BULGARIA'S REAL CONVERGENCE IN THE CONTEXT OF POTENTIAL EMU MEMBERSHIP

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Abstract: Since the entry of Bulgaria into the European Union, the country's full membership in the Economic and Monetary Union has become one of the national economic policy goals. In the recent period Bulgaria fulfils all the nominal convergence criteria, except for the criterion on exchange rate stability as long as the country does not participate in the ERM II mechanism (although Bulgaria has a currency board arrangement in place since 1997 and the Bulgarian currency is pegged to the euro). Despite that, Bulgaria remains the EU member with the lowest level of GDP per capita and lowest productivity and income levels. In June 2018 the Bulgarian authorities submitted a letter of intent to the EU policy makers to join the ERM II mechanism and the banking union. In July 2020 the mutual agreement to include the Bulgarian lev in the ERM II mechanism and Bulgaria to join the banking union was achieved. In the context of the future full EMU membership it is important to assess the evolution and the state of Bulgaria's real convergence. This paper looks at the Bulgaria's real convergence, understood as the convergence of GDP per capita, labour productivity and convergence of price levels. We use the Beta and Sigma convergence methods and explore the convergence in the 1999-2018 period. We also compare Bulgaria's real convergence to the real convergence of other CEE countries that are EU members (Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia), part of which have already accepted the euro and the other part are still outside of the euroarea. We also try to explain the economic reasoning behind the EMU accession path of Bulgaria. The results of the survey show that Bulgaria lags behind in its convergence process from other CEE countries, but at the same time we believe that the benefits of the euroarea membership outweigh the possible negative consequences.

JEL Classification Numbers: F36, F43, F45, **DOI:** https://doi.org/10.12955/peb.v1.13

Keywords: convergence, euro adoption, ERM II mechanism, Bulgaria

Introduction

Since the entry of Bulgaria into the European Union in 2007 the country has pursued an adoption of the euro and full membership into the Economic and Monetary Union. The process has not been consistent as the ambition of the policymakers to follow the path to the euro has been negatively impacted by the global economic downturn in 2009 and the euroarea sovereign debt crisis. Initially the country favoured a strategy for quick euro adoption to follow immediately after the EU entry, stating 2010 as a target. This strategy was incorporated in the single official document for euro acceptance in Bulgaria, namely an Agreement between the Council of Ministers and the Bulgarian National Bank on introduction of the euro in Bulgaria dated 25 November 2004. This strategy did not materialize because at that time Bulgaria had problems meeting the inflation criterion on a consistent basis and because of the accumulated economic imbalances. A new impetus to the efforts was given by the collapse of the fourth biggest bank in Bulgaria in 2014, which made the country's officials pledge for seeking ERM II entry and entry into the Banking union. A Coordination Council for preparation of the Republic of Bulgaria for euroarea membership was established in 2015 and in June 2018 the Bulgarian authorities submitted a letter of intent to the EU policy makers to join the ERM II mechanism and the banking union. In July 2020 the finance ministers of the euroarea member states, the President of the European Central Bank and the finance ministers and central bank governors of Denmark and Bulgaria have achieved a mutual agreement to include the Bulgarian lev in the ERM II mechanism. It was decided that Bulgaria would join the banking union and the Bulgarian National Bank to establish close cooperation with the ECB.

In the recent period Bulgaria fulfils all nominal convergence criteria, except for the exchange rate criterion and lately the inflation criterion, as documented by the last Convergence Reports of 2020 by the European Commission and the European Central Bank. Furthermore, Bulgaria was identified as a member-state without imbalances in the last review of the macroeconomic imbalances, as a part of the European Semester 2020. While these are very positive signs, the data evidence show that Bulgaria is the EU member-state with the lowest level of real convergence. As of 2018 the Real GDP per capita in Bulgaria is 50% of the EU level and about 47% of the euroarea level. The key question that arises here is whether this low level of real convergence would pose any threats for the stability of Bulgaria in its eventual entry into the EMU and for the stability of the euro area. Therefore, the key objective of this

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paper is to analyse the evolution and the state of Bulgaria's real convergence in comparison with the CEE convergence in terms of GDP per capita, labour productivity and price levels, as well as to make some country comparisons where appropriate.

