eurozone so far, even if the positive effects of the entry were noticeable.

Another advantage of the Eurozone results from the study of total extra-community trade. It reflects a predominance of European currency use as compared to dollar transactions (52% compared to only 32% in 2023). As regards imports, the situation is somewhat reversed, with the dollar being used for 50%, and euro payments accounting for 41% of the total (Eurostat, 2023).

According to **statistical** data published by the Eurostat, in 2023, the 4 main importers of goods accounted for a share of 2/3 of the total extra-EU volume, as follows: Germany (26.6%), Netherlands (18.3%), Italy and France (each with 11.2%).

By completely examining the balance between the benefits and disadvantages of EU integration the author has calculated trade concentration and diversification indexes within the Internal Market due to several factors:

- Single Market Access of Member States means the removal of trade barriers, harmonization of trade standards, and free movement of goods, services, capital, and labor. All these free mobilities stimulate an easier and more profitable trade for all Member States. The results reflect also a deeper concentration of trade among EU members, as businesses integrate the Single Internal market over the external markets.
- **Trade Concentration is improving due to a better** firm specialization based on a relative advantage in specific industries within the EU. The regional trade cooperation increases by proximity and reduced transaction costs within the EU countries, leading to the progress of regional trade centers (e.g., Germany's role as a leading trading partner).
- Sectoral Specialization. EU integration allows the Member States to specialize in industries where they are most competitive, resulting in trade concentration in different sectors.
- **Trade diversification.** The EU Member States shift their trade focus from non-EU countries to EU countries due to preferential trade agreements in line with the gradual increase of sectoral internal specialization. This effect increases trade relations within the EU.

The sectoral specialization and trade diversification have a long-term Impact and this is highlighted in the form of specialization and diversification indexes. While EU integration initially stimulates trade concentration, over time diversification increases as EU Member States become more cohesive into international supply chains (see Figure 1).



Figure 1: EU Concentration and Diversification Indexes in 1995 and 2023

Source: Own calculations based on Eurostat (2023).

As a result of European deep integration, one can remark gradual concentration trade index since 1995 within the Common Internal Market on some sectoral specialization. Over the mentioned period, can also be seen a larger trade diversification as EU economies grow, develop more complex export structures, and enter into the global markets. The study of total extra-community trade reflects a predominance of industrially processed products. It is noted from Eurostat data that the largest share is the group of cars and

vehicles that dominate both imports and exports (2,123 billion euros in 2023 in total). It is noted that exports of such products account for 40% of the total value of extra-community exports in 2023. Similarly, it is noted that the value of this group has a share of 35% of the total extra-community imports. In absolute terms, one can remark an increase in the value of both imports (+25 billion euros) and exports (+84 billion euros) of cars and vehicles in 2023, which led to an increase in the group's trade surplus from 114 to 172 billion Euro (Dijmărescu, 2023).

4 Conclusion

Looking at the 25 years that have passed since the euro became a reality, we see that in the last 15 years, international financial markets have been influenced by crises that have prompted the search for a new balance. Both the international financial crisis and the sovereign debt crisis in the EU, as well as the pandemic and the crisis caused by the military conflict in Ukraine, have highlighted the need to increase the economic power of the EU, the energy independence, and the open strategic autonomy, which can only be achieved through an appropriate set of Community policy measures and a greater degree of European integration.

A less competitive economy, which moves to the single currency, will hardly cope with the external environment, both in the European single market, but also in the international one, firstly, the fact that the share of listed companies' capital, the volume of credit, exports, and imports denominated in the single currency are visibly lower compared to those in the USA.

An important feature of the EU is the strong concentration of intra-community trade. The analysis of intra and extra-EU trade in goods shows that for 15 of the 27 member states, Germany has been the first partner. If we look closely at intra-community trade concentration, we notice the EU countries on the periphery such as the Baltic States, Sweden, Ireland, Spain, Portugal, Greece, and Cyprus are the exception. In terms of imports, the US is the main trading partner for goods traded by Germany and Ireland, while for the rest of the EU states, the main partners have remained neighboring countries. Germany is among the top four trading partners of each EU country, with Ireland, Cyprus, and Malta as exceptions.

EU economic policy's responses to crises as well as challenges related to global transformations have confirmed that although the EU is in general able to manage crises, its options are limited and often require huge efforts, sometimes with high political costs, to be able to act quickly and targeted.

The single currency encourages access to the Eurozone markets, and besides the euro currency has increased also competition between firms, reducing price increases, fostering diversification, and innovative results. But there is also a major risk: if a country lags behind in terms of competitiveness, the access to a highly competitive market will have negative consequences. This is exactly the aspect that Romania has to take into account.

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ECONOMIC IMPLICATIONS OF THE SCREENING OF FOREIGN DIRECT INVESTMENT

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Abstract

The war in Ukraine and the geopolitical tension in recent years have encouraged deglobalization trends. The European Union has introduced mandatory screening on foreign direct investment from countries outside the European Union that could have an impact on national security. The new regime concerns many sectors including those that drive economic progress such as information and communication technologies, energy, scientific research and development, and others. The goal of the article is to examine the inflows of foreign direct investment in the European Union in the last decade and on that ground to assess the impact of the introduction of the screening regime for foreign direct investment in Bulgaria from third countries. Argued is that after the accession to the European Union the role of the foreign direct investment in the economy declines and the screening could further reduce the role of this driver of the economic growth and convergence.

Key-Words: Foreign direct investment, Screening of FDI, National security, European legislation

1 Introduction

One of the pillars of the neoliberal paradigm is the openness for foreign direct investment (FDI), equal treatment of foreign and domestic investments, free repatriation of profit, and application of policies that encourage FDI. The transition to a market economy in Central and Eastern Europe (CEE) has been strongly encouraged by the attraction of large FDI inflows. Without FDI, the transition would not have been possible, since this has been the main driver of privatization and restructuring of the economy. Thanks to the massive inflow of FDI and free trade, the economic cycle of these countries is synchronized with that of the other European Union (EU) member states and thus the economic integration has made the accession to the EU possible. After the initial impetus that mainly EU FDI has given to young market economies, the inflows have slowed, and the revolving economic crises of recent decades have reduced the role of FDI in economic growth in CEE to average levels of about 5% of GDP.

The war in Ukraine and the geopolitical tension in the recent years has encouraged deglobalization trends. The introduction in the EU of mandatory screening of FDI from countries outside the EU has changed the economic paradigm. The free access of FDI has been replaced by a mandatory permit regime for FDI in sectors including those that drive economic progress such as information and communication technologies, scientific research and development, and others. Regulation (EU) 2019/452 establishing a framework for

the screening of FDI in the Union has a direct implication on the EU member states and allows for limited flexibility for adjustment of the mechanism to the specifics of the countries. The rules also consist of an opportunity for an exchange of screening results by member states which would limit the risks of unequal treatment of a screened investment in different jurisdictions where more liberal authorities could diminish the risks for common EU national security.

While national security concerns drive the introduction and implementation of the new screening regulation, its economic consequences need thorough assessment in order to navigate the FDI policies in a way that economic growth and development are not jeopardised.

2 New Trends and Challenges for Foreign Direct Investments

While global FDI flows have become increasingly volatile and have been declining over the past decade, these trends have affected the EU the most, making it less and less attractive to FDI (Figure 1). Despite the strict screening mechanism in place, the USA has become a major area of attraction for FDI.



Figure 1: FDI net inflows (in billion USD)

Source: World Bank data.

The countries with special tax regimes contribute significantly to the total FDI inflow in the EU – Cayman Islands (5.99%), Bermuda (5.67%), Switzerland (5.11%), Hong Kong-China (4.08%), Jersey (3.89%), and Singapore (3.87%). Before the war in Ukraine, the Russian Federation was the fourth largest investor in the EU (EUR 16.4 billion), followed by Canada (EUR 32.4 billion), and Saudi Arabia (EUR 11.6 billion) (Eurostat, 2024a). FDI flows in the EU are dominated by countries with significant political and national security risks for the EU, even if the USA and the United Kingdom remain the principal inward investors in the EU as regards FDI stocks (Eurostat, 2024b). FDI inflows from highly developed countries (such as the USA and Australia) are not even in the top ten. This is a challenge for the screening mechanisms and the implications for the economy.

CEE countries (CEECs) have converged their FDI pattern. After a large inflow of FDI before and the first years after the entry into the EU, the inflow has declined compared to the GDP. There is a moderate correlation between the FDI inflow of Bulgaria and most of the CEECs – with Estonia (0.34), Czechia (0.41), Lithuania (0.47), Poland (0.46), Lithuania (0.53), and the strongest with Romania (0.74). In the

context of declining FDI flows in CEECs, their encouragement is important for accelerating economic growth and convergence, and the screening should not erode this policy. If this is true for the considered countries, it is even more important for Bulgaria, which needs significantly higher economic growth than other countries, because it ranks last in the EU in terms of GDP per capita.

The FDI pattern in Bulgaria has changed in the last decade. Bulgaria has achieved record-high levels of FDI upon joining the EU. The country's membership in the EU has given a strong impetus to foreign investments in Bulgaria, which has become the backbone of the Bulgarian economy. In 2007 the inflow of FDI reached BGN 9.051 billion (Figure 2). Compared to 2001, this is a tenfold increase in just six years. But after the financial crisis, the inflow has sustainably declined.





Not only the small size of FDI flows is a problem for the Bulgarian economy, but also the unfavourable structure of FDI and the poor efficiency of foreign investment in Bulgaria. If not managed properly, the screening may further deteriorate these tendencies.

The sectors that fall in the screening of FDI are shown in Figure 3. This flow is characterized by significant volatility and high concentration in the finance and R&D sectors. Those are sectors with high value-added and the attraction of FDI in these sectors is an important factor for economic development. Furthermore, the sensitive sectors are for the most part a priority for the Bulgarian economy, which makes their future screening especially important to reduce the risks of not achieving the national priorities.



Figure 3: FDI inflows in the sensitive sectors for the national security (million EUR)

Source: Bulgarian National Bank (BNB) (2024).

Source: BNB (2024).

Sectors	EU	Bulgaria
Industry (total)	85.17	17.33
Mining	100.88	53.53
Textile	36.42	7.59
Paper	58.22	14.11
Metal	62.22	17.70
R&D	84.17	32.45
Energy	71.85	17.98

Table 1: Labour Productivity of foreign controlled companies by sectors in Bulgaria and the EU,2021 (thousand EUR)

Source: Eurostat (2024c).

The difference in the realized labour productivity of companies with foreign participation can be explained by the place of the Bulgarian production in the value chains, where they create only assemblies and details for production without reaching a final product with high added-value. The other reason is that high-tech exports of all commodity exports to Bulgaria are about 5%, while the average for the EU is about 18%. The share of FDI inflows from third countries is about 27% in the last decade. The tendency of slowing down FDI and for some countries disinvestment from the EU countries requires stronger emphasis on the attraction of FDI from third countries. Regarding the source countries of FDI inflows in Bulgaria, it is worth noting that Switzerland, Turkey and the UK are leading, while the investments from the riskiest countries for the screening purposes (like the Russian Federation) strongly decreased (Figure 4). Offshore areas have a significant part of the third countries FDI inflows in Bulgaria.





3 Challenges to the FDI Polices

The analysis suggests fundamental problems in attracting FDI and their efficiency in Bulgaria. From this point of view, the screening is introduced in a very difficult period for the FDI due to: first, weak investments from the main source countries in the EU; second, weak and volatile FDI in Bulgaria concentrated to a large extent from countries that will be subject to screening; third, significant FDI in sectors sensitive to national security concerns; fourth, low productivity of foreign-controlled companies. The data from the Commercial Register suggests a large difference between the registered foreign companies and the registered FDI. In the last three years, 108 348 legal entities have registered business activity in Bulgaria, including 18 266 companies with foreign participation. Obviously, the country is attractive to foreign start-ups, which represent 16.9% of all newly registered companies. In order to assess the expected scope of the screening, a methodology is developed combining three criteria: source country, sector, and size. The estimation comes to around 130 investments per annum.

The change in the foreign direct investment regime in Bulgaria, due to the introduction of mandatory screening of a wide range of investment projects from third countries, contains a potential risk of reducing the investment activity from the affected countries. Some studies suggest that screening does not necessarily have a tangible negative impact on FDI from third countries (Bencivelli et al., 2023). However, those studies do not take into consideration the difference in the design of the national screening mechanism and the way it is managed, which plays a decisive role in the impact of the screening. Bauerle and Meunier (2021) point out the diffusion of foreign investment screening mechanisms. There is a risk of expanding the scope of the sectors and the technologies to be screened. The limited experience of the authorities in this new regime may pose a risk of underestimation of the national security problems as well as overstating them and missing important FDI.

The analysis here has identified important country specifics and challenges that have to be taken into consideration in the screening. More emphasis should be given to the encouragement of FDI from less risky countries and sectors for national security.

4 Conclusion

The study shows that the FDI flows, both in the EU as a whole and in CEE are highly dependent on investments from third countries and in sectors that are particularly important for the economy and the national security. This means that screening mechanisms should be designed and applied with particular care.

A large number of companies will fall into a screening regime which requires efficient rules and procedures for the screening.

The introduction of the screening mechanism may harm the flow of FDI in Bulgaria and reduce the already weak inflow of investments. In order to mitigate this risk, it is necessary to apply the mechanism selectively and in simplified and transparent procedures. This is especially important for catching-up economies so that they do not deprive themselves of this important factor for economic growth, as well as the technological and green transformation of the economy.

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IMPLICATIONS OF THE EU ECONOMIC AND POLITICAL CHANGES ON TRADE AND INVESTMENT FLOWS OF BULGARIA AND ROMANIA

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Abstract

The present paper has as the key objective the analysis of the changes in the international political and economic environment and their impact on trade and investment in the EU, and two selected countries from the Central and Eastern European Countries (CEEC), namely Bulgaria and Romania. The emergence of successive global economic and political crises has led to changes in international trade and the organization and functioning of global value chains (GVCs). At the same time, opportunities for attracting foreign direct investment (FDI) are decreasing due to the high competition between countries on a global scale and the unfavorable factors due to geopolitical disturbances. In the post-COVID-19 period, the situation in the EU is complicated by an increase in inflationary trends, because of the ECB's expansionary monetary policy, the rise of energy prices, and other structural imbalances at the European level. Those events exacerbated the difficulties already present in the European economies and affected negatively European industrial enterprises. Bulgaria and Romania also experienced a series of economic shocks related to inflation and rising energy prices. Currently, the economies of Bulgaria and Romania are recovering and show relatively better economic indicators in macroeconomic terms compared to the average level of the EU. Despite that, challenges faced by both countries remain in connection with the EU's structural differences. The GDP per capita of Bulgaria is the lowest in the EU, with better performance for Romania. The improvement of foreign trade and the attraction of FDI are a prerequisite for the improvement of labor productivity and technological innovation of industries. The expansion of the export possibilities of Bulgaria and Romania and the inflows of FDI may ameliorate in the future, and this may have good repercussions on the strengthening of the innovative base in the two countries' industries. Bulgaria and Romania continue to experience the effects of global political and economic instability and fierce competition between the countries for quality investments and external trade opportunities.

Key-Words: Causes of global political and economic instability; Foreign trade of Bulgaria and Romania; FDI inflows and policies of Bulgaria and Romania.

