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Nominal, Structural and Real Convergence of the EU Candidate Countries' Economies

Abstract: Despite the significant academic interest in the economic cohesion, the various aspects of convergence and the ways they can be measured still remain theoretically unclear. These are issues of extreme political significance, especially for countries aspiring for EU and euro area membership. The goal of this paper is to consolidate a variety of theoretical views on the convergence and its measurement and use it as the basis to assess the progress and the current state of economic convergence to the EU of the four candidate countries. The interrelation between the three forms of convergence in the different phases of the economic cycle is studied and the slobs in the ways the convergence is measured are outlined. The study reveals large differences between the candidate countries in achieving convergence with the EU. Their experiences do not confirm the positive relationship between nominal and real convergence. The structural convergence considered as convergence of sectoral structure has but little impact on the real convergence.

Keywords: economic convergence, candidate countries, macroeconomic imbalances

JEL Classification: E5, E6

Introduction

Nominal, real, and structural convergence within the EU is a strong topic for the central banks and the European Central Bank. Joining the Economic and Monetary Union is a challenge for both acceding and participating economies.

The convergence has strong economic and political implications for the EU candidate countries. Although the theoretical concept about convergence inspires heated debates, there is a need to assess the progress in order to navigate the monetary, fiscal and structural policies. The goal of this paper is to consolidate a variety of theoretical views on the convergence and its measurement, and use it as the basis to assess the progress and the current state of economic convergence to the EU of the four candidate countries. The paper compares these countries with the average EU levels, as well with the new EU Member States, the so-called `catching-up` economies. The role of the macroeconomic imbalances for the convergence is monitored and the main factors and obstacles to accelerating the convergence even before EU membership are identified. The purpose of studying the convergence of the EU candidate countries is to examine the extent to which the dynamics of the nominal, real, and structural convergence indicators confirm the main trends in the catching-up economies of the new EU Member States. This also includes the relationship between nominal, real, and structural convergence in the candidate countries.

The Convergence Theory

The concepts of nominal and real convergence do not exist in the Treaty on the Functioning of the European Union (TFEU). The EC Convergence Report (EC, 2020) mentions the term "nominal convergence" without defining its content.[1] In the theories of growth, and especially in their neoclassical version, real convergence is associated with faster economic growth in countries with lower GDP per capita, thus shrinking the gap with the countries with higher levels. Although other indicators of real convergence are also used, the most common understanding of the real convergence is the trend to decrease the difference in the levels of GDP per capita (for PPS). Since the establishment of the Economic and Monetary Union (EMU), the focus of the debate has been on the nature of the economic convergence and the relationship between the nominal and the real convergence. The emphasis then has been on creating a stable common currency so the euro area would function in such a way as to limit the asymmetric shocks. The academic and political discussions on the relationship between nominal and real convergence have not stopped, but have gained new incentive in the enlargement towards the new Member States.

[1] Box 1.5: "The fourth indent of Article 140(l) of the Treaty requires that the durability of **nominal convergence** and exchange rate stability in Member States should be assessed by reference to long-term interest rates."

What does it mean when two economies converge? Does it mean similar macroeconomic indicators, or a synchronous economic cycle, or a similar standard of living, or relating the economies along value chains, investments, and markets? Concerning the economy, convergence has not yet gone beyond the political and economic framework of the so-called convergence criteria. The enlargement of the EU and the euro area, combined with the recent financial and economic crisis, have provoked new processes and provided enough new data to reconsider the concept of convergence.

From a theoretical point of view, measuring the degree of convergence with the convergence criteria set out in the Treaty on European Union (TEU) is insufficiently precise. The following reasons can be mentioned:

First: the euro area legal framework is a political instrument designed to restrict the access to it by unsustainable economies, which would jeopardize the stability of the single currency and the area. The other goal is to ensure, for the same reasons, a judicious policy within the euro area for the countries already participating. These are the criteria for joining the third stage of the EMU. Nominal convergence indicators relate more to stability than to the convergence.