Although the accession to the EMU is made dependent on the fulfilment of nominal convergence criteria, the debate about the need of a sufficient degree of real convergence accompanied the process of EMU establishment in the 1990s and later the process of its enlargement. The rationale for real convergence is that similar economies respond symmetrically to economic shocks and allow the single central bank's monetary policy to play its stabilization role effectively. The presence of real convergence among countries weakens the need for the stabilization instruments of discretionary monetary policy and exchange rate, which countries lose within the monetary union. Therefore, the worry arises that the adoption of the euro prior to achieving a sufficient degree of real convergence can have a destabilizing effect on the country and on the monetary union as a whole.

The current path of Bulgaria to join the euroarea seems contrasting to the paths followed by the other derogation countries, except for Croatia, which expressed officially its intention to join ERM II and the banking union like Bulgaria. Czech Republic, Hungary, Poland and Romania have no immediate plans for recent euro adoption. Among them only Romania has specified a target date, namely 2024. The country officials explain that they would aim to achieve a real convergence of at least 70-75% of the euroarea average in terms of GDP per capita in purchasing power standard prior to accession to assure their smooth functioning within the monetary union. Similar is the stance of the officials in the other countries. The common feature of those four derogation countries is that they are all relatively big economies with floating exchange rate regimes. The floating exchange rate and the inflation targeting monetary policy framework offers macroeconomic flexibility and allows the economies to adapt to shocks in periods of economic volatility. Croatia on the other hand is a small open economy and has a stabilized exchange rate arrangement in place. This situation makes the standing points of Bulgaria and Croatia contrastingly different to the ones of Czech Republic, Hungary, Poland and Romania. We can compare them to the standing point of Estonia, Latvia and Lithuania, which are all small economies with hard peg regimes prior to their EMU entry that pursued prompt euro adoption upon their EU accession. Those economies entered the EU in 2004 and immediately after that entered the ERM II mechanism (in 2004 and 2005).

The notion of real convergence is a complex and multifaceted. The most widely accepted view is that real convergence is the process of reduction of disparities between the economies in terms GDP per capita and labour productivity (measured by GDP per person employed or GDP per hour worked). The Balassa-Samuelson effect then describes how productivity level convergence drives the convergence of price levels. Another view of real convergence is that it is present when the economies have achieved a higher degree of synchronization of business cycles. A third view associates the real convergence with structural convergence, understood as homogenization of economic structures (tradable/non-tradable sector) or convergence towards higher levels of institutional quality.

The process of catching-up, manifested by faster growth of low-income economies is called Beta convergence (β-convergence). An absolute Beta convergence exists when low-income economies grow faster than richer ones, but the empirical evidence does not fully support it. In contrast, the conditional Beta convergence implies that the convergence process is dependent on country-specific factors and that countries do not converge to a common steady-state but to their own steady-state, determined by those factors. The Beta convergence is associated (but not necessarily) with diminishing of disparities in the GDP per capita levels between a group of countries, measured by the standard deviation or the coefficient of variation, that is called Sigma convergence (σ-convergence). The presence of Beta convergence is a necessary but not sufficient condition for Sigma convergence.

Literature review

The concept of real convergence stems from the growth theory which suggests that poorer economies grow faster than richer and more resource endowed ones. The neoclassical growth theory, based on the research of Solow (1956) describes the real convergence phenomenon with the higher marginal return on capital in the case of poorer economies with lower levels of capital. This allows them to catch up and close the gap between them and the richer economies in terms of income and productivity. Once they

reach their long-run steady state, the growth and the convergence stop. A comprehensive theoretical debate on the neoclassical models can be found in Rangelova (2008).

The endogenous growth models developed by Romer (1986) and Lucas (1988) further enrich the theory by claiming that growth and convergence can be sustained through investments in innovation and human capital. Thus, the technological progress and the increase in the quality of human capital are endogenous factors that prevent the diminishing return on capital, as suggested by the neoclassical growth models. A third strand in the literature, developed in the 1990-ies introduces the impact of institution and their quality for the economic growth.