JEL Classification: F1, F6, F2

1 Introduction

The purpose of this article is to analyze the changes in international political and economic relations, as well as the impact of these changes on EU trade and investment in Bulgaria and Romania. The global financial crisis, followed by the debt crisis of the Eurozone countries, and the pandemic crisis related to COVID-19 caused economic and financial turmoil on a global scale and led to the strengthening of protectionist tendencies in international trade and the contraction of international investment flows. The impact of the pandemic crisis related to COVID-19 was particularly strong, when economies were closed, industrial production came to a standstill, and transport channels were disrupted to limit the spread of the crisis between countries. Economic and trade restrictions have made the structure and operations of Global Value Chains (GVCs) extremely difficult and altered. In the post-pandemic period, the situation in the EU is complicated due to an increase in inflationary trends, due to the ECB expansionary policy during the COVID-19 crisis, the increase in energy prices, and other factors that have negatively affected European industries. Bulgaria and Romania also experienced a series of economic shocks associated with rising inflation. Currently, Bulgarian and Romanian industries are recovering and showing relatively better indicators in terms of private consumption, improvement in purchasing power and employment, but the countries' foreign trade relations, as well as the attraction of FDI, remain limited by the ongoing global uncertainty, which raises the question of further improvement of the technological base of the two countries.

2 Main changes in international economic and political relations

The world economy has experienced global recessions over the past seven decades: in 1975, 1982, 1991, and 2009. During each of these periods, annual real per capita global GDP contracted, and this was accompanied by the weakening of key indicators of global economic activity. The global recessions were highly synchronized internationally, with severe economic and financial disruptions in many countries around the world. The 2009 global economic and financial crisis (GEFC) was the deepest and most synchronized of the four recessions. (Kose et al., 2021).

The pandemic crisis related to COVID-19 had a strong negative impact on the global economy since the beginning of 2020 (Gopinath, 2020). Through human, commercial, transport, and other channels, it has spread from Asia to Europe and the Americas. The successive waves of the epidemic are accompanied by the withering of economic and social life and severe restrictions on production and consumption. In 2020, the world GDP decreased by 3.1%, and this fall was the most significant, since the deep GEFC. The sudden shutdown of the economies led to a decrease in employment as hours worked fell by 8.8%, compared to hours worked in the pre-pandemic period. This is equivalent to the loss of 255 million full-time jobs. In order to limit the impact of the pandemic crisis of COVID-19 on public health, strict measures were undertaken at the global level, to limit the spread of the infection between countries.

After the pandemic crisis, GDP grew worldwide, in both developed and developing countries, with developing countries showing higher rates of GDP growth on average.



Source: Author's compilation, based on IMF (2024) and World Bank Group (2024).

These restrictions distorted economic activity on the supply side, by negatively influencing production on the demand side. Restrictions reduced the consumption of goods and services, additional difficulties arose in transport and the production networks, and the supplies of goods and services of GVCs diminished. Economic shocks were contained by implementing domestic economic and social policies. The same applies to capital investment as countries rely more on domestic monetary resources to finance industrial investment expenditure to stabilize the economy. FDI contracted, as did import-export operations. The challenges facing the world economy are multiplying, which gives reason to characterize the economic situation in the world as an accumulation of intertwining crises. The "polycrisis"¹ generated changes in the macroeconomic situation of both developed and developing economies. Some countries were doing better economically than others in the post-pandemic crisis. Average bilateral trade in industrial goods decreases by about 10%, when the exporter is subject to a severe economic closure and by about 21% when the importer's economy is closed. The restrictions had a greater impact on demand (from businesses and households), than on the capacity of businesses to produce and export. In 2023, world trade in goods saw a decline of about 1% in real terms, which differed significantly from overall economic growth. This contraction is partly due to a reduction in global demand following the COVID-19 pandemic, during which consumers turned to durable goods rather than services. The ratio of international trade in goods and services relative to GDP peaked at 21.8% in 2019, fell to 20.3% in 2020, increased in 2021 and 2022 to reach a new peak of 25.3% in 2022, and then fell back to 22.4% in 2023 (European Commission, 2024a). The scarcity of resources and goods exacerbated competition between countries. International companies are often forced to fundamentally re-evaluate operating strategies and, for this reason, fundamentally revise the main directions of their future plans. In this regard, GVCs as flexible structures, rapidly readjust the production and commercial schemes of supply and procurement in relation to the changed strategies of the international environment. Manufacturers are targeting multiple interconnected but highly localized value chains. Multi-site chains rely on local suppliers and customers served by production "in the region, for the region". Managing the resulting complexity and increasing costs in multi-site value chains requires manufacturers to digitize and implement automation technologies.

¹ According to the historian Adam Tooze, "it describes the interplay between the COVID-19 pandemic, the war in Ukraine and the energy, cost-of-living and climate crises". <u>https://www.weforum.org/stories/2023/03/polycrisis-adam-tooze-historian-explains/</u>.

Foreign trade transactions have changed bilateral trade patterns over the past two years however the geographic proximity of international trade has remained relatively constant. There is a noticeable rise in the political proximity of trade. This shows that bilateral trade patterns favor trade between countries with similar geopolitical positions (a pattern commonly referred to as "supporting friends"). In parallel, there is an increased concentration of world trade in favor of the main trade relations, although this trend has moderated in the last quarter of 2023. Geo-economics issues continue to play a significant role in shaping key bilateral trade trends. These factors not only impact trade between the major global economies but also indirectly influence their trade dynamics with other trading partners. In geo-economic and geopolitical terms, economies continue to be affected by the effects of the COVID-19 pandemic crisis, armed conflicts, climate change, the presence of natural disasters, and other factors that significantly change international trade and investment and affect international competitiveness.

2.1. The impact of the increase in energy costs on the profitability of European companies

The increase in wholesale prices of electricity and natural gas since 2021 has had a strong impact on the economic and financial stability of European companies. High energy prices are driving up costs for businesses across many channels (Chart 2). The cost of electricity supply increases. An indirect impact is that of disrupting the rhythm along the GVC. One can notice the increase in financial costs related to the maintenance of goods and services. European governments are implementing policies aimed at mitigating the impact of rising costs on consumers and businesses, stabilizing and reducing wholesale prices, and ensuring energy security for households and businesses. Due to significant geopolitical upheavals and the long-term deindustrialization caused by successive waves of offshoring to destinations with lower production costs, European industrial production is experiencing significant difficulties in recovering and upgrading the technological process.

Chart 2: Industrial producer prices, domestic market - monthly data, December 2018, December 2019, December 2020 and monthly data until February 2024 for EU 27 and Eurozone 20 countries



Note: Data refers to industry (excluding construction, sanitation, waste management, and sanitation activities).

Source: Eurostat (2024).

The intertwined crises particularly negatively affected the production of oil and natural gas, land transport, sea and river transport, trade, and repair of automobile industries, which suffered significant losses. Industries that are high energy users also suffered heavy losses.

Businesses suffer losses as their reliance on credit increases, leaving them financially vulnerable. To overcome these problems, measures are recommended, including guarantees for the location of economic activity linked to financial support, additional energy saving and energy efficiency measures for businesses to reduce demand, to attract private and public investments, and the fiscal framework conditions necessary to develop renewable energies, in parallel with the reduction of dependence on fossil fuels. These ambitious goals require an investment of significant financial resources and a reorganization of industry in Europe – the New European Industry.

2.2 Foreign direct investment

In 2022, global FDI fell by 12% compared to 2021 due to overlapping global crises. One can notice the high prices of food and energy carriers and the increasing public spending and debts. FDI in developed economies led to a 37% drop. FDI to developing countries is increasing by 4% and it is definitely the large emerging markets that have attracted the bulk of these investments, while FDI flows to less developed countries remain low and trending downward (UNCTAD, 2023).

The volume of greenfield investment projects grew by 15% (2022) by region and industry. The industrial sector continues to feel the brunt of the disruption of some value chain links, but greenfield investment projects in electronics, semiconductors, automotive, and machinery are increasing, while investment in digital economy sectors is comparatively slowing. International investment in both renewable energy and solar and wind power is growing, but the trend is to slow growth to 8% compared to 50% in 2021. In particular, announced projects in battery manufacturing have tripled to over \$100 billion in 2022 (UNCTAD, 2023).

3 Bulgaria and Romania economies - development and challenges in the near future

The industrial specialization of Bulgaria and Romania has good comparative advantages in the heavy industry sectors, although the changing economic environment, lack of financing and investment and competition from European firms have narrowed the market niche, both within the Single Market (SM), as well as on the world market. Romania is attracting investment in the automotive industry, which has expanded the potential for the car trade, and Bulgaria is involved in the production of spare parts for the automotive industry. The single market is very selective and Bulgarian and Romanian companies are less competitive, due to the higher labor costs per unit of production, the higher energy intensity of production. National capital is insufficient for fixed capital investment and both countries are highly dependent on FDI inflows and funding from European funds.

The EU economies have relatively stabilized since early 2024, and expectations are for improving growth. Private consumption improves due to falling inflation rates, which restores purchasing power and employment. The government deficit, still increasing, is expected to decline only after energy support measures are cut. Public debt is expected to rise slightly next year, indicating the need for fiscal consolidation while protecting investment. The economies of Bulgaria and Romania are gradually recovering, but the challenges facing the countries are increasing given the unstable geopolitical

environment and the associated economic shocks and uncertainty. Global uncertainty continues and – with two wars still in the vicinity of Bulgaria and Romania – this leads to an increase in risks. GDP in Bulgaria and Romania is expected to grow in the foreseeable future. Although private consumption growth is expected to slow, domestic demand is anticipated to remain the main driver of growth, as well as some narrowing of the budget deficit. In Bulgaria, the budget deficit is projected to reach 2.8% in 2024 and 2.9% in 2025, driven by pension and salary costs. Bulgaria and Romania are increasing their government debt (Table 1).

	2023			2024			2025		
Indicators	Romania	Bulgaria	Euro area	Romania	Bulgaria	Euro area	Romania	Bulgaria	Euro area
GDP growth (% yoy)	2.1	1.9	0.4	3.3	1.9	0.8	3.1	1.29	1.4
Inflation (%, yoy)	9.7	8.6	6.4	5.9	3.1	2.7	4.0	2.6	2.5
Unemployment (%)	5.6	4.3	6.6	5.5	4.3	6.6	5.5	4.0	6.5
General government balance (% of GDP)	-6.6	-1.9	-3.6	-6.9	-2.8	-3.0	-7.0	-2.9	-2.8
Gross Public debt (% of GDP)	48.8	23.1		50.9	24.8		53.9	24.6	
Current account balance (% of GDP)	-6.7	-0.4		-7.0	0.3		-6.6	-0.3	

Table 1: Structural macroeconomic indicators - Euro area, Bulgaria and Romania

Source: European Commission (2024b).

After 2014, the imports and exports of Bulgaria remained constant, and after an increase in 2019, in 2020 there was a decrease in foreign trade activity. Trade flows as a share of GDP decreased in 2020, but increased again in 2021 and 2022 (Chart 3).



Chart 3: Bulgaria export and import as a % of GDP



Bulgaria's foreign trade is shrinking despite expectations for a recovery in external demand from the beginning of 2024, and imports to recover due to an increase in domestic demand. For the first five months of 2024, both exports and imports declined. Exports decreased by 6.2% compared to the same period in 2023. The main export destinations within the EU are Germany, Romania, Italy, Greece, and France, which together represent 62.6% of the country's exports.

The stability of the trade partner countries of Bulgaria is probably due to the fact that the essential part of the Bulgarian exporters and importers are owned by companies from the partner countries. Trade with them follows their strategic interest, and is not the result of any national Bulgarian policy, as can be formally seen from the positive trade balance with developed EU economies like Germany. The 1.5% concession fee for the extraction of strategic raw materials is very low and it has not been changed for years. In 2023, on an annual basis, Bulgaria was a net importer of electricity in euros and in MWh after decades of being a net exporter of electricity.²

Romania's foreign trade did not decrease significantly during the Covid-19 pandemic crisis, with imports exceeding exports. Foreign trade of Romania has a lower share in its GDP as compared to Bulgaria (Charts 3 and 4). The country mainly exports machinery and transport equipment (44.8% of total exports in 2023, mostly cars), manufactured goods classified mainly by raw materials (15.9%), miscellaneous manufactured articles (13.9%), and food and live animals (8.2%). Imports are led by machinery (36.8%); mineral products; chemical products; and base metals (INSEE, 2023).

The European Union is the main trading partner, accounting for 72.6% of total exports and 73.3% of imports in 2023. The leading countries for exports are Germany (19.8%), Italy (10.1%), Hungary (7.3%), France (6.0%), and Bulgaria (3.9%); whereas imports are led by Germany (17.8%), Italy (8.2%), Bulgaria (7.1%), Hungary (6.5%), and Poland (5.9%) (UN Comtrade, 2022).

² The Maritsa-East 2 state thermal power plant is operating at less than 30% of its capacity, and Bulgaria imports electricity from countries that it used to supply until recently - Greece, Serbia, Turkey, and North Macedonia. The Bulgarian energy industry is in a very difficult position, as high coal-fired electricity prices make plants increasingly uncompetitive due to the huge carbon emissions fees they are forced to pay, and it is increasingly profitable to import than to produce. For this reason, the production of electricity in Bulgaria is also falling - by nearly 19% in the beginning of 2024, as compared to the same period in 2023. The share of renewable sources in the transmission network is growing significantly - by 40% to 40,985 MWh. The participation of base plants (coal and Kozloduy nuclear power plant) in the energy balance of the country decreased by a total of 22.26%. They produced 639,826 MWh of electricity, while in 2023 – 823,019 MWh (Electricity System Operator of Bulgaria).



Chart 4: Romania export and import as a % of the GDP, 2017-2023



Bulgaria and Romania have included in their national legal frameworks the requirements of Regulation (EU) 2019/452 of the European Parliament and of the Council of March 19, 2019, for the screening of FDI in the EU. ("FDI Regulation"). The amendments to the Investment Promotion Law (IPL) of Bulgaria have been in force since March, 2024. On July 17, 2024, Romania adopted Law No. 231/2024 (17.07.2024) which further amended its FDI screening regime. Under the FDI Regulation, Bulgaria and Romania are expanding the sanctions regime, equalizing the treatment of EU investors with that of non-EU investors. It standardized the handling of unauthorized investments for both categories of investors, and penalties can be applied for both unintentional and willful actions. Prior permission is required for all FDI, especially those in the energy sector, transport, water resources, healthcare, defense and space technology, and others. According to the National Bank of Romania, foreign direct investment in Romania averaged €434.23 million (2005-2024), reaching a peak of €2933.00 million in October 2006 and a low of -1073.12 euro (March 2020). In Bulgaria, the inflows of FDI decreased sharply after 2009, with the majority of FDI carried out in the period up to 2010. Subsequently, FDI as a percentage of GDP decreased and ranges from 3 to 4% (Chart 5).





Source: macrotrends.net/global-metrics/countries/BG/RO/foreign-direct-investment

4 Conclusion

Global political and economic uncertainty is significantly changing the ways in which the EU deals with the current polycrisis. High energy prices have also had a negative impact on the competitiveness of European production, combined with a disruption in the synchronization of the supply of goods and services along the value chain. It is also a factor that encourages companies to outsource their activities outside the European Single Market, thereby reducing the EU's strategic independence. European value chains, which have experienced numerous shocks in the organization of production and trade, are directing their activities towards close geographical areas and implementing energy-saving measures to resist internal and external competition.

A tense economic environment gives rise to new concepts regarding trade and investment aimed at implementing technological measures to pre-empt expectations of the coming crisis, as well as prevention of expected economic shocks. Similar measures are aimed at developing "skill economies" by creating specialized teams, recruited globally trained in-house, and flexibly deployed. Sustainability will become an integral part of localized operations as manufacturers make this transition. Currently, technological and organizational links are based on the assumption that production efficiency is the foundation of durable stability. In this regard, although the industrial sector of Bulgaria and Romania is more significant as a percentage of GDP compared to other developed economies of the EU, efforts should be directed to the development and implementation of new technologies to increase the competitiveness of their production. The stagnation of imports and exports, despite some revival, as well as the shrinking of FDI inflows, compounded by the introduction of the "FDI Regulation", limits external financing and opportunities for industrial sector renewal. EU countries enter a competitive struggle to attract quality FDI.