Second: The chosen indicators have long been a subject of criticism since neither at the entrance nor inside the euro area do they ensure its stability, let alone the convergence. Empirical studies show that the difference between the Member States in the euro area does not decrease but increases on many indicators. The whole political-economic framework of the convergence in the EU is extremely ineffective in explaining the processes of divergence that run with a single currency, strongly interrelated economies and a single market. The term divergence is not present in this concept at all, but it is present in real life – it is a real process in the euro area and the EU, and not only after the 2008 crisis, but before it as well.

Third: From a methodological point of view, the nominal convergence criteria have just theoretical benchmarks/target levels. That is, countries need to converge to ideal indicators, not to the EU average. For example, concerning inflation, the countries should maintain an inflation rate not similar to the average, but at an abstract level, calculated on the basis of the best countries by this indicator, including those with deflation. Concerning public debt, instead of the countries striving to approach the average level, a theoretical construction of 60% is chosen and a situation occurs that the average for the EU and to a greater extent for the euro area has not been met by most countries for a long time. Convergence to the average levels is a dynamic quantity since the average levels themselves change over time.

Fourth: Many examples, including Bulgaria, show that the sustainable achievement of the nominal convergence criteria is not enough to achieve true economic convergence.

Due to the inability of the nominal convergence concept to support the real convergence, the structural convergence concept has also developed in the recent years.

The theory of structural convergence is in the field of the scientific discussions. The different types of convergence relate to the so-called economic convergence. The term "economic convergence" belongs mainly to the neoclassical theory of growth, according to which some countries grow faster than others, which allows them to catch-up and converge to the developed countries.

The academic debate in the early stages of the euro adoption focused on the "optimum currency area" theory, leading to the expectation that the real convergence would lead to synchronization of the euro area economies and thus reduce the risks of asymmetric internal shocks. However, nominal and real convergences have not led to a reduction of the asymmetric shocks. With the enlargement of the EU, the debate on the relation between real and nominal convergence has resumed due to the difficulties of some countries to meet the Maastricht criteria in relation to the Balassa-Samuelson effect (De Grauwe and Schnabl, 2005). The interaction between nominal, real and structural convergence was studied by Buti (2018) who argues for prioritizing the structural convergence.

One of the first authors examining the structural convergence concept is Romain Wacziarg (2001). He defines structural convergence as follows: two countries are said to structurally converge if convergence in their per capita incomes is accompanied by convergence in their sectoral structure. The degree of similarity in sectoral structure for a pair of countries is captured by computing the correlation of sectoral labor shares at each point in time. Some studies extend the concept to include various indices, including Krugman Specialisation Index, structural coefficients (Longhi and Musolesi, 2007; Bickenbach and Bode, 2008).

Angelini, Bańbura, and Rünstler (2005) consider that production structure is an important factor for the structural convergence and a criterion for assessing the degree of economic development. Applying the methodology of Krugman (1991), an index of divergence in the product structure compared to the euro area is calculated. Von Hagen and Traistaru-Siedschlag (2006) calculate the dissimilarity index. Some authors note the limited reliability of these measurers of the structural convergence since countries that develop the same sectors will be more vulnerable to industry shocks.

The new Member States have shown relatively rapid convergence towards the sectoral structure of the more developed economies in the EU. Thus, for example, the financial service sector, which takes a significant place in the services, has developed strongly, and the automotive and parts industries have developed in the industrial production. However, exactly this demonstrates the imperfection of the approach of looking for a closer sectoral structure in order to enhance the real convergence. In recent years, the decrease in the automotive industry in big EU economies has transferred to the peripheral countries and has led to a slowdown of the economic growth and of the real convergence.