The empirical research based on the theory of convergence is abundant, including the research for the real convergence of CEE economies and Bulgaria in particular. A recent study by Alcidi, Ferrer, di Salvo, Musmeci and Pilati (2018) of CEPS, applying the absolute beta-convergence and sigma-convergence methods depicts different patterns of convergence in the European Union. Although the findings confirm absolute beta-convergence, the pace of convergence has been different, with some countries catching-up better than others. While there is strong evidence of diminishing disparities in 2000-2015 on a country level in CEE, the disparities between the CEE regions have not decreased significantly and are higher than the regional disparities in North Western and Southern Europe. Several studies, including Zuk, Polgar, Savelin, Del Hoyo and Konig (2018) and Grela, et al. (2017) apply conditional beta-convergence analysis to identify the factors, driving growth and convergence in these countries. The first paper points out the best performing countries in terms of real income convergence in the period of 2000-2016, namely Lithuania, Latvia and Romania and the countries with the slowest convergence – Slovenia, Croatia, Hungary and Czech Republic. Bulgaria, Estonia, Poland and Slovakia stand somewhat in the middle. The common features among the fastest converging countries that explain their success are the significant improvements in institutional quality and human capital, increased external openness and export market share and favourable demographics or increased labour participation. Similar are the findings of the latter research, which covers the period 1997-2014 and looks at the real convergence of 6 CEE economies to the EU-15. The authors conclude that while in the period till the Global financial crisis the convergence model has been based on strong FDI inflows, this model has been exhausted over time and post-crisis the growth in CEE is dependent on innovation and human capital, trade openness and institutional quality.

An analysis of the state of nominal and real convergence of Bulgaria can be found in Kaneva (2018) and of the different approaches to euro adoption in Bulgaria, Croatia and Romania in Horatiu (2020). The lessons for Bulgaria from the experience of the Baltic states regarding their EMU entry can be found in Stateva (2015).

Data and methodology

The analysis on convergence among the CEE countries is based mainly on 3 indicators - GDP per capita in PPS, GVA per hour worked in PPS and price level indices at GDP level or at different product groups level. A wide range of additional indicators were used to support the claims made. The main methods by which trends in convergence are investigated are Sigma and Beta convergence. Sigma convergence is calculated as the coefficient of variation of an indicator for a given group of countries.

The period under consideration is from 1999 to 2018. It covers the pre-accession process and a sufficiently long period of the EU membership of the CEE countries. In addition, differences in intensity and even in direction of convergence can be highlighted during different phases of the economic cycles that the economies go through during these years.

The territorial scope of the survey includes the countries that joined the EU since 2004 (except for Malta and Cyprus), with an emphasis on Bulgaria. They are all former states with planned economies that have undergone a similar economic transformation on their way to market economies, although they have started this process at different levels. Convergence between CEE countries is compared with the development of this process in OMS.[3] Two groups of OMS countries are used - 1) all 15 countries and 2) a reduced group, covering the countries affected less by the global financial and economic crisis and the debt crises (OMS except for Ireland, Italy, Spain and Portugal). Convergence in the second group is at a high level and can be recognised as a kind of maximum level.

[3] The Old Member States are the fifteen countries that joined the EU before 2004.