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CEE ECONOMIES 20 YEARS AFTER THE EU ENLARGEMENT

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Abstract

On the 1st of May 2004, 10 countries from Central and Eastern Europe joined the European Union, within the first enlargement wave towards the former communist countries, also known as the Big Bang phenomenon. This enlargement towards the eastern part of the continent was also determined by economic rationales, including the competition among the main economic blocks following the fall of the Berlin Wall, the structural challenges the companies in Western Europe faced, and demographic changes.

This paper focuses on the analysis of the macroeconomic developments in the largest economies in CEE (Poland, Romania, Czechia, and Hungary) following their integration within the European Union, by implementing standard econometric tools (Cobb-Douglas production function) and using the Eurostat database. According to the analysis, the economic convergence of the CEE countries towards the EU average is not fully attained 20 years after the enlargement towards the East. Furthermore, there is huge potential for integration within the economies in CEE. Last but not least, the gap between the CEE and EU average continues to be elevated, while the risk of divergence in the mid-run is on the upside, taking into account the slow implementation of the Digital Revolution and the low level of the R&D expenditure in the Eastern part of Europe.

Key-words: EU enlargement, CEE economies, economic convergence

JEL Classification: F21, F43, O16, O43, O52

1 Introduction

On the 1st of May 2024, the European Union (EU) commemorated 20 years since the first wave of the enlargement process towards Central and Eastern Europe (CEE), the most important in the history of the EU if we take into account the number of countries, the dimension of the cumulated GDP, and the total population of these states. Poland, Czechia, Hungary, Slovakia, Slovenia, Lithuania, Latvia, Estonia, Cyprus, and Malta joined the European Union 20 years ago, an event known as the *Big Bang* of the EU enlargement, as also emphasized by Euractiv (2024).

The criteria for the EU enlargement towards Central and Eastern Europe were established by the Copenhagen Summit in the summer of 1993 (ECFR, 2023): democracy, rule of law, a free market economy, and the protection of human rights. The effective decision of the EU to enlarge towards Central and Eastern Europe was taken at the Summit of Madrid in December 1995 (European Parliament, 1995), this process being considered as "… *a political necessity and a historic opportunity for Europe*…".

The enlargement had an unprecedented impact on the former communist economies in terms of growth and convergence, as also underlined by the Chief Economist of the World Bank for Europe and Central Asia 12

years ago (Indermit and Raiser, 2012): "... One can say without exaggeration that Europe invented a 'convergence machine', taking in poor countries and helping them become high-income economies...". It is very important to emphasize the fact that, after the end of the communist regimes in 1989, the countries from CEE manifested a strong interest and enthusiasm to join the European Union, especially taking into account the economic development gaps between East and West, the first applications being sent by Hungary and Poland in the spring of 1994. On the other hand, the enlargement towards CEE was positively seen by the EU, first of all, taking into account the stability and international security rationales, as emphasized by Bardi et al., 2002).

From the political point of view, the EU enlargement towards CEE in May 2004 brought unprecedented changes in the societal structures and constitutions of the former communist countries, as pointed out by Tadeusz Koncewicz (Verfassungsblog, 2016).

As regards the social dimension of this enlargement process, there can be noticed the decline of poverty (below EU average in some CEE countries), the improvement of living standards (especially in the rural areas), and the decrease of corruption, according to the analysis of Kopinski et al. (2024). Overall, the human development index improved significantly in the CEE countries after their entry into the European Union.

The EU enlargement towards CEE was supported by several rationales from the economic point of view, as emphasized by Radulescu (2024) in the article for Bretton Woods Committee:

- 1. the fierce competition among the main economic blocks in the world following the fall of the Berlin Wall;
- 2. the structural challenges (including the pressures in terms of margins and the competition for markets) across the companies in Western European countries;
- 3. the demographic changes, including the aging population in Western Europe and the need for inflows of educated active population.

The entry into the European Union generated an unprecedented economic convergence for the countries in Central and Eastern Europe towards the EU average, an evolution supported by the huge capital inflows, with a spill-over impact on the economy and positive consequences for the dynamics of the potential output. The level of the GDP/capita (as a percentage of the EU average, at purchasing power standards) increased significantly in the CEE countries from 1995 (the year of the Summit of Madrid) until 2023, being noticed the performance of Romania (the champion of the EU in terms of real economic convergence over the past decades) – this indicator grew from around 30% in 1995 to almost 80% in 2023, as can be noticed in the Figure 1. However, the European economic convergence process proved not to be a one-way highway, as reflected by the developments in Czechia, Slovenia, and Slovakia, given the fact that the global shocks (endogenous and/or exogenous) had symmetric impact, but also asymmetric consequences.

This paper focuses on the analysis of the economic convergence process across the largest economies from CEE (Poland, Romania, Czechia, and Hungary) from the structural perspective, by implementing standard econometric tools (Cobb-Douglas production function) and using the Eurostat database.

The rest of the paper has the following structure: chapter 2 presents the economic convergence in CEE; chapter 3 briefly describes the methodology; the main results of the analysis are pointed out in chapter 4; the conclusions are presented in the last chapter.



Source: Representation of the author based on Eurostat database (2024).

2 Economic convergence in CEE

The enlargement of the European Union towards the countries in Central and Eastern Europe determined a significant increase of the capital inflows in these economies, an evolution supported by several factors, among which one can mention:

- the significant potential for the Western European companies to do business in the CEE region

 these implemented unprecedented greenfield investments, part of the production being
 exported to the global markets, while the other part directed to the local market;
- 2. the low level of wages in the CEE region and the potential for the consumption pattern to converge towards that in Western Europea in the mid-run;

The capital stock increased by average annual paces of 4.1% in Poland, 4.6% in Romania, 2.2% in Czechia, and 3.0% in Hungary during the period 2003 (the year before the EU enlargement towards Central and Eastern Europe) and 2023, according to the AMECO statistics, as can be noticed in Figure 2.



Figure 2: The average annual dynamics of the capital stock 2003 – 2023 (%)

Source: Representation of the author based on AMECO database (2024).

The significant increase of the capital stock had positive impact for the total productivity factor in the CEE countries over the past decades. For instance, the figures of AMECO indicate an increase of the marginal

efficiency of capital by cumulated paces of 4.1pps in Poland, 3.2pps in Romania, 1.7pps in Czechia, and 1.9pps in Hungary during 2004 – 2023.

At the same time, the labour productivity improved significantly in the CEE countries after their integration within the European Union, being noticed the performance in Romania and Poland – in these countries, the labour productivity per hour worked (as a percentage of the EU average) rose from 33.0% and 50.2%, respectively in 2005 to 74.0% and 65.7% respectively, in 2023, according to the statistics of Eurostat, as can be noticed in Figure 3.





Source: Representation of the author based on Eurostat database (2024).

Overall, between 1995 (the year of the Madrid Summit) and 2023, the GDP grew by average annual paces of 3.9% in Poland, 3.0% in Romania, 2.2% in Czechia, and 2.5% in Hungary, significantly higher compared to only 1.4% in Euroland (the main component of the European Union, and also the main economic partner of the CEE countries), according to Eurostat database.

However, there can be noticed divergences among the CEE countries, especially in terms of macroeconomic equilibria. For instance, Romania presents a higher level of disequilibria, as reflected by the gap between Total Investments and National Savings, according to the database of the International Monetary Fund (IMF) (2024).

3 Methodology

This paper applies standard econometric tools in order to estimate the contribution of the production factors to the YoY pace of the potential output in Euroland and the main economies in Central and Eastern Europe.

The classic Cobb-Douglas production function is implemented on the annual data from Eurostat for the period 1999 – 2023 for Euroland and the main economies in Central and Eastern Europe from the nominal dimension of GDP (Poland, Romania, Czechia, and Hungary).

The Cobb-Douglas production function is represented by the following formula:

$\mathbf{Y}_t = \alpha \mathbf{x} \mathbf{L}_t + (1 - \alpha) \mathbf{x} \mathbf{K}_t + \mathbf{TFP}_t$

(1),

where Y_t , L_t , K_t , and TFP_t are the YoY pace of GDP, Labour, Capital, and Total Factor Productivity, while α is the elasticity of output with respect to labour (for which the value of 0.65 is considered).

The capital factor is estimated by the perpetuity method:

$$\mathbf{K}_{t} = \mathbf{K}_{t-1} \mathbf{x} (1-\mathbf{d}) + \mathbf{GFCF}_{t},$$

(2),

where d is the annual depreciation ratio (considered at 5% in this paper), while $GFCF_t$ is the gross fixed capital formation.

The capital stock of 1995 (as estimated by the paper of Derbyshire et al. (2010)) was considered in this analysis for the starting point. As regards the labour factor, it was estimated based on the following formula:

Labour = employment * employment rate * (1-unemployment rate)*number of working hours (3)

Last, but not least, the total factor productivity was estimated based on the following formula:

$$\mathbf{TFP}_{t} = \mathbf{Y}_{t} - \boldsymbol{\alpha} \mathbf{x} \mathbf{L}_{t} - (1 - \boldsymbol{\alpha}) \mathbf{x} \mathbf{K}_{t}$$
(4).

In this paper the trend components for the macroeconomic variables were estimated by the implementation of the Hodrick-Prescott filter, one of the most used methods in the macro -econometric literature, as it is simple and transparent, at the same time.

This method is based on the following formula:

$$\operatorname{Min}\sum_{t=1}^{T} \left(\ln Y_{t} - \ln Y_{t}^{*}\right)^{2} + \lambda \sum_{t=2}^{T-1} \left(\left(\ln Y_{t+1}^{*} - \ln Y_{t}^{*}\right) - \left(\ln Y_{t}^{*} - \ln Y_{t-1}^{*}\right)\right)^{2}$$
(5),

where Yt, Yt*, and λ are the macroeconomic variable, its trend, and the smoothness parameter.

According to Hodrick-Prescott (1997), the lower the value of the smoothness parameter, the closer the macroeconomic variable to its trend. This paper takes into account a value of 100 for this parameter, as also applied by the paper of Hodrick-Prescott.

Last but not least, in order to assess the economic convergence, the standard deviation was computed for the contribution of the production factors to the YoY pace of the potential output and for the cyclical and trend components of the output for the CEE countries included in the analysis.

4 Main results

According to the results of the applied methodology, the potential output presents divergent dynamics across the countries in CEE included in the analysis over the past decades, as reflected in Figure 4. For instance, in recent years, there can be noticed an upward trend for the YoY pace of the potential output in Romania, with the value estimated for 2023 being 3.4%, the highest level since 2008 (when the economy started to be affected by the Great Financial Crisis, the worst world economic and financial crisis since the end of the Second World War).

This evolution was determined by the improvement of the contribution of the total productivity factor (to 1.4pps in 2023, the maximum since 2009), and the increase of the contribution of the capital stock (to 1.9pps last year, the best dynamics since 2012), in the context of the acceleration of the investments flows in the economy. According to the estimates of the National Institute of Statistics (NIS) the gross fixed capital formation in Romania advanced by more than 14% YoY in 2023, given the implementation of the EU programs for the development of the critical infrastructure. On the other hand, the contribution of labour to the YoY pace of the potential output decelerated to only 0.1pps in 2023, the lowest level since 2014. At the same time, in Poland the YoY pace of the potential output improved from 3.1% in 2022 to 3.3% in 2023, the best dynamics since the pandemic year 2020, as can be noticed in Figure 4.

This evolution was mainly determined by the improvement of the contribution of the capital factor to 1.5pps, the highest level since 2019. Furthermore, the contribution of the labour factor to the YoY pace of the potential output in Poland consolidated at a record high level of 1.4pps in 2023. On the other hand, the contribution of the total productivity factor to the annual dynamics of the potential output maintained the downward trend in Poland in 2023, to 0.4pps, a record low level, an evolution confirming the sluggishness of the structural reforms.





Source: Representation of the author based on the results of the applied methodology by taking into account the Eurostat database (2024).

In Czechia, the YoY pace of the potential output consolidated on the downward trend in 2023, to a record low level for the past decades (0.9%). This evolution was mainly determined by the unfavourable dynamics of the labour factor – negative contribution for the third year in a row, intensifying to -0.8pps. At the same time, the contribution of the capital factor to the YoY pace of the potential output stagnated at the record low level of 1pp in 2023. On the other hand, the contribution of the total productivity factor to the YoY pace of the potential output consolidated at 0.6pps last year, the highest level since 2008, according to the results of the estimates, presented in Figure 4. Last but not least, the YoY pace of the potential output presented a

downward trend in Hungary in recent years, to 2.2% in 2023, the lowest level since 2014, according to the results of the estimates.

This evolution was determined by the deterioration of the contribution of the capital and labour factors, to 0.8pps and 1.4pps, respectively, the minimum levels since 2017 and 2011, respectively. The total productivity factor had a benign contribution to the YoY pace of the potential GDP of Hungary in 2023, the weakest performance since 2018, given the slow pace of the structural reforms.

Taking into account the results presented above, the divergence among the CEE countries in terms of the dynamics of the potential output intensified since 2018, with the standard deviation hitting in 2023 the highest level since 2011, as can be noticed in Figure 5. This divergence was mainly determined by the contribution of the capital factor, according to the results of the methodology applied. Furthermore, the contributions of the labour and total factor productivity contributed to the intensification of the divergence among the CEE countries in the recent years.



Figure 5 Standard deviation for the YoY pace of the potential output among CEE countries

5 Conclusions

The enlargement of the European Union towards Central and Eastern Europe starting in May 2004 contributed to the economic convergence of these economies towards the EU average at an unprecedented speed. However, the speed of the economic growth and development process in the CEE countries diminished in intensity in recent years, especially since the outbreak of the Covid-19 pandemic, the world's most severe health crisis in more than a century. Furthermore, the divergence among these countries intensified recently, as reflected by the results of the econometric estimates for the dynamics of the potential output and the contribution of the production factors to the YoY pace of the potential GDP.

Source: Representation of the author based on the results of the applied methodology by taking into account the Eurostat database (2024).

The current analysis expresses the fact that now it is high time for the CEE countries to focus on the acceleration of the structural reforms, on the transition from quantity to quality. In this respect, the CEE economies have significant homework to do in the coming quarters and years, given the huge gaps compared to the EU average in terms of several structural indicators, that have an impact on the YoY pace of the potential output in the mid-run:

- 1. the research and development (R&D) expenditure;
- 2. the tertiary education;
- 3. the digital economy and society.

In fact, at present, the CEE countries are the laggards of the EU in terms of the above-mentioned indicators, as the focus of the economic policies implemented over the past decades was the fast convergence from the quantity point of view, with lower attention paid to the quality of this process.

At the end of this paper, there must be emphasized the fact that, unless structural reforms are accelerated across the CEE countries, this region risks diverging from the EU average in the future, as the EU economic convergence process proved not to be a one-way highway (consider for instance the case of Czechia).

In other words, 20 years since the EU enlargement, the convergence of the CEE countries towards the European Union average is not fully attained, while the risks of transition from convergence to divergence in the coming years are on the upside, given the significant distance CEE-EU average in terms of the structural factors (R&D, tertiary education, and digital economy and society index).

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THE CHANGES IN THE FISCAL GOVERNANCE IN THE EU: IMPLICATIONS FOR BULGARIA AND ROMANIA

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Abstract

Economic governance has been a key pillar in the architecture of the Economic and Monetary Union (EMU) since 1992, which aims to prevent and correct macroeconomic imbalances that could weaken national economies and affect other EU countries. From 2020, the EU economy faces new challenges related to the consequences of the COVID-19 pandemic and the invasion of Russia in Ukraine, as well as the EU's climate neutrality goals by 2050. In April 2023, the European Commission presented a reform package for the Stability and Growth Pact's (SGP) economic governance framework as a key pillar of the EMU. In April 2024, the European Council and the European Parliament adopted three legislative acts – two regulations and a directive, for their transposition to the EU Member States' budget frameworks. This study analyses the new European legislation related to the SGP and examines what changes the European Commission's surveillance will undergo for the Member States, focusing on Bulgaria and Romania. The study analyses the status of the main fiscal aggregates of Bulgaria and Romania as of May 2024, including the growth of "net nationally financed primary expenditures" as a new indicator of the medium-term fiscal-structural plans which will be presented by the Member States for the first time in late 2024.