If we summarize the views on the structural convergence, most authors reduce it to convergence of the sectoral structures and to a factor for the real convergence. It is argued that if countries have different sectoral structures – since the sectors have different economic cycles – this will lead to asymmetric shocks. This hypothesis needs to be tested at the level of synchronization of the cycles of the individual sectors – if such a process is indeed observed, then the structural differences should not produce asymmetric shocks between countries with different sectoral structures. And vice versa, if the cycles of the individual sectors are not synchronized, then there will be asymmetric sectoral shocks and in this case the single monetary policy will not be effective (Dedola and Lippi, 2000). The national economic cycles will be different and hence the single monetary policy will not be successful and each sector will react differently to it. In fact, in this concept, the goal is to see how much stability and harmony there will be in the euro area for the monetary policy to be effective and not to focus on the real convergence.

In the literature the differences among the authors are in the ways they measure the structural convergence and which industries they consider. The prevailing views are that the criterion for the development of an economy is the high share of services in it and the low share of agriculture in production and employment. According to A. Lucian-Liviu, a structural convergence indicator is the share of services in GDP and employment.

At the same time, the share of the industry typically has an inverted U-shaped relation to per capita output, increasing first and declining later (Chenery and Taylor, 1968). The output shares can then be used to "benchmark" the degree of economic development, as recently done for central European countries by Raiser, Rousso, and Steves (2003). The problem with these concepts is that services are considered as a whole, while this sector is highly diversified into different sub-sectors, which dynamics affects differently the convergence. The criticism of this concept is the very empiricism, which shows that none of the new Member States, though having converged their sectoral structure to that of the EU, have

reached the average level of the EU's real convergence, even those with a high starting level. On the other hand, if countries have already converged their sectoral structure, what will drive the real convergence that remains low even with converged sectoral structures?

Most authors define structural convergence in its interrelation with nominal and real one. According to Buti (2018), today's convergence is neither nominal nor real, it is a structural one. The structural convergence is the basis for the real convergence. According to Costello, Eriksgår Melander, and Hallet (2019), the structural divergence contributes to nominal and real divergences in the euro area. The structural differences in leading economic indicators result in the degree of sustainability of the economies to external and internal shocks, but also in terms of the growth potential.

However, some authors reveal that it is not the sectoral structure, considered as the share of services and agriculture, but rather the ratio between tradable and non-tradable sectors that needs to be studied for the purposes of the structural convergence. Directing a large part of investments of the new EU member states towards the non-tradable and public sectors has an unfavorable effect on the real convergence (Bobeva and Zlatinov, 2018). This thesis is also tested for the candidate countries further below.

The convergence of economies should be reduced not only to similar economic dynamics, but also to the convergence of income levels, purchasing power, standard of living, level of public services, etc.

The current study tests the relevance of the mentioned criticisms to the relation between nominal and real convergences based on the experience of the EU candidate countries. An alternative approach to the Maastricht criteria is used to assess nominal convergence. In addition to the theoretical reference values, the actual dynamics averages of each EU indicator are used and the deviations of each individual country are calculated. In this way the two approaches are compared and the relevant conclusions are drawn. Using harmonized data, it is examined whether the economies with the highest degree of nominal convergence also register the highest real convergence. Concerning the structural convergence, it is assessed to what extent the economies of the candidate countries with the closest to the EU average industry structure reach the highest real convergence. The relation between economic growth and nominal and real convergence is also studied, and whether the experience of the new EU Member States with the crisis slowing down real convergence is confirmed.

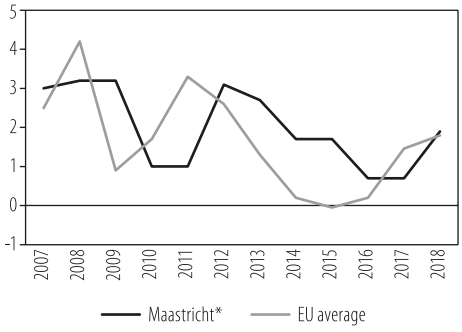
Nominal Convergence[2]

Concerning nominal convergence, the theory seems to have adopted the concept of the TFEU (Article 140 (1)), which formulates the numerical convergence criteria: price stability, government budgetary position, and convergence of long-term interest rates. In accordance with the Treaty, it is measured against the adopted theoretical target levels – reference values. The reference values are of two types: static – the level of public debt and fiscal position, and dynamic – the inflation criterion and the criterion of long-term interest rates. The study of the nominal convergence makes it possible to assess the degree, speed and stability of the process, as well as the factors that determine it.