Results and Discussion

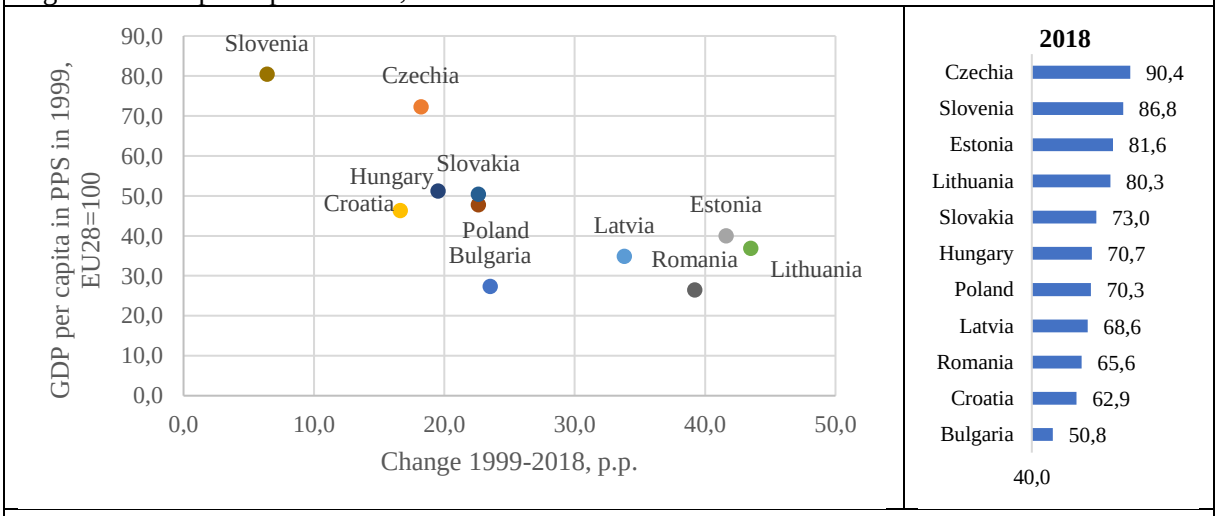
Integration in an economic community should be accompanied by convergence of economic performance of the participating countries. It can be said that in most CEE countries there is some catching up with the OMS observed on one hand, but also convergence between the newly accepted countries themselves on the other. Naturally, individual countries benefit to a different extent from their EU membership, but the different starting point from which they begin the process of EU accession must also be taken into account. At the same time, some similarities may be observed, such as the fact that the convergence process is much more intense in the years before the global financial and economic crisis and slower after that.

Convergence in terms of GDP per capita

GDP per capita in PPS at the beginning of the period under consideration confirms the very different economic level from which the CEE countries started their EU accession process. Romania, Bulgaria and the Baltic republics have the lowest values of the indicator (ranging between 26.4 - 40% of the EU average), followed by Croatia, Poland, Slovakia and Hungary (46.3-51.2%), and with the highest values and the only ones close to the EU-28 average are the Czech Republic (72.2%) and Slovenia (80.4%). Beta convergence would be observed if countries with lower GDP per capita were able to achieve higher rates of economic growth that would allow them to catch up with others in this group and the OMS. The results of the conducted panel study among the CEE countries confirm the existence of such dependence, and no statistically significant differences between countries are observed.[4]

In some contrast to the results of the panel survey, Bulgaria can be cited as an exception to such developments (Figure 1). To a much lesser extent, so can be Croatia. Other countries with low GDP outputs - Romania and the Baltic republics are largely catching up. In 2018, GDP per capita in Bulgaria is two times lower than the EU average, with the country lagging far behind all other CEE countries. Throughout the period under consideration, GDP growth rates per capita in Bulgaria are lower than those of the Baltic states and almost always relative to Romania's. Another important feature is that Bulgaria manages to achieve inclusive economic growth in the years before the global financial and economic crisis, after which it slows down considerably.

Figure 1: GDP per capita in PPS, EU28=100



Source: Eurostat

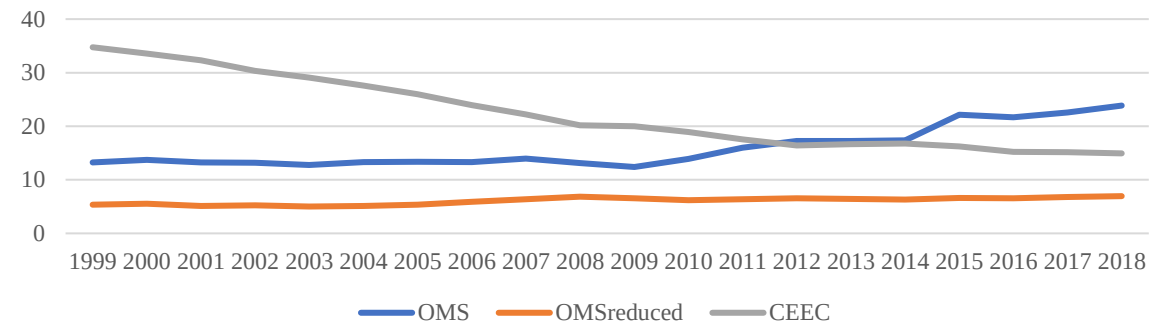
Convergence is definitely not a uniform and one-way process. The convergence between the economies in consideration was more intense until 2012, with a short interruption in 2009, after which it stagnated (Figure 2). Despite that the figure shows that disparities between the economies at the end of the period are lower than at the beginning. There is, of course, no reason to expect that convergence will necessarily accelerate again and the differences between the CEE countries will disappear, even rather, they may