Key-words: Fiscal policy; National Budget, Deficit and Debt; International Economic Integration **JEL:** H30, H61; F02

I Introduction

As a result of the recent research on the management of macroeconomic imbalances and a public discussion on the EU fiscal rules, in November 2022 the European Commission (EC) proposed a reform of the economic and fiscal management framework of the Member States (MS) in the European Union (EU), focusing on public expenditure predictability to ensure long-term debt sustainability and economic growth, addressing issues related to the coordination and monitoring of EU economic policy.

At the time of the pandemic crisis, the one-off fiscal measures to deal with its consequences worsened substantially fiscal balances in the EU MS. In 2020, as a temporary measure, the EC introduced a derogation from the fiscal rules under the Stability and Growth Pact (SGP) which lasted till end-2023. Following the fiscal support of the MS through the national recovery and resilience plans (NRRP) and the first tranches of the Recovery and Resilience Mechanism (RRM) under the Next Generation EU initiative, the EC has
decided to revise the EU fiscal rules, introducing additional requirements on the growth of the nationally financed public expenditure and the documents presented by the MS for surveillance.

In this regard, the article examines the changes in the EU legislative documents for the Stability and Growth Pact, including new budgetary framework indicators and the medium-term structural plans, that the European Commission's surveillance will undergo for the MS, and in particular for Bulgaria and Romania.

2 Public expenditure predictability for debt sustainability

Following the initiatives for the EU 2021-2027 program period, including the RRM under the Next Generation EU initiative, to recover economic growth and to reach the Green Deal's and digitalisation targets, the EC proposed to amend regulations related to the supervision of the budgetary framework and economic policies of the MS. The EC argued that the framework for fiscal rules has relied on unobserved macroeconomic indicators (e.g. structural primary fiscal balance) that are sensitive to changes and affected by cyclical conditions and that simplification is needed in the new economic environment. The budgetary framework has also been criticized for containing a complex set of interpretive provisions, including various flexibility clauses, which made the implementation of the framework complex and hindered transparency.

On 26 April 2023, the EC presented legislative proposals to implement a comprehensive reform of EU budgetary and economic governance rules. The reform places emphasis on the predictability of public expenditures for government debt sustainability. Another objective has been to include in the multi-year budget planning of the MS the implementation of structural reforms through the NRRP that rely on grants and loans from the EU. On December 21, 2023, the European Council officially approved a mandate for negotiations with the European Parliament on the new regulation on preventive measures and an agreement in principle on the regulation on corrective measures and the directive on the requirements for national budget frameworks. In February 2024, a political agreement on the proposed reform of the EU's economic governance framework was reached. In April 2024, the European Parliament and the Council adopted the new legislation reforming the EU fiscal rules.

The approved package consists of three legislative acts related to the preventive and corrective parts of the SGP economic governance framework as a key pillar of the EMU (Figure 1).

Regulation (EU) 2024/1263 of the European Parliament and of the Council of 29 April 2024	•on the effective coordination of economic policies and on multilateral budgetary surveillance and repealing Council Regulation (EC) No 1466/97 (the preventive part)
Regulation (EU) 2024/1264 amending Regulation 1467/1997	• on speeding up and clarifying the implementation of the excessive deficit procedure (the corrective part)
Council Directive (EU) 2024/1265 amending Directive 2011/85/EU	•on the requirements for the budgetary frameworks of the Member States

Figure 1: The EU 2024 budgetary and economic governance

Source: European Commission (2024).

The changes in the framework have aimed to facilitate effective macroeconomic and fiscal surveillance through a common framework that ensures equal treatment and multilateral coordination of the MS policies and sustainable socio-economic development in line with EU priorities. The framework includes new predictable rules on the level of nationally financed primary public spending and provisions for fiscal deficit and debt derogations in the event of economic shocks. It also aims to provide an integrated approach where monitoring tools complement each other in the context of the European Semester.

For the purposes of monitoring and achieving the economic development goals, it is envisioned to monitor a single operational indicator for assessing debt sustainability, taking into account the demographic situation and the aging population in the MS. This indicator will serve as the basis for determining the fiscal trajectory and annual fiscal surveillance for each MS. This single operational indicator, called "net nationally financed primary expenditure", is defined as the total budget expenditures of General Government sector³ are adjusted by: (i) interest expense; (ii) discretionary measures in the revenue part of the budget; (iii) expenditure on programs financed with EU funds corresponding to the European funding; (iv) national costs for co-financing of the EU-funded projects; and (v) cyclical elements of unemployment benefit costs.



Figure 2: The main pillars of the EU medium-term fiscal-structural plans

Source: European Commission (2024).

The monitoring of the economic development and employment of the MS will be carried out with national medium-term fiscal-structural plans, covering a period of 4 or 5 years, depending on the usual length of the national legislative mandate. In these plans, countries should demonstrate that the net nationally financed primary expenditure path ensures that over the medium term the deficit remains firmly or moving towards the 3% reference value, and that debt will gradually decline within reasonable limits, reaching and remaining below the 60% reference value from GDP under unchanged policies in a 10-year period after the end of the plan.

The three pillars of the medium-term fiscal structural plans (fiscal, structural reforms and investments) should include measures for:

³ Coverage of the units of the General Government sector is based on the European System of Accounts (ESA 2010).

- Wider reforms and investments, including in relation to common EU priorities such as the Green Deal and the transition to climate neutrality by 2050;

- Implementation of the European climate legislation and transition through national energy and climate plans;

- Digital transition, including the 2030 Digital Decade Policy Agenda;

- Social and economic sustainability and the implementation of the European Pillar of Social Rights, including the associated employment, skills and poverty reduction targets by 2030;

- Energy security and building capabilities;

- The strategic compass for security and defence or subsequent EU acts relevant to these priorities;

- Commitments entered into in the NRRP during the operation of the RRM.

The EC will discuss and agree with the MS on a reference multiannual adjustment path for the net nationally financed primary expenditure path. The EC will also discuss and agree with the MS on the corresponding level of the structural primary fiscal balance at the end of the four-year adjustment period.

3 Implications for Bulgaria and Romania

Both Bulgaria and Romania need to present their first medium-term fiscal-structural plans to the EC by September 20, 2024. The fiscal challenges of both countries are different not only because of their fiscal stance, but also due to the requirements for Bulgaria, being in Exchange Rate Mechanism II, to comply with the Maastricht criteria before joining the euro area.

Comparing both Bulgaria and Romania, the status of public finances and projections for fiscal consolidation in the medium term differ, despite the fact that in both the nationally financed primary spending increased substantially in recent years. The general government sector deficit for 2023 in Bulgaria was well below the reference level of 3% of GDP, while in Romania it remained high above it. The debt level of both countries is below the reference level of 60% of GDP, but Bulgaria's government debt level is much below Romania's and the second lowest for 2023 in the EU after Estonia (Figure 3).



Figure 3: Bulgaria's and Romania's Maastricht fiscal indicators for 2023

Source: Eurostat (2024).

The 2024 review of both countries' fiscal stance by the EC based on the new budgetary framework requirements for the growth in net nationally financed expenditures with the medium-term economic growth gives further analysis of their differences. Based on the EC's estimates, the fiscal stance in Bulgaria is projected to be slightly contractionary, while in Romania broadly neutral, following a contractionary fiscal stance of 0.4% in 2023. In Bulgaria, while the contribution of the net nationally financed current expenditure is expansionary by 0.1% of GDP, the reduction of the nationally (by 0.6%) and EU-financed (by 0.6%) investment expenditure led to the insignificantly contractionary fiscal stance in 2024 of 0.3%.

During the period 2020-2023, the fiscal stance of both countries worsened due to continued high government spending growth, particularly in social and personnel expenditure, and one-off fiscal support for businesses and energy subsidies to overcome the pandemic and energy crises in the EU. A slowdown in government revenue due to weaker-than-expected nominal GDP growth also had a negative impact on fiscal balances. The assessment of the EC Convergence Report as of May 2024 is that both countries should reduce further the pace of the growth of net nationally financed primary expenditures by 1.6 percentage points for Bulgaria and 6.8 percentage points for Romania (Table 1).

Indicator	Bulgaria	Romania
General government deficit (as % of GDP)	2.3	6.9
Total revenue (as % of GDP)	37.2	34.2
Total expenditure (as % of GDP)	39.9	41.1
Of which: interest expenditures (as % of GDP)	0.5	2.0
Fiscal stance (%)	0.3	-0.1
Recommended growth in net nationally financed primary expenditure (%)	4.6	7.5
Growth in net nationally financed primary expenditure (%)	6.2	14.3
Government debt	24.8	50.9
Real growth	1.9	3.3

Table 1: Projections for public finances of Bulgaria and Romania for 2024

Note: The EC states that the fiscal stance can have a positive (negative) sign which corresponds to a shortfall (excess) of primary expenditure growth compared with the medium-term economic growth, indicating contractionary (expansionary) fiscal policy.

Source: Own estimates, EC's 2024 Convergence Report.

For both Bulgaria and Romania, the RRM funding has been reduced compared to the initially planned resources. In Bulgaria, the RRM funding has been reduced from $\notin 6.3$ bn to $\notin 5.7$ bn, while for Romania from $\notin 29.2$ billion to $\notin 28.5$ billion after the changes in the NRRP in 2023.

Bulgaria received only one tranche of $\in 1.3$ billion from the RRM in December 2022 later than other MS due to the latest approval of its NRRP, and the country is still struggling from a lack of necessary legislative changes as a requirement for the next tranches. The reduction of the funds by $\in 0.6$ bn is mainly due to the delayed amendments in the legislation and start of the implementation of the relevant procedures for some of the initially set projects, as well as the expectations of delays in the supply chains for storage infrastructure. The largest reduction of RRM funds is for the project to build a park with batteries for storing energy from renewable energy sources. More than $\in 0.8$ bn were originally earmarked for it, but they were reduced to $\in 0.4$ bn. The remaining funds of 4.3 billion will be disbursed after the assessment of the future fulfilment of the remaining 299 milestones and targets.⁴

Romania already received several tranches amounting to $\notin 9.4$ bn ($\notin 5.8$ bn in grants and $\notin 3.6$ bn in loans) as of mid-April 2023. The disbursement has been provided after the assessment of 49 out of 51 milestones, being used for projects related to green targets, digitalisation, healthcare, affordable housing, culture, business environment, decarbonization of transport, and rural fire prevention. Through changes to the macroeconomic and fiscal management framework, the assessment of fiscal risks to long-term fiscal sustainability the medium-term fiscal-structural plans will incorporate the structural reforms from the RRM to better account for its effects and address vulnerabilities related to large debt burdens over a 10-year horizon. The plans should include an enriched set of sensitivity tests, improved reporting of funding needs and financial market information, and a more comprehensive mapping of sovereign (contingent) liabilities. The links between institutional factors and fiscal sustainability should be reviewed, the impact of the use of financial markets, interest rate expectations, and the impact on accounting for government assets in fiscal sustainability frameworks should be analysed.⁵

	Bulgaria	Romania
EU Cohesion Policy Funding	11.0	31.5
RRM Funding (in bn €)	5.7	28.5
of which:		
Grants (in bn €)	5.7	13.6
Loans (in bn €)	-	14.9
RRM funding as % of GNI for 2023	3.1	1.8
Additional growth above baseline scenario due to the RRM (%)	0.3-1.1	1.0-2.0

 Table 2: The EU funding for Bulgaria and Romania for the 2021-2027

Source: Own estimates, Spring 2024 Fiscal Notifications of Bulgaria and Romania, Recovery and Resilience Scoreboard, https://ec.europa.eu/economy_finance/recoveryand-resilience-scoreboard/index.html.

⁴ European Commission (2024). SWD(2024) 602 final, 2024 Country Report - Bulgaria, <u>https://economy-finance.ec.europa.eu/publications/2024-european-semester-country-reports_en</u>.

⁵ European Commission (2024). SWD (2024) 623 final, 2024 Country Report - Romania, <u>https://economy-finance.ec.europa.eu/publications/2024-european-semester-country-reports en</u>.

Our assessment of the RRM contribution to fiscal revenues is between 0.9% and 1.2% for Romania and Bulgaria, respectively. The EU funds' annual impact on economic growth is between 1.1%-3.5% for Bulgaria and 1%-4% for Romania.⁶ The RRM funding is 1/3 of the 2021-2027 EU funding for Bulgaria and around 1/2 for Romania, and its additional annual impact on the baseline scenario of the economic growth of Bulgaria and Romania will depend on its crowding-out effects and absorption rate.

The RRM funds provide significant fiscal support under the NRRP for boosting economic growth and that is why the medium-term fiscal plans should incorporate the policies implemented under the NRRP. In this regard, a list of additional indicators on received grants and loans and related expenditures, when the action of the RRM ends in 2026, has been added to the medium-term fiscal structural plans. Thus, the framework is envisioned to monitor the potential fiscal risks, including from the projects financed by the RRM funds used by the MS under their NRRP, as the RRM funds are also at the expense of debt issued by the EC and subsequent repayment through the contributions of the MS.

4 Conclusion

The new paradigm of EU economic growth envisaged for the 2021-2027 program period is focused on restoring the economic growth and the sustainability of public finances, and through the additional funds from the RRM, which requires strengthening the predictability of the MS net nationally financed public expenditures for public debt sustainability. In this regard, the new architecture for financial and macroeconomic management lays down the new requirement, including the new medium-term fiscal-structural plans of the MS as their commitment related to the predictability of the growth rate of net nationally financed primary expenditures and measures taken for the downward trajectory of the public debt to reasonable levels.

The implementation of the 2021-2027 EU priorities is taken into account in the MS medium-term fiscal structural plans in order to assess regularly potential fiscal risks. The main risks could come from deficiencies in the capacity of national administrations to spend the available funds effectively and efficiently, but also delays in the implementation of the planned projects, difficulties in attracting private investment or permanent supply constraints after the COVID-19 pandemic. The other important aspects are the implications of debt issuance at the EU level and their potential impact of the Next Generation EU on the EU's climate and digital economy's goals.

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⁶ See Paliova, I. (2024). Fiscal Consolidation and Growth Effects of the EU Funding During 2021-2027 in Central and Eastern Europe. – Economic Studies (Ikonomicheski Izsledvania), 33(4), pp. 90-111.

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THE SHIFTING PATTERNS IN CHINESE FDI IN THE EUROPEAN UNION UNDER RECENT ECONOMIC AND GEOPOLITICAL CHALLENGES

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Abstract

Major investment opportunities provided by the European Union (EU), i.e., technological expertise, access to a large market for goods and services, access to third-party markets through European corporate networks, well-known branding of European companies, political and diplomatic influence in the region, have led China to expand its investment in the EU during the last decade. In addition, the Chinese Going Global strategy and the Belt and Road Initiative (BRI) have fueled this upward movement. However, under the impact of the pandemic crisis and the multiple crises generated by the invasion of Ukraine, this ascending movement has been reversed. On the one hand, ongoing capital controls in China and an economic slowdown led to a drop in Chinese outbound foreign direct investment (FDI) to European countries. On the other hand, the EU has launched several actions to tighten its investment screening regulations, in a move designed to keep foreign entities out of industries it believes are vital to national security. Moreover, the invasion of Ukraine by the Russian Federation increased the risks related to the economic security of the EU and underpinned more actions towards investment screening. The research aims to identify the main patterns of Chinese FDI in the EU under the last economic and geopolitical challenges, but also to emphasize the recent European authorities' decisions towards investment screening.

Key-Words: foreign direct investment, investment screening, EU, China, Belt and Road Initiative, pandemic crisis.