Inflation

The comparison between the inflation reference values (calculated according to the Treaty rule) and the average level of real inflation shows that they differ significantly, the difference reaching 3% in some years (Figure 1). As a whole, the average inflation is more volatile than the reference value. The dynamics of the reference and real inflation, shown on the figure, does not give any logical explanation for the use of the reference inflation instead of the real inflation. The choice of three countries with the lowest inflation does not reflect the inflation trend in the other 25 countries and it should not be considered that the countries that gravitate towards the three ones converge more towards the EU inflation than those that are closer to the average EU inflation. These doubts regarding the nominal convergence criterion seem even more justified with increasing harmonization of the economic cycle. Ramadani and Pandiloski (2019) study the spillover impact from the euro area.

Figure 1: Average inflation and inflation reference values



Source: Eurostat

[2] Due to lack of data on the harmonized index of long-term interest rates for the purposes of assessment of the convergence, it is impossible to assess the extent to which long-term interest rate levels deviate from this convergence criterion.
Table 2 summarizes the data on the degree of fulfillment of the convergence nominal criteria by the countries during the last twelve years.

In some years, the reference inflation is higher than the real one, which should encourage the euro area participating and candidate countries to achieve lower inflation. In years when the reference inflation is higher than the real one, tolerance is given for achieving and maintaining higher inflation.

Measured by the reference values for the respective years, inflation in the EU candidate countries in most years exceeds the reference values. Measured by the average level of real inflation, the inflation of the candidate countries is higher than the average level in the EU and this difference has significantly decreased in recent years, i.e. there is a convergence of the inflation rate in the candidate countries to the EU average (Tables 1 and 2).

Table 1: Inflation, annual rate of consumer prices (%)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Serbia	6	12.4	8.1	6.1	11.1	7.3	7.7	2.1	**1.4**	1.1	3.1	2.2
Montenegro	4.3	8.8	3.4	0.7	3.4	4.1	2.2	**-0.7**	**1.5**	**-0.2**	2.4	2.6
Albania	**3**	3.3	**2.2**	3.6	3.4	**2**	**2**	1.9	**1.6**	1.9	1.3	2
North Macedonia	**2.8**	**7.5**	**-0.7**	1.5	3.9	3.3	2.8	**-0.3**	**-0.3**	**-0.2**	1.4	**1.5**
Maastricht*	3.0	3.2	3.2	1.0	1.0	3.1	2.7	1.7	1.7	0.7	0.7	1.9

* Data on the reference values are from the ECB Convergence Reports for the respective year. For the years when there is no report, data for the previous year are indicated.

The numbers in bold are the values of the reference levels.

Table 2: Deviation from the actual average inflation rate

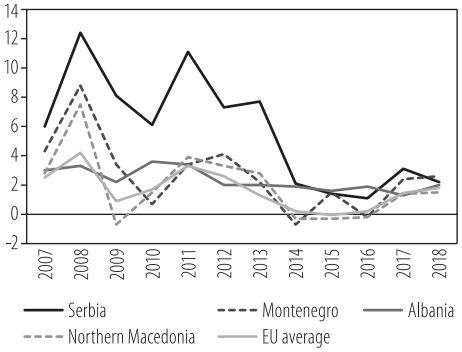
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
EU average	2.5	4.2	0.9	1.7	3.3	2.6	1.3	0.2	-0.05	0.2	1.46	1.8
Serbia	3.5	8.2	7.2	4.4	7.8	4.7	6.4	1.9	1.45	0.9	1.64	0.4
Albania	0.5	-0.9	1.3	1.9	0.1	-0.6	0.7	1.7	1.65	1.7	-0.16	0.2
North Macedonia	0.3	3.3	-1.6	-0.2	0.6	0.7	1.5	-0.5	-0.25	-0.4	-0.06	-0.3
Montenegro	1.8	4.6	2.5	-1	0.1	1.5	0.9	-0.9	1.55	-0.4	0.94	0.8