[4] Three panel regression models were used - pooled cross-section and time series data, fixed effect model and random effect model. The results of the first model are of the highest statistical significance. The regression equation for this model is $\ln [Y_{it}] = \beta_0 + \beta_1 \ln [X_{1it-1}] + u_{it}$, where X_{1it-1} is GDP per capita for the respective country for the previous year, and Y_{it} is the rate of change of the indicator in that year.

increase, mainly due to the impossibility of Croatia and especially Bulgaria to catch up with other countries.

The economic slowdown during and after the 2008 crisis, the high indebtedness and the resulting financial constraints on part of the OMS (the countries of the so-called PIIGS group) are causing them to move in opposite direction and with increasing speed. At the same time, if these countries are excluded, the convergence of GDP in other OMS remains. This, in the first place, shows the different speed of development of the EU countries and, secondly, supports the aforementioned conclusion that convergence in the CEE countries is probably close to its maximum.

Figure 2: Sigma convergence of GDP per capita (in PPS) in different country groups in EU

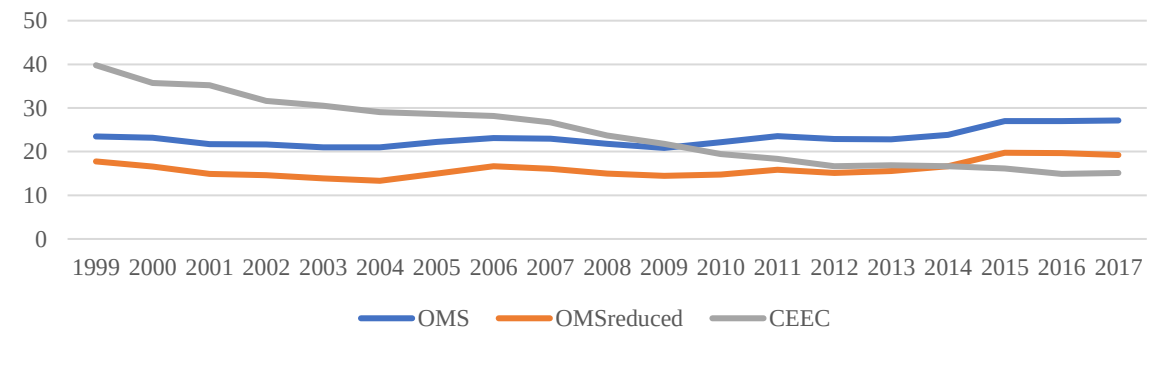


Source: Autor's calculations based on Eurostat data

Productivity convergence

During the period under consideration, there was also a significant productivity convergence among the CEE countries, measured by the indicator GVA per hour worked in PPS. However, the differences remain too high. In 2017 (latest available data) countries can be divided into three groups according to their level of productivity. Bulgaria has significantly lower values than other countries - 43.8% of the EU average. Poland, Croatia, Hungary (2016 data), Romania, Latvia, Lithuania and Estonia have similar levels - ranging from 59.4% to 63.3%, with the highest productivity levels being recorded by Slovakia (72.9%), the Czech Republic (74.8%) and Slovenia (80.1%). Interesting is the trend in OMS after 2009 - productivity divergence, with increasing intensity in recent years. A comprehensive empirical analysis of the productivity convergence can be found in Stoykova-Kanalieva et al. (2016).