1 Introduction

The highly open FDI climate of the EU and major investment opportunities provided by the European states have led China to expand its investment in this region during the last decade (Seaman et al., 2017). Moreover, the Chinese Going Global strategy⁷ and the Belt and Road *Initiative⁸* have spurred important acquisitions of strategic European companies in industry, critical infrastructure, and high technology by Chinese state-owned or partially state-controlled companies. The largest investment projects made so far under these initiatives by Chinese investors are the following acquisitions of:

⁷ The Chinese Going Global strategy is the People's Republic of China's strategy to encourage its enterprises to invest overseas. The policy was announced as a national strategy by Jiang Zemin in March 2000.

⁸ The Belt and Road Initiative is a global infrastructure development strategy adopted by the Chinese government in 2013 to invest in more than 150 countries and international organizations (World Bank, 2018).

- the Italian tire manufacturer Pirelli, for 7.7 billion dollars, by ChemChina, Camfin, and the Chinese government's Silk Road investment fund in 2015 (Reuters, 2015);
- the German industrial machinery manufacturer KraussMaffei Group, for 1 billion dollars, by the state-owned company ChemChina in 2016 (BBC, 2016a);
- acquisition of the German robotics company KUKA by the Chinese high-tech group Midea in 2016 (Phys, 2016);
- a 49% stake in the British data centre operator Global Switch by a Chinese consortium in 2016, whose main shareholder is China's largest private steel producer, i.e., Jiangsu Sha Steel Group (UKTN, 2016);
- the Irish aircraft leasing company Avolon by China's Bohai Leasing in 2016, becoming the world's 4th largest leasing platform after the transaction (Finance Dublin, 2016);
- the 51% stake in the Greek Piraeus Port by the Chinese shipping company COSCO in 2016, obtaining strategic access to the European transport network (China Daily, 2016);
- the German waste management company EEW Energy by the holding company Beijing Enterprises in 2016, aiming to solve the problems related to pollution and waste recycling existing in China (Reuters, 2016);
- the British travel platform Skyscanner by China's largest online travel agency Ctrip in 2016 (BBC, 2016b).

Many of these deals have sparked debate and concerns about the risks arising from China's access to leading European technologies or data (for example, in the case of the takeover of the British data centre operator Global Switch or the British travel platform Skyscanner). Another investment transaction carried out with the participation of Chinese investors (Zhejiang Geely Holding Group), which generated debates at the level of the authorities in Germany, was the purchase of a 9.7% stake of the German car manufacturer, Daimler AG. Through this transaction, the Chinese car manufacturer Geely, which also owns the Swedish company Volvo, became the single largest shareholder of Mercedes-Benz. As China's emissions problems have worsened in recent years, the Chinese have gained access to cutting-edge technologies in the field of electric motor production and are going to incorporate them into their own cars.

Against this background, the EU launched several actions to tighten its investment screening regulations in 2016, in a move designed to keep foreign entities out of industries it believes are vital to national security. Moreover, the invasion of Ukraine by the Russian Federation increased the risks related to the economic security of the EU and underpinned more actions towards investment screening. Considering the above-mentioned trends, the research aims to identify the main patterns of Chinese FDI in Europe under the recent economic and geopolitical challenges, but also to emphasize the recent European authorities' decisions towards investment screening.

2 The main concerns of the EU related to Chinese FDI

Although FDI is an important source of economic growth, jobs and innovation for the EU, the wave of acquisitions of strategic European companies by new FDI providers has raised concerns about the EU's economic security in 2016. Certain takeovers of European companies were made to the detriment of EU interests, with foreign investors seeking to acquire strategic assets that would allow them to control or influence European firms whose activities are essential to economic security and public order. Under the conditions of a single market, the distorting effects of such takeovers of companies could affect not only one European country but also the entire EU.

According to the European Commission (European Commission, 2017a), some Chinese companies with state capital promote economic development models characterized by restricting the access of foreign investors to the local market, a fact that is in contradiction with the concepts EU related to mutual openness to FDI. The existing distortions in China's economy, characterized by substantial government intervention in the formation of prices and costs, including raw material, wage, and energy costs, affecting the operation of free market forces, contravene EU principles of fair competition. Moreover, China's state-financed FDI abroad, for the promotion of national industrial objectives, such as those established in 2015 through the Made in China 2025 industrial strategy⁹, may have negative repercussions on the economic sovereignty of the EU member states. China's aim to become a "manufacturing superpower", but using methods that contradict the free market rules, could affect not only the EU but also other large developed economies (Wübbeke et al., 2016).

According to Wübbeke et al. (2016), large amounts of money pumped by China's government entities into industry and research, which far exceed those made by EU economies, represent another distortion affecting the principles of fair competition. For example, the China Integrated Circuit Industry Investment Fund collected 139 billion yuan (19 billion euros) in 2014, while China's Advanced Manufacturing Fund received state funding of 20 billion yuan (2.7 billion euros) in 2016 (The State Council, 2016). These financial resources are enormous compared to, for instance, the 200 million euros of federal funding that the German government has invested in Industry 4.0 research projects since 2015¹⁰.

Considering the possible negative effects of the above-mentioned distortions on the economic security of the EU, President Jean-Claude Juncker mentioned, in September 2017, in his speech on the state of the nation (European Commission, 2017b), about the need for transparency and control "in case that a foreign state enterprise wants to acquire a European port, part of our energy infrastructure or a company that produces defence technologies". He also emphasized the role of political responsibility "to know what is happening in one's own backyard, so that the collective security of the EU can be protected". In addition, the high level of restrictiveness of China's FDI regulations has accentuated the concerns of the European institutions regarding the lack of reciprocity in the relations between the EU and China.

Against the threats and risks generated by the takeovers of European strategic assets, in February 2017, the governments of Germany, France, and Italy brought to the attention of the European Commission their concerns related to the "lack of reciprocity and a possible sale of European expertise" to foreign investors. These states proposed a common approach to the issue of FDI by non-EU state-owned companies in strategic European assets in the field of key technologies. Under the development of the EU's industrial strategy as a key priority for ensuring economic growth in the EU, the European Parliament requested the European Commission (EC) and the member states to "monitor FDI inflows made by third countries in strategic industries, infrastructure, high-tech and other assets that are important in security interests" (European Parliament, 2017). Furthermore, the Covid-19 pandemic has highlighted several vulnerabilities

⁹ The "Made in China 2025" strategy is a roadmap released by the State Council in 2015 to guide the country's advanced industrial manufacturing. China aims to move away from being the world's factory, i.e., a producer of cheap low-tech goods facilitated by lower labour costs and supply chain advantages. The industrial policy aims to upgrade the manufacturing capabilities of Chinese industries, growing from labor-intensive workshops into a more technology-intensive powerhouse (The State Council, 2017).

¹⁰ The German government launched a program called Industry 4.0 in 2013, which aimed to promote the digitalization of manufacturing processes and the integration of new technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), and Big Data (Source: https://www.linkedin.com/pulse/rise-industry-40-germany-journey-innovation-nazmul-huda).

of the EU. More exactly, under the impact of the pandemic crisis, EU companies and strategic assets have been affected by the volatility and decline of European stock markets, being exposed to the risk of being taken over by foreign investors at lower prices. At the same time, the safety of European citizens has been affected in 2020, with 80% of active pharmaceutical ingredients produced outside the EU (Le Maire, 2020). Under the pandemic challenges, in March 2020, when the European stock markets suffered the fastest and strongest negative shock in history due to the pandemic. Aiming to avoid a possible negative impact of FDI on strategic industries and the EU's ability to meet the healthcare needs of its citizens, the European Commission has increased vigilance regarding the acquisition of critical European assets by foreign investors (European Commission, 2020a). Thus, the European authority issued a guide by which it asked member states to make full use of the FDI screening mechanisms from third countries, for the protection of Europe's strategic assets in areas such as health, medical research, biotechnology, and critical infrastructure. The invasion of Ukraine by the Russian Federation in 2022 raised the risks related to the economic security of the EU. Under these conditions, the EC increased its vigilance and adopted the European Economic Security Strategy in June 2023, which focuses on minimizing the risks arising from some economic flows under geopolitical tensions and accelerated technological changes. It is based on three important pillars, namely, promoting EU competitiveness, protecting against risks, and partnering with the widest possible range of countries to promote common economic security interests. The strategy places particular emphasis on improved monitoring of attracted FDI, by requiring all member states to have a screening mechanism, with more harmonized national rules. Also, under the ongoing Ukrainian war, the EU is increasingly concerned that advanced European technologies could be used by certain actors against the EU or to undermine international peace and security. Under these conditions, the EC considers it essential to identify the potential risks arising from FDI carried out abroad by European companies in the field of advanced technologies.

The EU started also rolling out a new mechanism to tackle subsidized foreign investments in 2023, which could target some Chinese investments. Until now, state aid controls have only applied to the EU's internal market, while foreign subsidies were not subject to these rules. But in late 2022, the EU adopted the regulation on foreign subsidies distorting the internal market, meaning that from July 2023, foreign investments in the EU will be subject to state aid controls. Given that certain Chinese investments in the EU have likely benefitted from some level of state support, the new rules could affect them.

3 Chinese FDI in the EU have recorded a constant reduction starting from the pandemic

Under these circumstances, Chinese FDI flows in the EU have recorded a constant decline starting from the Covid-19 pandemic, being affected both by new EU regulations regarding FDI, but also by several of China's internal factors. Thus, during the pandemic year the inward FDI flows from China decreased by 26% compared to 2019, collapsing by 87% in 2021. Furthermore, they have seen a disinvestment, amounting 1.7 billion euros in 2022 (Figure 1). At the same time, China has attracted more European investment since 2020, as the Chinese government is now prioritizing inward over outward FDI to secure access to technology (Kratz et al., 2023).



Figure 1: EU direct investment flows with China, during the 2014-2022 period (in millions of euros)

Source: Author's representation based on Eurostat data (2024).

Ongoing capital controls in China is an important factor that affects the Chinese FDI. It is now focused on cultivating inbound investment by foreign companies, as an effective means to attract foreign technology. As such, the pressure to "go out" to acquire cutting-edge assets is reduced. Moreover, a range of external and internal factors, from China's zero-Covid policies to rising global risks following Russia's invasion of Ukraine, have subdued China's global investment activity (Kratz et al., 2023).

A cross-country analysis unveils that the largest Chinese FDI flows were directed to Sweden, Ireland, and Finland during the last five years, while the smallest were recorded by Denmark, Slovenia, and France.





Source: Author's representation based on Eurostat data (2024).

Moreover, according to Eurostat data, among the 27 member states, 17 recorded a generalized drop in FDI flows during the pandemic crisis, determined by the measures aiming to limit the spread of the pandemic. However, some EU states managed to maintain their investment attractiveness, mainly due to the different approaches in the fight against the pandemic, Sweden being one of them. While most European states imposed mobility restrictions and closed businesses, Sweden followed the principle of voluntary social distancing, keeping restaurants, shops, and gyms open. This approach supported the purchasing power of Swedes amid the pandemic, with its level surpassing the neighbouring Nordic states (BBC, 2020). FDI flows to Sweden doubled in 2020, managing to maintain its attractiveness due to its high purchasing power per inhabitant, its leading position in the field of new technologies and innovations, but also due to its friendly tax regime¹¹.

4 Conclusion

Important investment opportunities provided by the EU, i.e., technological expertise, access to a large market for goods and services, access to third-party markets through European corporate networks, well-known branding of European companies, political and diplomatic influence in the region, have led China to expand its investment in the EU during the last decade. In addition, the Chinese Going Global strategy and the BRI have fueled this upward movement.

However, the pandemic has revealed several economic security risks and vulnerabilities for the European countries. The acquisition of strategic European companies by new capital providers, namely Chinese investors, brought to the surface the problem of the inefficiency of the FDI monitoring by the EU, because of the existence of a decentralized and fragmented system of monitoring FDI flows at the EU level. Against this background, European countries started to strengthen their investment screening mechanisms. Furthermore, the invasion of Ukraine by the Russian Federation increased the risks related to the economic security of the EU, while the EU started to focus on minimizing the risks arising from some economic flows in the context of geopolitical tensions and accelerated technological changes. Moreover, the EU authorities started rolling out a new mechanism to tackle subsidized foreign investments in 2023, which could affect some Chinese investments.

Consequently, under the impact of the new EU investment screening mechanisms and the multiple crises generated by the invasion of Ukraine by the Russian Federation, the ascending movement of Chinese FDI in the EU has been reversed. They recorded a constant decline starting from the Covid-19 pandemic, being affected both by EU regulation regarding FDI, but also by several of China's internal factors. Furthermore, the EU has seen a disinvestment in inward FDI from China in 2022, as the Chinese government is now prioritizing inward over outward FDI to secure access to technology.

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¹¹ The level of corporate tax is one of the lowest in Europe, with the shareholder exemption and full interest tax deduction also applied. Evidence of the high quality of the Swedish business climate is presented by Sweden's position at the top of international reports evaluating the business environment. Thus, according to the Doing Business 2020 report (World Bank, 2020), Sweden ranks 10th out of the 190 states included in the report. At the same time, the Kearney FDI Confidence Index ranked Sweden 15th worldwide in 2020, based on responses from executives of the world's 500 largest corporations (Kearney, 2020), and the Global Innovation Index 2020, ranked 2 out of 131 countries (WIPO, 2020).

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EVALUATION OF THE IMPACT ON THE BULGARIAN AND ROMANIAN CITIZENS FROM THE ABOLITION OF LAND BORDER CONTROLS UNDER COUNTRIES' ACCESSION TO THE SCHENGEN AREA

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Abstract

The Schengen Agreement further complements the principles of the free movement of goods, services, and persons within the European Union. The free movement is key for the European citizens as the border-free zone affects more than 425 million people, enabling them to travel, work and live in an EU country without special formalities (EC 2024). The aim of this study is to evaluate the impact on the Bulgarian citizens, arising from a potential abolition of land border controls with Romania under the accession of both countries to the Schengen Area, including an additional impact on the Romanian citizens. The evaluation relies on an already developed comprehensive methodology by a team from the Economic Research Institute at the Bulgarian Academy of Sciences for evaluating the economic impact of a country's accession to the Schengen area in the case of Bulgaria (Bobeva et al., 2024).

Key-Words: Schengen Area, Schengen Agreement, Citizens impact **JEL Classification:** *C1, F5, R4*

1 Introduction

The accession of Bulgaria and Romania to the Schengen area by land will undoubtedly have a positive impact not only on the economy of the countries but also on the countries' citizens. In that sense, as part of a team that developed a comprehensive methodology for evaluating the economic impact of a country's accession to the Schengen area in the case of Bulgaria (Bobeva et al. 2024), we present our evaluation of the impact on the Bulgarian citizens, that also concerns a notable effect on the Romanian citizens.

A review of the published methodologies and evaluations on the effects of Schengen accession shows that they mainly emphasize the economic benefits in general, regardless of the extent to which the effects are evaluated. In that sense, a comprehensive methodology has been developed by a team of the Economic Research Institute at the Bulgarian Academy of Sciences (ERI-BAS) (see Bobeva et al., 2024), by the means of which all aspects of the positive impact on citizens of the accession to the Schengen Area could be covered. Based on statistical data from public sources, the evaluation covers the time generated by the citizens from the prolonged border crossing waiting time. The evaluation includes both citizens who travel

for tourist purposes as well as those traveling for business and other purposes. The time spent while waiting to cross the borders is also calculated in terms of working months in order to evaluate the potential benefits for citizens if such time is utilized for work and thus, the amount of additional income that could be generated. Any additional income would also have a positive fiscal effect deriving from tax payments and social security contributions. The overall positive impact on the citizens who travel by land and cross the land borders is evaluated as the enlargement of the Schengen Area with the accession of Bulgaria and Romania will affect the citizens of both countries.

2 General theoretical and practical background

The free movement of people within the European Union (EU) is a fundamental principle that allows EU citizens to live, work, and travel freely across member states as the concept is enshrined in the Treaty on European Union and the Treaty on the Functioning of the European Union (EPRS, 2019). The idea behind this principle is to create a Single market where people can move without restrictions, which helps to boost economic growth, fill job vacancies and promote cultural exchange. It also aims to prevent future conflicts by fostering closer ties between member states (WEF, 2016).