Source: Word Bank open data

After the crisis, inflation has decreased both in the EU and in the candidate countries, where the decrease is significant and seems sustainable. Inflation deviations in the candidate countries from the average EU decrease – from the record 8% in Serbia and 4.6% in Montenegro to levels below 1% in recent years.

Inflation differences between the candidate countries themselves also decrease (Figure 2).

Figure 2: Annual inflation (%)



Source: Word Bank open data

By this indicator North Macedonia has the best performance – inflation is closest to the EU average, and in four of the last five years it is below the reference values. The highest inflation rates are in Serbia, followed by Montenegro. Although deviating from the average inflation rates in the EU and in terms of convergence criteria, Albania demonstrated low and stable inflation rates below 2% for the entire twelve-year studied period, with just over 3% in just three years. The monetary regime of the countries does not have a significant impact on inflation, first, since inflation rates converge in all four countries, and second, countries with inflation targeting and those unilaterally adopting the euro have consistently higher inflation than the EU reference and average value. (Galić, 2012)

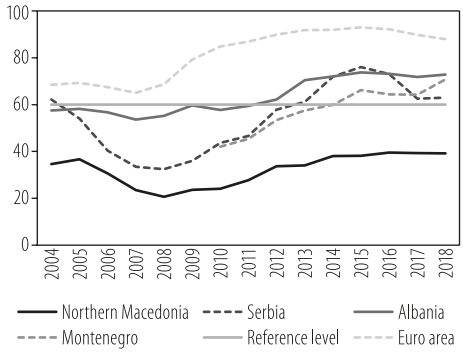
The Balassa-Samuelson effect is more in the years before the crisis, and keeping higher inflation rates can be explained by structural reasons as well as by the role of this effect. (Grubišić and Ivanović, 2012)

The decrease of inflation in the candidate countries and its convergence to the dynamics of the EU inflation is a signal for higher stability of these economies and their closer binding to the European one.

Public debt

The public debt criterion is static and fixed at the maximum level of 60% of GDP. Until the beginning of the 2008 crisis, the EU candidate countries have kept the public debt below the reference level. The lowest level is in North Macedonia, where it stood at no more than 20% of GDP at the crisis onset (Figure 3). The crisis stimulated the growth of the public debt in these countries, and all of them, except for North Macedonia, exceeded the reference 60% yet no more than by 10%, with a slight downward trend.

Figure 3: Public debt (% of GDP)



Source: World Bank Open Data and Eurostat

Compared to the euro area, economies of the candidate countries operate at significantly lower levels of public debt, with North Macedonia performing best. The public debt of this country in terms of GDP was the lowest in the entire studied period. Data show a *steady trend of convergence of the dynamics of the public debt of the candidates to the euro area*. This relates to the convergence of the economic cycle, as well as the transfer of external shocks due to the strong relation of these economies with the euro area.

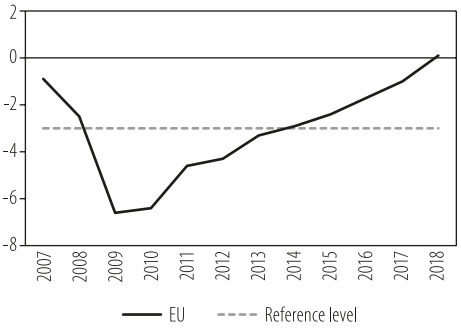
Fiscal position

One of the nominal convergence criteria is the sustainability of the government fiscal position – the achievement of a government budgetary position without an excessive deficit, within the meaning of Article 126(6) of TFEU. The reference value is set at 3% of GDP respectively in the Protocol on the excessive deficit procedure.