Figure 3: Sigma convergence of GVA per hour worked in PPS

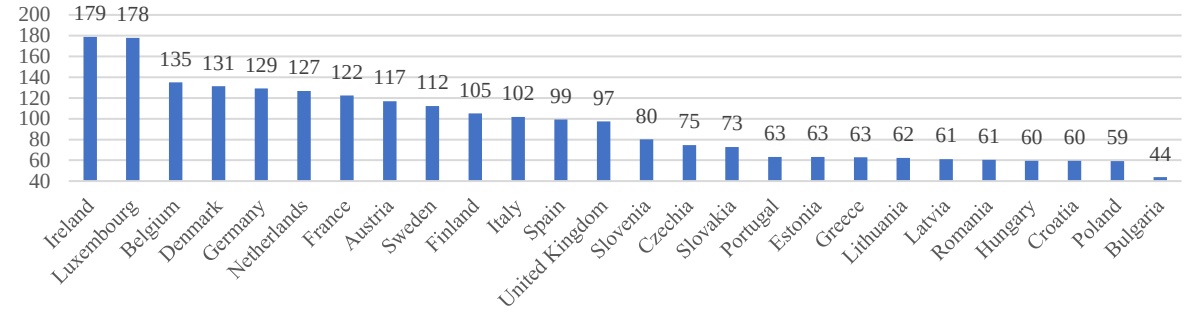


Source: Autor's calculations based on EU KLEMS and OECD-Eurostat PPP data

Price convergence

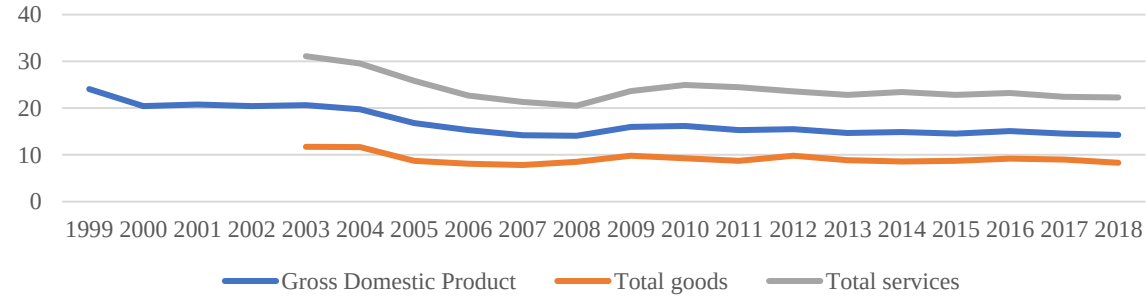
The accession to the EU and the subsequent free movement of goods and capital along with the EU's single customs policy, inevitably lead to price convergence in the participating countries. On one hand, the price levels of the CEE economies begin to approach the Union average more rapidly, and on the other, the price convergence between the CEE countries themselves increases. The more intense price convergence is clear immediately after the accession of the eight CEE countries to the EU in 2004 and with the membership of Bulgaria and Romania in 2007 (Figure 5). For countries that joined the euroarea after the first wave, joining the monetary union is not a reason for higher inflation.

Figure 4: GVA per hour worked in PPS, 2017 (EU=100)



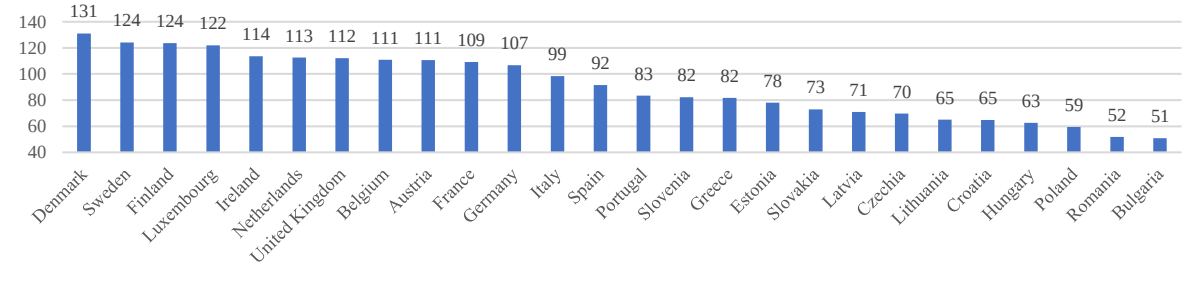
Source: Autor's calculations based on EU KLEMS and OECD-Eurostat PPP data

Figure 5: Price convergence in CEE countries



Source: Autor's calculations based on data from Eurostat

Figure 6: Price Levels in EU countries, 2018 (EU=100)