The Schengen Agreement further facilitated this by gradually phasing out internal borders, allowing for passport-free travel across most of Europe (European Commission, 2024). The economic theory behind the free movement of people within the European Union is based on some key principles. On the one hand, by allowing workers to move freely across borders, the EU aims to address labour shortages and surpluses more effectively. Workers can migrate from regions with high unemployment to those with labour shortages, thereby balancing the labour market and reducing overall unemployment rates. On the other hand, free movement is intended to boost economic growth by ensuring that labour can flow to where it is most needed. This mobility helps fill job vacancies, supports businesses in finding the skills they require, and enhances productivity across the EU (EPRS, 2019). Furthermore, the policy aims to improve the social welfare of the EU citizens by providing them with more opportunities for employment, education, and retirement in any member state. This can lead to higher living standards and better quality of life for individuals. Last but not least, the ability to move freely within the EU can foster quicker recovery from economic shocks. For example, during economic downturns, workers can relocate to areas with better job prospects, thus mitigating the impact of regional economic crises (EPRS, 2019). Overall, the free movement of people as one of the fundamental freedoms of the EU's Single market is designed to create a more dynamic and integrated European economy.

3 Methodology for evaluating the impact on the citizens

In this section, we present the comprehensive methodology, in its part concerning the citizens and passenger transport, as developed by the ERI-BAS team (see Bobeva et al., 2024). By applying the developed methodology, it is important to note that the effect of the abolition of land border controls with regard to the citizens is based on the time saved from waiting to pass through the border crossing points. The effects from the time saved at border crossing points can be divided and calculated in terms of two main groups - direct and potential effects (Bobeva et al., 2024).

3.1 Direct effect

The direct effect arises from the time saved when the border controls are abolished. The total time saved is calculated through the time saved per person from the abolition of border controls, and it is multiplied

by the number of passenger journeys (Bobeva et al., 2024). In our case, we consider abolition of border controls only on the land borders between Bulgaria and Romania.

$$TS_{BC}^{P}$$
$$= PP_{BC}^{P} * AWT_{BC}^{P}$$

Whereas: TS - time saved in hours; P - the relevant mode of passenger transport; BC - border control with the country concerned; PP - number of passenger journeys made; AWT - average waiting time at border in hours.

The equation is applicable for both outbound passenger flows from Bulgaria to other countries and inbound passenger flows to the country. The total time saved from abolishing border controls with Romania results in cumulative time savings:

$$DE^{P} = CTS^{P}$$

$$= \sum_{BC=1}^{n} TS_{BC}^{P}$$

$$Whereas:$$

$$DE - direct effects of abolishing border controls;$$
(2)

CTS - cumulative time savings from abolishing border controls with all countries analysed.

The indirect effects represent the possibility of utilizing the time saved as working time. From the citizens' point of view, it represents the possible income from the utilization of the accumulated time saved multiplied by the average wage per man-hour worked, assuming that travellers would have worked in their usual employment during the time saved:

 $PWW = CTS^P * AWW$

Whereas: PWW- potential working wage; AWW - average working wage per man-hour worked.

3.2 Fiscal effects – citizens

The fiscal effect relates to the state budget and represents the potential revenue if the hours saved are utilized as working time (Bobeva et al., 2024):

BR = PWW *	
SSB	(4)

(3)

(1)

Whereas: BR - budget revenue; SSB - social security burden.

If the time saved from reducing the border stays is utilized for resting, then the potential positive effect can be utilized by the citizens either by resting in their home country in Bulgaria or in the host country, with all the corresponding financial benefits incurring to Bulgaria or the host country respectively.

3.3 Overall passenger transport effect

The overall expected effect for passenger transport (citizens) of abolishing land border controls is estimated using the following equation:

$$OE_{passenger\ transport} = \sum_{T=1}^{k} DE^{T} + \sum_{T=1}^{k} PE^{T}$$
(5)

Whereas:

OE – overall expected effect of abolishing border controls; DE – direct effects of abolishing border controls; PE – potential effects of abolishing border controls; T – index for mode of transport.

4. Results of the evaluation

The direct benefits for the Bulgarian citizens for 2023 resulting from abolishing the extended waiting time for border control on Romanian land borders are estimated to a total of 889 128 hours which equals 37 047 days or 1 852 working months. The potential benefits, calculated as alternative income if the time potentially saved is utilized for work by the Bulgarian citizens, equals more than 1.8 thousand work months, or around EUR 1.9 million in potential average annual gross wages. The potential benefits in terms of budgetary revenue from these wages are estimated at around EUR 0.8 million.

Bulgaria's land border with Romania				
	Holiday and	Professional	Total	
Trips of Bulgarian residents abroad by purpose of	recreation and others			
visit and by country of destination – Romania				
	1 451 247	419 867	1 871 114	

Table 1: Direct and potential effect - Bulgarian citizens (land border with Romania), 2023

Total time saved by the Bulgarian citizens under abolition of land border controls on the Bulgaria-Romania borders:

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Total time saved in hours	644 892	244 236	889 128
Total time saved, expressed in days	26 871	101 77	37 047
Total time saved, expressed in months	896	339	1 235
Total time saved, expressed in years	75	28	103
Total time saved, expressed in working months	1 344	509	1 852
Potential working wage earned (Million EUR)	1.4	0.5	1.9
Potential budget revenue (Million EUR)	0.6	0.2	0.8

Sources: Authors' own calculations based on Bobeva et al., 2024 and the following data and assumptions:

1) We assume that the majority of trips made by Bulgarian citizens to Romania in 2023 are by land and involve crossing land borders.

2) Travel of Bulgarian citizens abroad in 2023 by purpose and by country by data of the Bulgarian National Statistical Institute

3) Average waiting time at border checkpoints for travel to Romania in 2023–40 minutes, based on the Romanian border police's live traffic monitoring system.

4) Working month = an average of 20 working days.

5) Average annual gross salary of employees under labour and official contracts in 2023 – EUR 1018, data from the Bulgarian National Statistical Institute.

For the citizens of Romania that travel to Bulgaria (Table 2), the direct benefits amount to 2 808 129 hours saved in 2023 which equals approx. 117 005 days. Such additional time could alternatively be utilized to extend their stay in Bulgaria, leading to potential financial effects of around EUR 19.5 million, representing a lost opportunity to generate alternative revenues for the Bulgarian tourism industry. Accordingly, the lost potential budgetary revenues / potential budgetary benefits from value-added tax due on these alternative revenues are estimated at around EUR 1.8 million.

Table 2: Direct and potential effect – citizens of Romania (land border), 2023

Romania-Bulgaria Borders				
Trips of Romanian residents abroad by purpose of visit and by country of destination – Bulgaria	Holiday and recreation and others	Professional	Total	
	1 877 305	228 792	2 106 097	
Total time saved by the Romanian citizens under abolition of land border controls on the Bulgaria-Romania borders:				
Total time saved in hours	2 503 073	305 056	2 808 129	
Total time saved, expressed in days	104 295	12 711	117 005	

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Total time saved, expressed in months	3 476	424	3 900
Total time saved, expressed in years	290	35	325
Potential alternative revenues for tourism in terms of additional time spent (Million EUR)	17.4	2.1	19.5
Potential budget revenues* (Million EUR)	1.6	0.2	1.8

Sources: Authors' own calculations based on Bobeva et al., 2024 and the following data and assumptions:

1) We assume that the majority of trips made by Romanian citizens to Bulgaria in 2023 are by land and involve crossing land borders.

2) Visits of foreigners to Bulgaria in 2023 by purpose and by country - National Statistical Institute Data

3) Average waiting time at border checkpoints for travel from Romania to Bulgaria in 2023 - 40 minutes, based on the Romanian border police's live traffic monitoring system.

4) Average daily expenditure of 167 euros per day based on the European Commission's Current Per Diem Rates for Bulgaria.

*9% VAT on the revenues from tourism services in Bulgaria

Table 3 presents a detained evaluation of the direct and potential effects related to the passenger transport, respectively – citizens, arising from a potential reduction of border waiting time at the Bulgarian-Romanian land borders.

Indicator	Value
Total time saved on the Bulgaria – Romanian land borders by the Bulgarian citizens (days)	37 047
Total time saved on the Bulgaria – Romanian land borders by the Romanian citizens (days)	117 005
Potential working wage earned by the Bulgarian citizens by utilizing the time saved (Million EUR)	1.9
Potential alternative revenues generated by the Bulgarian tourism sector from utilizing the time saved by the Romanian citizens to extend their stay in Bulgaria (Million EUR)	19.5
Total potential state budget revenues (Million EUR)	2.6
Overall yearly expected effect for the Bulgarian citizens and economy (Million EUR)	24

Table 3: Overall expected effect – citizens, 2023

Source: Authors' own calculations based on Tables 1 and 2.

5. Conclusion

The abolition of land border controls resulting from the accession of Bulgaria and Romania to the Schengen Area by land will undoubtedly have a positive impact not only on the economy of the countries but also on the countries' citizens. By applying the developed comprehensive methodology (Bobeva et al., 2024) this positive impact could be evaluated and measured rather than only determined in general. In that sense the

estimated total effect on the citizens that results from the abolition of land border controls between Bulgaria and Romania, i.e. from Bulgaria's and Romania's accession to the Schengen area by land results in direct time savings of more than 3.7 million hours for 2023 that equals more than 150 thousand days in total. As for the Bulgarian citizens, the time saved could be utilized by generating a potential working wage that equals around EUR 1.9 million as the potential budgetary revenue from these wages is estimated at more than EUR 0.8 million. As for the Romanian citizens that travel to Bulgaria, the time saved could alternatively be utilized to extend their stay in Bulgaria, leading to potential financial effects of around EUR 19.5 million, representing a lost opportunity to generate alternative revenues for the Bulgarian tourism industry. Accordingly, the lost potential budgetary revenues / potential budgetary benefits from value-added tax due on these alternative revenues are estimated at around EUR 1.8 million. In conclusion, the overall effect for Bulgaria from the abolition of land border controls between Bulgaria and Romania is estimated at approximately EUR 24 million for 2023.

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ASSESSING THE IMPACT OF THE CARRIAGE OF GOODS BY ROAD ON GDP: A STEP TO A GREENER ECONOMIC GROWTH IN THE EU

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Abstract

The transition to a green economy is a priority for EU Member States as the effects of climate change are becoming increasingly visible today. Therefore, EU countries must find solutions to preserve the welfare of their citizens while mitigating the impact of economic growth on climate change. The transport sector ranks second in terms of greenhouse gas emissions and environmental pollution, and road transportation is the most polluting mode. This research aims to analyse the relationship between GDP and the carriage of goods by road in the EU, Bulgaria, Hungary, Poland, and Romania and to identify viable models for assessing the intricate connection between the selected indicators by employing a quantitative analysis and models (OLS and Cochrane-Orcutt transformed models). Calculating the impact of the carriage of goods by road on the GDP in the analysed countries could represent for decision-makers a stimulus to find ways to support the greening of terrestrial transports or to encourage the shift to cleaner transportation modes.

Key-Words: - Climate Change, GDP, Road Transport, Quantitative Analysis, OLS, Cochrane-Orcutt

1 Introduction

Sustainable transportation has become a priority in the context of climate change and the need for decarbonisation. Since transportation significantly contributes to greenhouse gas emissions, being the second largest polluter, namely 15% of total emissions worldwide, according to Statista (2024), developing green transportation systems is necessary to achieve climate targets and ensure a sustainable future.

This analysis seeks to unveil statistically significant relationships that can inform decision-makers on policy interventions for sustainable transportation.

The idea was inspired by the old Chinese saying, "If you want to get rich, build roads first." Therefore, by analysing the relationship between GDP and the Carriage of goods by road (CGR) in the EU, Bulgaria, Hungary, Poland, and Romania, to see which is the "hen" and which is the "egg" in the Chinese saying, in our research context and the assumption was that there is a bi-directional relationship between the two indicators. Another goal of this research was to identify if, in any analysed country, there is a decoupling between GDP and CGR, the initial assumption being that there has been no decoupling so far.

Since the available data covered the pandemic, another assumption was that COVID-19 greatly impacted GDP and CGR.

2 Literature review

Aliases and Vassallo (2015) applied the Input-Output structural decomposition analysis to find road freight transport demand coupling and decoupling factors in Europe. They showed demand was driven mainly by economic activity and international trade. Nevertheless, changes in road freight transport intensity and economic dematerialisation hampered this general trend for some countries. Their analysis reveals that technological change, the transition to a more service-oriented economy, and increased efficiency in transport and supply networks helped strengthen the process of decoupling in some cases.

McKinnon (2007) argues that the decoupling of road freight transport from economic growth in the UK is not the result of a new era of sustainable logistics but rather a statistical "anomaly" that excludes foreign hauliers responsible for around one-third of this decoupling. He also argues that close to one-quarter of the decoupling results from a decline in the share of CGR in the freight market. This finding advocates for a shift towards greener multimodal transports. Like Aliases and Vassallo, McKinnon considers the servitisation of Britain's economy with financial, business, and public services accounting for around 50% of GDP, and off-shoring of manufacturing also contributes to the decoupling, the latter the emissions in other countries.

Baran and Górecka (2019) analysed the effectiveness of road and rail freight transportation in the EU by investigating the relationship between transport efficiency, GDP, and CO2 emissions. They found big differences in transportation efficiency between old and new EU members. Thus, Latvia, Slovenia, and Belgium proved to perform better in terms of technical efficiency in road transport. Croatia, Hungary, Czechia, Romania, and Estonia proved to have ineffective road transportation sectors. They did not identify a strong correlation between the technical efficiency of the transport sector and greenhouse gas emissions. Sousa et al. (2015) investigated the relationship between CO2 emissions released from the transport sector and economic growth in Portugal by using a nonlinear cointegration methodology. The analysis revealed a monotonically increasing relationship between the selected indicators, confirming that economic growth alone does not lower CO2 emissions from transport and public policies to regulate freight mobility toward sustainable development are required.

Varjan et al. (2017) analysed the vehicle fleet of road transport and its impact on the road network using statistical data from the Slovak Road Administration and information derived from the toll system since 2009. They concluded that historically, GDP growth is positively related to the increase in registered freight vehicles and transport performance; hence, economic development directly influences road freight demand. Applying the Granger-causality approach to a panel data model with fixed coefficients, Beyzatlar et al. (2014) identified a bidirectional causality, suggesting that GDP growth influences inland freight transportation development, and improvements in transportation infrastructure and services contribute to economic growth.

Sarula (2019) investigated the relationship between economic growth and road traffic infrastructure density in 12 cities in Inner Mongolia, finding that the bidirectional benefits of investments in road traffic infrastructure to economic growth are permanent and visible after two years.

3 Methodology

The data on CGR and GDP was downloaded from Eurostat (2024a, 2024b). Then, a quantitative analysis of trends from 2011 to 2022 was carried out to identify tendencies and understand their

dynamics, especially during pandemic conditions. The analysis continued using ordinary least square regression to establish if there is a statistically significant relationship between GDP and CGR, and diagnostic tests were used to check for linearity, homoskedasticity, normality, and inexistence of autocorrelation using Excel and Gretl. For the countries where the linear regression assumptions were met, the regression line equation was defined. Under Gretl, the autocorrelation was handled using the Cochrane-Orcutt regression model.

4 Quantitative analyses

This section analyses the dynamics of CGR and GDP, and the share of each country's road transport in the total transport in the EU, Bulgaria, Hungary, Poland, and Romania between 2011 and 2022.

4.1. Carriage of goods by road

Romania registered the highest increase in CGR among the analysed countries (76%) between 2011 and 2022, followed by Poland (21%) and Bulgaria (19%). Hungary recorded the lowest increase, 12%. In the EU27, the increase was just 0.58%. During the COVID-19 pandemic, Bulgaria and Romania were the only countries where CGR increased constantly. The rest registered a drop in 2020, resuming the ascendant trend in the following years (Figure 1).