A deficit below 3% in all stages of the economic cycle is difficult to achieve given the increase of the public expenditures, especially in the downward stage of the cycle. In the period 2009-2014, the average level of the budget deficit in the EU (as a percentage of GDP) deviated significantly from the reference value, followed by a process of fiscal consolidation.

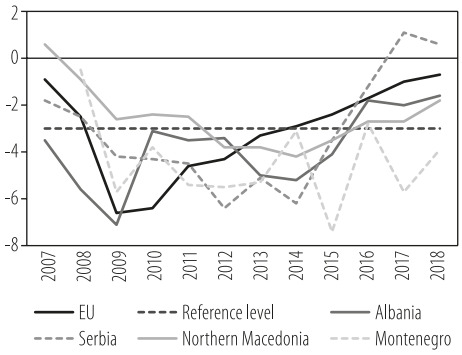
After 2014, the EU as a whole improved its budgetary position by reaching the balanced budget in 2018. The dynamics of the deviation of the real fiscal balance from the reference level shows a clear cyclicality in the EU, which is characteristic also of economies of the candidate countries (Figure 4). Its values are significantly more volatile than those in the EU. Episodes of high deficits alternate with periods of excess. In this regard, Serbia has shown greatest unsustainability. After the crisis, fiscal consolidation was less ambitious in the candidate countries than in the EU (Figure 5).

Figure 4: Public deficit (% of GDP)



Source: Eurostat

Figure 5: Public deficit (% of GDP)



Source: Eurostat

The public deficit in terms of the GDP of North Macedonia is relatively sustainable and closest to the reference value, while the public finances of Montenegro had frequent episodes of high deficits of up to 7%.

The generalization of the degree of sustainable implementation of the nominal convergence criteria of the EU candidate countries (Table 3) shows that in the last twelve years (years of high growth, followed by a crisis in the EU) the economies of the candidate countries nominally have converged to the EU. Most indicators show lower but still significant volatility. The differences in the dynamics of the nominal criteria between the countries are large. The public debt criterion is met by most countries over the longest period of time and its deviations from the reference value are small. Despite the sustainable deviation from the reference value of the public deficit indicator, its values are closer to the real average values of this indicator in the EU than to the reference value. Candidate countries manage to decrease the inflation in the recent years, but it is still above the EU average while maintaining high potential for inflation growth due to the differences in the EU price levels. This is also the most difficult criterion to meet. (Vukčević and Jovović, 2020)

Table 3: The EU candidate countries achieving the nominal convergence criteria for the period 2014-2018 (number of years with achieved criterion)

	Inflation	Fiscal deficit	Public debt	Long-term interest rates
Serbia	1	6	8	n.a.
Montenegro	3	3	5	n.a.
Northern Macedonia	4	11	12	n.a.
Albania	1	4	8	n.a.

As a whole, the values of the nominal indicators in these countries are closer to the real average values of the EU indicators than to their reference values. The countries achieved a higher degree of nominal convergence in the period after the global financial and economic crisis, similar to the Baltic countries and Bulgaria (Bobeva, 2017).

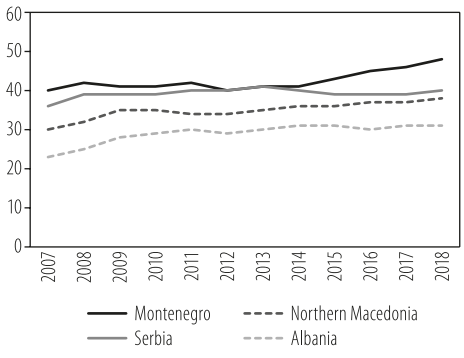
The study of the nominal convergence gives the opportunity to assess that the country with the highest degree of sustainable nominal convergence is North Macedonia.