Source: Eurostat

Logically, convergence is significantly higher for tradable products - different types of goods, than for services. Taking into account the absence of significant change after the global financial and economic crisis and the similar course of these processes in the OMS (which should be well ahead in the process of price convergence) it can be said that the commodity price convergence is largely exhausted and existing price differences in these products will remain. Further convergence of the price levels among the CEE countries can occur if the tax policy between them is harmonized (mainly when the levels of indirect taxes are equalized) and if the structure of consumption is changed (will reflect a change in the overall price level). The catching up of the price levels in the OMS by the CEE countries would occur with a more definite increase in labour productivity and wages in the latter. All these processes can happen gradually over a long period of time. The already realized convergence in the prices of many goods is proving to be a problem for poorer countries such as Bulgaria. The citizens of these economies receive significantly lower incomes but pay prices for most goods that are the same or close to those of the OMS.

The situation is quite different for services whose price levels are significantly lower in CEE than the OMS. Prices of services in Bulgaria are about 3 times lower than the EU average, in Romania by about 60%, while in Poland, Lithuania and Hungary, services are more than 2 times cheaper. The most expensive services are in Slovenia (77.1% of EU average). There are also significant differences

between the prices of different types of services within the CEE countries. They are largest in healthcare and education. In poorer countries, such as Bulgaria and Romania, the prices of these services are many times lower than the average in the Union - education and healthcare in both countries are almost 4 times cheaper than the average levels in EU, hospital services 6-7 times, and household services about 3 times. The hotel and restaurant services are also much cheaper - about 2 times below the EU average. The lower prices of services can be explained by the fact that they are non-tradable products, by the low purchasing power of the population, which limits their demand and by the lower cost of labour, which lowers production cost. The prices of many services are determined entirely or largely by the state, and in general, all former socialist countries are characterized by keeping prices of these services at lower levels in order to avoid public discontent. However, low prices lead to underfunding of different sectors, which threatens their normal long-term functioning, mainly due to the lack of staff whose migration to the western countries is facilitated after EU membership.

Conclusion

In the process of accession and membership in the EU the CEE economies have achieved considerable progress in their economic convergence to the other EU economies. At the same time some impediments in front of that process start to become more evident. On one hand, the convergence within the EU as a whole stagnated or even went in the reverse direction after the global economic and financial crisis. This is a clear sign of EU on different speeds and a threat for the future integration. On the other hand, the convergence in the different CEE countries and in its different aspects does not take place symmetrically. This is a particularly painful problem for the economies that considerably lag behind in that process, as it is the case with Bulgaria. The accelerated price convergence, specifically for some product groups, given the low level of income and productivity convergence aggravates the problem with emigration and therefore the lack of adequate labour force (particularly in the context of free movement of labour in the EU), the decrease of the living standard and the uneven income distribution. It becomes evident that the policy of competitive advantage, based on cheap labour force cannot be considered as sustainable in a long term perspective and is not feasible in the absence of a strategy for the development of high value added industries.

It is not reasonable to expect that Bulgaria will in the foreseeable future succeed in catching up in its economic development to the EU economies or even the rest of the CEE economies. This fact should not be interpreted as a reason for Bulgaria to stop the process of its accession to the euroarea. A membership of Bulgaria into the euroarea, despite the low levels of convergence would not have a destabilizing effect for the country and for the monetary union as a whole. Given its currency board arrangement in place that mimics the conditions of a monetary union, the benefits of such membership clearly outweigh the costs. Choosing a currency board arrangement as a monetary regime more than twenty years ago, Bulgaria has actually surrendered independent monetary and exchange rate policy, thus bearing the greatest macroeconomic cost of a monetary union membership. Adoption of the euro and the membership of Bulgaria in the monetary union will be an elegant exit from the currency board arrangement that contributed towards the macroeconomic stabilization of the economy, but was also felt as a straitjacket, locking the hands of the central bank. The elimination of transaction costs, the access of commercial banks to the ECB facilities and the participation of the Bulgarian National Bank in the Eurosystem are considered among the major benefits of EMU membership for Bulgaria. As far as the stability of the euro area is concerned, an entry of Bulgaria into the EMU will not pose any significant threats, due to the very small size of the economy on one hand and its macroeconomic stability on the other. At the same time, it should be clear that the euroarea membership cannot on its own be automatically associated with an improvement in the living standard and a guarantee for attracting foreign investments.

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