Figure 1: Carriage of goods by road, 2011-2022 (Thousand tonnes)

In terms of quantities, Poland ranked first in 2022 (1.6 billion tonnes, way bigger than the rest of the selected countries), followed by Romania (325 million tonnes), Hungary (205 million tonnes) and Bulgaria (160 million tonnes).

4.2. Gross Domestic Product

Bulgaria's GDP registered the highest increase between 2011 and 2022 (107%), followed by Romania (105%), Poland (74%) and Hungary (65%). EU27 recorded an increase of 41% in the same timeframe.

Source: Eurostat (2024a).

In 2022, in current prices, Poland ranked first among the analysed countries (655 billion euros), followed by Romania (284 billion euros), Hungary (169 billion euros), and Bulgaria (86 billion euros).



Figure 2: GDP - Current prices (million euro)

Source: Eurostat (2024b).

Among the analysed countries, only Bulgaria experienced an increase in GDP in 2020; the rest recorded a decrease because of the pandemic (Figure 2). In 2021, they all registered higher GDP than before the pandemic (2019, respectively).

4.3. The influence of COVID-19 on GDP and CGR

Even though the GDP had a minor positive change in the first year of COVID-19, Bulgaria still recorded a high CGR, thus showing that there had been much movement of goods by road, probably due to increased reliance on road transport during the pandemic.



Figure 3: Changes in CGR and GDP in 2020 against 2019 (%)

Source: Author's based on data provided by Eurostat (2024a, 2024b).

On the other hand, Romania's GDP decreased. Still, the CGR increased, which means the carriage of goods by road could have been more resilient or even grew during the pandemic due to changes in trade or transportation needs on the part of operators (Figure 3).

4.4. The share of road transport in total transport

Regarding the share of road transport in total transport (Figure 4), in 2022, Hungary and Poland rank first (69%), followed by Romania (45%) and Bulgaria (30%).



Figure 4: The percentage of each country's road transport in the total transport

Source: Author's based on data provided by Eurostat (2024c).

Regarding the increase in the share of road transport, between 2013 and 2022, Romania ranks first with (15 percentage points), followed by Hungary (7 p.p.), Bulgaria (4 p.p.), and Poland (2 p.p.).

5 Econometric analysis: Romania, the relationship between carriage of goods by road and GDP

This section analyses the relationship between CGR as an independent variable and GDP as a dependent variable to determine whether building roads leads to prosperity, as the Chinese saying states.

To this end, Excel (Data Analysis - Regression) was used based on the data in Annexes 1 and 2. The regression statistics are displayed in Table 1. The correlation coefficient (Multiple R) proved to be very high (0.98), almost close to 1. This means a robust linear relationship between CGR and GDP (dependent variable) with a positive slope. Therefore, if one indicator increases, the other increases, too (Figure 5). Thus, there is no decoupling between the indicators (CGR being the most polluting transport mode).

Table 1: Regression Statistics

Multiple R	0.98181029
R Square	0.96395145

Adjusted R						
Square	0.9603466					
Standard Error	9350.96908					
Observations	12					
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-36695.97	14033.4039	-2.6149016	0.02582267	-67964.342	-5427.5973
CGR	0.96927155	0.05927366	16.352483	1.5211E-08	0.8372016	1.1013415

Figure 5: Romania - The relationship between CGR and GDP



The linear relationship was tested at a 95% confidence level to see if it had statistical significance. The null hypothesis (H_0) implied no statistically significant linear relationship between CGR and GDP in Romania.

The alternate hypothesis (H_a) supported a statistically significant linear relationship between the two variables.

 $H_0: \rho = 0. H_a: \rho \neq 0.$

The regression statistics are displayed in Table 1.

Since the P-value = 0.000000015, smaller than the significance level: $\alpha = 0.05$, the null hypothesis (H₀) is rejected (Table 1). Therefore, we are 95% confident that a statistically significant linear relationship exists between CGR and GDP in Romania. The coefficient of determination (r²) is 0.964. This implies that the relationship between the analysed variables explains 96% of the variation in GDP's value. It does not mean that one variable causes the other.

5.1 Testing the Linear Regression Assumptions

Gretl (Ordinary Least Square Models, Tests, Non-linearity, Heteroskedasticity, Normality of residuals, and Autocorrelation) was used to test the linear regression assumptions. The assumptions of linear regressions are linearity, homoskedasticity, normality, and no autocorrelation. The results of the tests are displayed in Table 2. Since the P-value of the tests is higher than the significance level ($\alpha = 0.05$), the assumptions are met in Romania, except for the lack of autocorrelation (Table 2).

Lagrange Multiplier (LM) test for non-Linearity	Test statistic: $LM = 1.69966$		
	with p-value = $P(Chi-square(1) > 1.69966) =$		
(squared terms),	0.192332		
Null hypothesis: relationship is linear, $\alpha = 0.05$	Relationship is linear		
	Test statistic: $LM = 3.56646$		
White's test for heteroskedasticity, Null hypothesis:	with p-value = $P(Chi-square(2) > 3.56646) =$		
heteroskedasticity not present, $\alpha = 0.05$	0.168094		
	Homoskedasticity		
Test for normality of residuals, Null hypothesis: error is normally distributed, $\alpha = 0.05$	Test statistic: Chi-square(2) = 1.92216		
	with p -value = 0.382479,		
	Error is normally distributed		
Brough Codfrow toot for outcommutation up to order 2	Test statistic: $LMF = 3.2218$		
Null hypothesis: no autocorrelation, $\alpha = 0.05$	with p-value = $P(F(3, 7) > 3.2218) = 0.091618$,		
	Borderline indication of autocorrelation		
Equation of the regression line	y = 0.9693x - 36696		

Fable 2: T	he results of	f tests to	verify the	assumptions
1 abic 2. 1	ne results of		verny the	assumptions

For improved model accuracy, the borderline indication of autocorrelation, identified in Table 2, was addressed with the Cochrane-Orcutt Model in the following section.

5.2 Cochrane-Orcutt Model

This model was used to address the issue of autocorrelation in the residuals in the regression model above. Under Gretl, the Cochrane-Orcutt model transforms the previous regression model and eliminates serial correlation in the residuals. The results are displayed in Table 3.

Table 3: Model: Cochrane-Orcutt, using observations 2012-2022 (T = 11)Romania, Dependent variable: GDP

rho = 0.132629	
----------------	--

	Coefficient	Std. Error	t-ratio	p-value	
const	-34459.5	17726.0	-1.944	0.0838	*
Carriageofgoods	0.961615	0.0729051	13.19	< 0.0001	***

Statistics based on the rho-differenced data:

Sum squared resid	8.49e+08	S.E. of regression	9709.740
R-squared	0.960599	Adjusted R-squared	0.956221
F(1, 9)	173.9750	P-value(F)	3.43e-07
rho	0.019718	Durbin-Watson	1.808817

Statistics based on the original data:

Mean dependent var	193043.1	S.D. dependent var	46401.92

Test for normality of residual - Null hypothesis: error is normally distributed

The test statistic: Chi-square(2) = 1.04666 with p-value = $0.592545 > \alpha = 0.05$ suggests that we failed to reject the null hypothesis, indicating that the residuals are normally distributed. Therefore, the Cochrane-Orcutt model appears to be well-fitted, and no major problems regarding autocorrelation or non-normality of residuals have been noticed.

Therefore, for each additional thousand tonnes of goods transported, the GDP increases by approximately 0.961 (not 0.969 as in Table 2) million euros (after sorting out the borderline autocorrelation issue with the Cochrane-Orcutt procedure – Table 3). The model has strong predictive power over the GDP, mainly because of its high R-square and statistical significance.

5.3 The results for the EU, Bulgaria, Hungary and Poland

The same methodology was applied to Bulgaria, Hungary, and Poland, as shown in Table 4.

 Table 4: Summary table of linear regression statistical data and associated tests (GDP dependent variable)

Statistical Indicators	EU	Bulgaria	Hungary	Poland
Multiple R	0.717	0.071	0.746	0.911
R Square	0.514	0.005	0.556	0.832
P-value	< 0.05	0.842	< 0.05	< 0.0001
Intercept	-16760419.85		-85402.62	-399022.53
Slope	2.275		1.094	0.621
Statistical significance at a 95% confidence level	Yes	No	Yes	Yes
Lagrange Multiplier (LM) test for non-Linearity (squared terms), Null hypothesis: relationship is linear, $\alpha = 0.05$	Test statistic: LM = 4.67353 with p-value = P(Chi-square(1) > 4.67353) = 0.030631, Relationship is not linear	N/A	Test statistic: LM = 0.240042 with p-value = P(Chi-square(1) > 0.240042) = 0.624176, Relationship is linear	Test statistic: LM = 2.69561 with p-value = P(Chi-square(1) > 2.69561) = 0.100625 Relationship is linear
White's test for heteroskedasticity, Null hypothesis: heteroskedasticity not present, $\alpha = 0.05$	Test statistic: LM = 5.93178 with p-value = P(Chi-square(2) > 5.93178) = 0.0515147, There is marginal evidence of heteroskedasticity,	N/A	Test statistic: LM = 2.57737 with p-value = P(Chi-square(2) > 2.57737) = 0.275632 Homoskedasticity	Test statistic: LM = 1.16954 with p-value = P(Chi-square(2) > 1.16954) = 0.557234, Homoskedasticity

Statistical Indicators	EU	Bulgaria	Hungary	Poland
Test for normality of residuals, Null hypothesis: error is normally distributed, $\alpha = 0.05$	Test statistic: Chi- square(2) = 6.86389 with p-value = 0.0323241, Error is not normally distributed	N/A	Test statistic: Chi- square(2) = 0.635436 with p-value = 0.727808, Error is normally distributed	Test statistic: Chi- square(2) = 1.10546 with p-value = 0.575376 Error is normally distributed
Breusch-Godfrey test for autocorrelation up to order 3, Null hypothesis: no autocorrelation, $\alpha = 0.05$	Test statistic: LMF = 1.72815 with p-value = P(F(3, 7) > 1.72815) = 0.247878, No autocorrelation	N/A	Test statistic: LMF = 0.400078 with p-value = P(F(3, 7) > 0.400078) = 0.757451 No autocorrelation	Test statistic: LMF = 0.973349 with p-value = P(F(3, 7) > 0.973349) = 0.457458 No autocorrelation
Equation of the regression line	N/A	N/A	y = 1.0939x - 85403	y = 0.6213x - 399023

The models for Hungary and Poland indicate a statistically significant relationship between the Carriage of goods by road and GDP. The slope coefficients provide the rate at which GDP changes in response to changes in the carriage of goods by road:

Hungary: For every increase of 1,000 tonnes in the carriage of goods, GDP increases by approximately 1,094 million euros. (The highest increase)

Poland: For every 1,000 tonnes increase in the carriage of goods, the GDP increases by approximately 0.621 million euros.

For Bulgaria, the relationship has a very low correlation coefficient and is not statistically significant. It is worth mentioning, in this context, that Bulgaria has the lowest share of CGR of total transport (30%) but the highest share of maritime freight (50.4%), which could be an explanation for the results, requiring more investigations. For comparison, Hungary is landlocked, so it has no maritime freight; Poland's share is just (9.8%) and Romania's (16.0%).

5.4. The results for the EU, Bulgaria, Hungary, Poland and Romania

The same procedure was applied to investigate the relationship between the Carriage of goods by road and GDP in the EU, Bulgaria, Hungary, Poland, and Romania; the results are displayed in Table 5.

Table 5: Summary table of linear regression statistical data and associated tests (CGR dependent variable)

Statistical Indicators	EU	Bulgari a	Hungary	Poland	Romania
Multiple R	0.717	0.071	0.746	0.911	0.982
R Square	0.514	0.005	0.556	0.832	0.964
P-value	< 0.05	0.842	< 0.05	< 0.0001	< 0.0001
Intercept	10135359.32		129133.93	770152.06	44869.89
Slope	0.226		0.508	1.338	0.995

Statistical Indicators	EU	Bulgari a	Hungary	Poland	Romania
Statistical significance at a 95% confidence level	Yes	No	Yes	Yes	Yes
Lagrange Multiplier (LM) test for non-Linearity (squared terms), Null hypothesis: relationship is linear, α = 0.05	Test statistic: LM = 0.00401767 with p-value = P(Chi-square(1) > 0.00401767) = 0.94946, Relationship is linear	N/A	Test statistic: LM = 1.66228 with p-value = P(Chi-square(1) > 1.66228) = 0.197296, Relationship is linear	Test statistic: LM = 0.776902 with p-value = P(Chi-square(1) > 0.776902) = 0.37809 Relationship is linear	Test statistic: LM = 0.386851 with p-value = P(Chi-square(1) > 0.386851) = 0.533959 Relationship is linear
White's test for heteroskedasticity , Null hypothesis: heteroskedasticity not present, $\alpha = 0.05$	Test statistic: LM = 3.48108 with p-value = P(Chi-square(2) > 3.48108) = 0.175426 Homoskedasticit y	N/A	Test statistic: LM = 1.40369 with p-value = P(Chi-square(2) > 1.40369) = 0.495669 Homoskedasticit y	Test statistic: LM = 0.668172 with p-value = P(Chi-square(2) > 0.668172) = 0.715992, Homoskedasticit y	Test statistic: LM = 3.08511 with p-value = P(Chi-square(2) > 3.08511) = 0.21383 Homoskedasticit y
Test for normality of residuals, Null hypothesis: error is normally distributed, $\alpha = 0.05$	Test statistic: Chi-square(2) = 6.58041 with p-value = 0.0372461, Error is not normally distributed	N/A	Test statistic: Chi-square(2) = 4.37227 with p-value = 0.11235, Error is normally distributed	Test statistic: Chi-square(2) = 1.00705 with p-value = 0.604397 Error is normally distributed	Test statistic: Chi-square(2) = 4.71211 with p-value = 0.0947932, Error is normally distributed
Breusch-Godfrey test for autocorrelation up to order 3, Null hypothesis: no autocorrelation, $\alpha = 0.05$	Test statistic: LMF = 0.0835316 with p-value = P(F(3, 7) > 0.0835316) = 0.966871, No autocorrelation	N/A	Test statistic: LMF = 0.10905 with p-value = P(F(3, 7) > 0.10905) = 0.952098, No autocorre- lation	Test statistic: LMF = 0.632516 with p-value = P(F(3, 7) > 0.632516) = 0.617121 No autocorre- lation	Test statistic: LMF = 4.50172 with p-value = P(F(3, 7) > 4.50172) = 0.0463424, Autocorrelation
Equation of the regression line	N/A	N/A	y = 0.5084x + 129134	y = 1.3384x + 770152	y = 46529.1 + 0.9850168x (After applying the Cochrane- Orcutt procedure to adjust for autocorrelation in the residuals)

The model for Hungary and Poland indicates a significant statistical relationship between GDP (independent variable) and road carriage of goods. The slope coefficients yield the rate of change in CGR due to GDP. For Hungary, CGR increases by about 0.51 thousand tonnes for each increase of 1 million euros in GDP. As of Poland: With every 1 million euros of GDP increase, some 1.3 thousand tonnes are added to the CGR (the highest increment). In the case of Romania: For every 1 million euro rise in GDP, the carriage of goods increases by 0.99 thousand tonnes.

In Bulgaria, the relationship is not statistically significant, requiring further investigations, and the assumption of normality is not met in the EU.

6 Conclusion

For Hungary, Poland, and Romania, a significant and positive reciprocal relationship exists between CGR and GDP. The model meets all regression assumptions except autocorrelation in the residuals for Romania (which is just borderline when GDP is a dependent variable), corrected with the Cochrane-Orcutt procedure in both situations.

The reciprocal impact of GDP and CGR is substantial, indicating that economic growth strongly influences road transport and the other way around, as Beyzatlar et al. (2014) also found.

Bulgaria has a low correlation coefficient and a statistically insignificant relationship with the data. It has a 30% share of CGR in total transport and the highest share of maritime freight, which might represent an explanation in the context of this research.

During the pandemic, CGR and GDP decreased in the EU overall, and in Hungary and Poland. At the same time, Bulgaria registered an increase in both indicators, and Romania had a boost in CGR but a drop in GDP. However, the statistical insignificance of the analysed relationship in Bulgaria and its positive trend in CGR and GDP during the pandemic require further investigation.

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Annexe 1. Carriage of goods by road (Thousand tonnes)								
Year	EU27	Bulgaria	Hungary	Poland	Romania			
2011	13,510,896	135,328	182,839	1,322,237	183,935			
2012	12,498,284	140,274	165,514	1,245,053	188,611			
2013	12,423,053	160,127	169,211	1,300,608	191,554			
2014	12,640,316	153,077	193,112	1,300,382	190,938			
2015	12,655,191	161,567	198,744	1,264,960	198,824			
2016	12,796,811	146,636	197,759	1,313,657	216,107			
2017	13,241,840	151,479	188,250	1,501,811	226,345			
2018	13,230,394	143,199	206,669	1,390,184	237,157			
2019	13,527,022	114,574	202,631	1,506,450	256,641			
2020	13,003,185	136,229	188,118	1,500,104	266,547			
2021	13,651,391	157,376	219,919	1,580,517	306,805			
2022	13,589,283	160,488	204,708	1,599,513	324,554			

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Source: Eurostat (2024a).

Annexe 2: GDP, Current prices (million euro)

Year	EU27	Bulgaria	Hungary	Poland	Romania
2011	11,328,511.2	41,479.9	102,152.0	377,042.4	138,520.7
2012	11,396,146.9	42,255.3	100,247.6	385,389.4	139,319.8
2013	11,516,140.6	42,056.2	102,239.7	388,356.4	142,928.9
2014	11,782,563.6	43,024.7	106,263.8	406,412.5	150,522.4
2015	12,215,765,1	45,797,8	112,791,0	429,834,6	160,287,8
2016	12,548,314.4	48,752.1	116,255.7	424,735.3	167,494.3
2017	13,075,679.5	52,501.8	127,024.7	465,772.6	186,399.0
2018	13,534,336.0	56,199.8	136,055.4	499,004.1	206,071.9
2019	14,019,673.6	61,530.8	146,554.5	532,504.7	224,178.6
2020	13,471,032.9	61,607.7	137,866.0	526,147.2	220,486.6
2021	14,639,398.1	71,060.1	153,963.3	576,382.6	241,611.3
2022	15,919,176.7	85,800.7	168,865.0	654,594.4	284,173.6

Source: Eurostat (2024b).

Year	EU27	Bulgaria	Hungary	Poland	Romania
2013	22.5	25.2	62.5	67.4	30.6
2014	22.4	25.0	62.7	66.8	30.9

INTERNATIONAL WORKSHOP Changes in the FDI Regulatory Framework and Other Key Economic Issues in the EU: Implications for Bulgaria and Romania

Year	EU27	Bulgaria	Hungary	Poland	Romania
2015	22.4	26.8	64.4	67.7	30.1
2016	23.0	26.8	65.3	68.2	32.2
2017	23.3	26.8	62.1	69.1	33.5
2018	22.8	24.9	68.1	65.7	34.0
2019	23.1	18.9	67.8	68.2	34.3
2020	23.9	23.9	65.2	69.5	35.5
2021	24.5	26.7	68.5	69.9	39.3
2022	24.9	29.5	69.0	69.0	44.6

Source: Eurostat (2024c).
PERSPECTIVES OF THE EURO ADOPTION IN ROMANIA

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Abstract

The present paper has as the key objective the analysis of Romania's economic motivations and preparedness for adopting the euro. As indicated by CEE countries that entered the eurozone, the benefits of the euro adoption exceed the costs, and this is a strong motivation. In the national debate, issues such as political willingness and the process of sustainable real convergence are dominant, however, the accomplishment of the Maastricht criteria should be also a priority. Price stability, fiscal discipline, and interest rates, which reflect Romania's weaknesses and vulnerabilities, are to be seriously taken into account. In contrast to Croatia, which benefited from a derogation regarding its level of public debt and inflation and became the 20th member of the European Commission were confident with Croatia's fiscal trajectory, and data from the latest Economic Forecast confirm this. Romania must be convincing as regards its strengths and also capacity to respect its commitments. At the same time, a new national Plan for euro adoption, with clear targets and monitoring tools is essential.

Key-Words: Romania, euro area, euro adoption, convergence, price stability, fiscal discipline **JEL Classification:** E31, E42, F02

1 Introduction

According to Acad. Mugur Isărescu, Governor of the National Bank of Romania, "the switch to the Euro is a matter of when, and not a matter of if. Romania's commitment to joining the eurozone is unquestionable and is an obligation that the country has taken under the EU Accession Treaty. But beyond the formal and legal obligation, the commitment to adopting the single currency also reflects Romania's strong affiliation with the European project. In other words, fully embracing the European future includes the accession to the eurozone" (Isărescu, 2019).

The present paper underscores that Romania is still far from the accomplishment of the Maastricht criteria. The political will to adopt the euro is questionable, at least at present. Romania had set 2011 as the initial target for euro adoption, but that deadline was postponed successively. In December 2018, the Romanian government published a "National Plan for the Adoption of the euro". A governmental commission was created, which developed a "Report on the substantiation of the National Plan of adoption of the euro", in which were presented various aspects of this process. There are also costs and benefits of the euro adoption, however on the whole benefits would surpass the costs (Cerna, 2024).

In spite of that, the euro adoption has not been a priority of the recent governments and represents a marginal topic in the national debate. There are various explanations for this. First, successive crises since 2009 (e.g.

eurozone crisis, migration crisis, Brexit, economic consequences of the Covid-19 pandemic, and the war in Ukraine) have pushed to an undesirable situation: European integration has become an increasingly contested process (Özçelik, Troncotă, Cucută, & Ion, 2024). Romania is facing problems stemming from crises and has to respond to the particularities of its economic situation (Dăianu, 2023).

Second, the European Parliament report of January 2023, covering the 15 years since Romania's accession to the EU shows a drop of almost 10% in the EU's favourability rating among Romanian respondents (European Parliament, 2023; Troncotă & Cucută, 2024). Even if there were no conclusive signs of Euroscepticism in Romania, within wider public opinion or among the political elites until 2020, however, the Eurobarometer data shows that starting in 2020, the first signs of Euroscepticism are visible in a "striking decline of citizens' trust in the EU" (Troncotă & Cucută, 2024).

Third, joining the euro area is not an easy process, especially in the case of Romania, which does not fulfil the nominal criteria for the adoption of the euro (European Commission, 2024a; 2024b).

2 Is Romania prepared for the euro adoption?

2.1 Nominal convergence

In the most recent Convergence report (European Commission, 2024a), it is underlined that Romania does not fulfil the criteria for the adoption of the euro. It does not meet the criteria on price stability, public finances, the convergence of long-term interest rates, and the exchange rate criterion (the Romanian leu does not participate in the European Exchange Rate Mechanism, ERM II). Besides, the Romanian National Bank Law needs to be amended in order to ensure full compatibility with EU legislation. Incompatibilities concern the independence of the central bank, the prohibition of monetary financing, and central bank integration into the European System of Central Banks at the time of euro adoption.

The inflation rate (harmonized index of consumer prices) and fiscal deficit (as a share of GDP) are the highest among the EU Member States in 2024 (Chart 1 and Chart 2).



Chart 1: Harmonised index of consumer prices (percentage change on preceding year, 2023-2024)

Source: Author's compilation, based on Eurostat (2024) and European Commission (2024b). Chart 2: Net lending (+) or net borrowing (-), general government (as a percentage of GDP, 2023-2024)



Source: Author's compilation, based on Eurostat (2024) and European Commission (2024b).

Gross debt remains at a level inferior to 60% of GDP (51%) (Chart 3), however, it increased substantially in the last decade (from 40% as the average of 2006-2010). Besides, one should also take into account the high cost of debt. In terms of interest rates for long-term government bonds denominated in the national currency, in June 2024, Romania recorded the second highest interest rates in the EU, after Hungary (5.99% as compared to 6.80%) (European Central Bank, 2024).





Source: Author's compilation, based on Eurostat (2024) and European Commission (2024b).

Romania's external balance (the current and capital accounts) improved from -6.7% of GDP in 2022 to - 4.9% in 2023, "mainly due to a significant decline in the goods trade deficit that was caused by a lower

external energy bill and broadly flat imports driven by a notable deceleration in domestic demand". However, the current account deficit remains large (mainly due to significant government deficits) and is not forecast to improve in 2024-2025. Additionally, Romania performs worse than many euro area Member States, because of a host of obstacles to investment and productivity growth, including "labour and skills shortages and mismatches, volatile tax and regulatory environment, certain aspects regarding the functioning of the judiciary, insufficient competition in procurement, poor quality of education and training and large gaps in transport infrastructure" (European Commission, 2024a).

2.2 Real convergence

In this section, we will not refer to sigma and beta convergence or competitiveness, but to a simple indicator: the evolution of the GDP per capita in purchasing power standards. The deeper integration into the EU (including through trade and investment) has been accompanied on the one hand by technical progress, innovation, and higher capital accumulation, but on the other hand by a brain drain process, with a direct negative impact on the human capital.

In terms of GDP per capita in purchasing power standards, Romania reached 78% of the EU-27 in 2023, higher than Croatia, Hungary, Slovakia, Latvia and Bulgaria, but lower than Czechia and Slovenia (91%), Lithuania (87%), Estonia (81%) and Poland (80%) (Chart 4). In the time frame 2012-2023, the highest increase was recorded by Romania, by 21 percentage points. Bulgaria, Romania, and Poland recorded the highest increases in the period 2019-2023: by 11%, 8%, and 7%, respectively (EU-27 = 100%).



Chart 4: GDP per capita in 11 CEE countries in 2012–2023, purchasing power standard PPS (%, EU-27 = 100%)

Source: Author's compilation, based on Eurostat (2024).

2.3 Public support for the euro

In the most recent Eurobarometer Report on the *Introduction of the euro in the six Member States that have not yet adopted the common currency*, the European Commission reveals the following (European Commission, 2024c).

The share of respondents saying that **their country is ready to introduce the euro** remains low in each of the six countries. Respondents in Sweden (43%) are the most likely to feel their country is ready, followed by those of Romania (36%), while the lowest proportions are found in Poland (17%) and Hungary (21%). On the whole, one in three (33%) respondents think the euro will be introduced in their country within five years. There is considerable variation by country, ranging from 24% in both Hungary and Sweden to 71% in Bulgaria. For Romania, the share is 44%, 11 percentage points higher than the average and the second highest after Bulgaria, but significantly lower.

More than one in four respondents (27%) overall think that the euro should be introduced in their country **as soon as possible**. The share of total respondents in favor of introducing the euro as soon as possible is the highest in Romania (44%), followed by Hungary (39%). About four in ten respondents believe the euro should be introduced in their country either as late as possible (16%) or never (23%). Polish, Czech, Swedish, and Bulgarian citizens against the euro adoption (considering that the euro should be introduced in their country *either as late as possible* or *never*) cumulate shares of 48% (19%+29%), 47% (16%+31%), 44% (18%+26%) and 41% (13%+28%). In contrast to them, only 17% of the Hungarians and 24% of the Romanians are against the euro adoption (11%+6% and 13%+11%, respectively).

As regards the **consequences of the euro adoption at the national level**, Romanians and Hungarians are the most optimistic. In the first case, 18% expect *very* positive consequences, while 47% anticipate *rather* positive consequences. In the second case, the percentages are 12% and 53%, respectively. Romanians are the most optimistic in terms of consequences for their personal life. A share of 23% expects *very* positive effects and 47% *rather* positive consequences. The corresponding shares for Hungary are 17% and 50%, respectively. Bulgarian, Czech, and Polish citizens are rather skeptical.

People feel informed about the euro. However, in the question "How many EU countries have already introduced the euro?", only 37% of respondents in the six countries surveyed know that there are 20 countries in the euro area. Respondents in Sweden (44%) and Czechia (42%) are the most likely to answer correctly, while respondents in Romania (32%) are the least likely to give the right answer.

In general, people are afraid of price increases, abusive price setting, loss of control over the economic policy, and loss of a part of the national identity. Most of the respondents consider that they will manage to adapt to the replacement of the national currency by the euro.

3 Opinions of three well-known Romanian economists regarding the euro adoption in Romania and a brief comment on Croatia

In Romania, governance deficiencies and the short-livedness of economic policies prevented the assumption of lasting objectives, including the adoption of the euro. While Poland, the Czech Republic, and Hungary are perceived by the eurozone as states whose reluctance towards the euro is largely attributed to some specific political options, Romania is still considered in transition, a fact proven by its lack of membership in the Organisation for Economic Co-operation and Development (OECD) and the assistance received from international financial organizations (Dijmărescu, 2024).

Cerna (2024) underlines that the benefits of the adoption of the euro exceed the costs. This suggests that postponing the decision to adopt the European currency is synonymous with giving up the possibility of accelerating economic growth through convergence towards the developed economies of Western Europe. Therefore, entry as quickly as possible into the EMU is primarily in Romania's interest. That is why

economic policy must be oriented towards creating the conditions for achieving this objective (Cerna, 2024).

According to Dăianu (2023), the fiscal deficit is the main macroeconomic challenge. The issue of the fiscal deficit is augmented by the deficit of the external balance. Romania needs an increase of its tax revenues from 27% of GDP to the average of countries from the region (34-35% of GDP in the Czech Republic, Hungary, and Poland, 31% in Bulgaria in 2022) (Dăianu, 2023). If the fiscal/budgetary adjustment takes place, Romania can enter the ERM II in 2026-2027 and join the eurozone towards the end of this decade (Dăianu, 2023).

Definitely, Romania will not be admitted to the euro area before it accomplishes all the Maastricht criteria. One can invoke as a counter-argument the case of Croatia, which benefited from a derogation regarding its level of public debt and inflation and became the 20th member of the eurozone on January 1, 2023. However, the two economies are so different in terms of size, economic fundamentals, and even political assiduity to join the eurozone. An analysis of the Strategy for the adoption of the euro in the Republic of Croatia reveals the thoroughness with which Croatia prepared for this. Macroeconomic fundamentals provided Croatia with a good foundation for participation in the ERM II and for attaining a high level of real and nominal convergence. Croatian authorities were highly motivated, being aware of the future benefits, including elimination of currency risk for citizens, corporations, and the government; decrease of interest rates and transaction costs; increased attractiveness for foreign investors (Government of the Republic of Croatia and Croatia National Bank, 2018). At the same time, Croatia convinced the European Commission about the soundness of its economy and the Eurostat data confirms also Croatia's capacity to respect its commitments.

4 Conclusion

There remain a host of obstacles to Romania's accession to the eurozone. Romania does not comply yet with the convergence criteria regarding price stability, sound public finances, exchange-rate stability, and long-term interest rates. The evolution of the GDP per capita in purchasing power standards indicates evident progress, however, a lot remains to be done in specific fields such as productivity, technology, innovation, quality of governance and institutions, human capital, and regional disparities. The catching-up process should take place in all these components so that it can reflect a sound and sustainable economic convergence.

Romanians largely support the integration into the EMU and expect on the whole a positive impact on the economy and also in terms of personal well-being. To make possible joining the eurozone towards the end of this decade, political will is essential. The national debate on the euro adoption should be reactivated. As indicated by the Croatian case study, a national strategy for the euro adoption, with clear targets and milestones is indispensable. Sound public finances are a sine qua non for Romania in the process of joining the eurozone. As a strong supporter of the EU values and principles, Romania has to be a member of the euro area as soon as it is prepared for that and accomplishes all the requirements.

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