Real Convergence

The study of the real convergence of the non-EU countries implementing accession policies is of particular interest since two of these countries do not have an independent monetary policy and the other two are in a managed floating regime. The comparison of the economic dynamics and the real convergence of these two pairs of countries would support or reject the thesis that the flexible regimes create better opportunities for real convergence. The loss of monetary policy in Montenegro and North Macedonia should stimulate the structural reforms in these countries to compensate for the loss of monetary policy as a stabilization instrument at the national level.

While economies of the candidate countries perform relatively well in terms of the nominal convergence indicators, there was a little progress over the last twelve years in terms of the real convergence indicators, and there is still a significant lag. One of the reasons is the low starting position. In 2008, the closest to the European average level of GDP per capita was Montenegro (with 42%), and the most distant was Albania (with 25%). After more than a decade, the two countries made a little progress, but held the same positions.

Figure 6: GDP per capita in PPS (% of EU average)



Source: Eurostat

In 2019, GDP per capita as a relative share of the EU average ranged between 50% (Montenegro) and 31% (Albania). The differences between the countries are relatively high (Figure 6).

By this indicator, for the last twelve years all countries reduce the distance to the EU – Montenegro by 8%, Northern Macedonia and Albania by 6% each, and Serbia by 2%. The data show a relative unsustainability of the trend over the years. In this sense, the theory that countries with the lowest values of this indicator grow and converge faster is not confirmed.

Unlike the candidate countries, the new EU member states have significantly improved their results over the same period. Except for Slovenia, Slovakia, and Croatia, all other countries have a real convergence by over 7% (Romania – 27%, Lithuania – 18%, Poland – 17%, Estonia – 14%, Bulgaria – 10%). EU membership gives impetus to the real convergence not only for countries with a low starting level of GDP per capita (Bulgaria, Romania, Poland), but also for those with a high one (Estonia, Hungary).

The best performing countries in the nominal convergence are not the ones with the highest degree of real convergence. On the contrary, Montenegro – the country with the most unsustainable indicators of nominal convergence – had the highest real convergence and the most significant progress of this indicator from 2008 to 2019. The data and the analysis confirm the thesis that the nominal convergence is not a strong enough factor for achieving real convergence. The presumption of the nominal convergence criteria that a more balanced economy is a factor for economic growth in both the new Member States and the candidate countries is not confirmed (Bobeva, 2017).

The problem of the real convergence is not only in the countries preparing for EU membership. After the first decade of the euro, when the countries have converged significantly in terms of real convergence, in the second decade divergence processes developed, which have called into question the theory and policy of the economic and monetary union. As a result of the euro, and not only the euro, the structures of economies in the center of the euro area and the periphery have become very different and the abilities to survive shocks are different. During the crisis, these charges of economic divergence were dethroned. That is why the concepts of structural convergence, institutional convergence, etc. have begun to form in recent years.

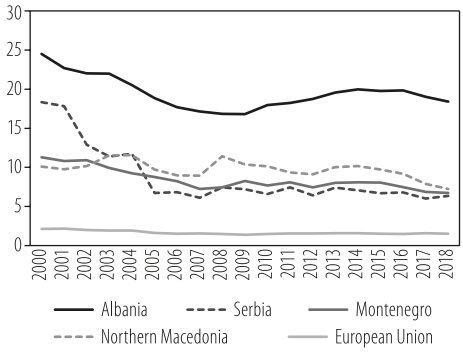
Structural Convergence

If we apply the current theory of structural convergence, which focuses on sectoral disparities and their reduction, we need to examine how the shares of agriculture, construction, industry, energy and services change in the EU candidates

and EU countries, and to see if the ones most converged by real convergence are the ones most converged by industry structure. This will be difficult to do because of limited data.

While the share of *agriculture* in EU's GDP is consistently low at around 1.5% over the studied period, the share of this sector in the candidate countries has been sustainably decreasing, but at high levels (Figure 7). The largest share of agriculture is in the sectoral structure of Albania – about 20%, and it deviates significantly from the other three countries, where it is between 6% and 7%.

Figure 7: Share of agriculture (% of GDP)

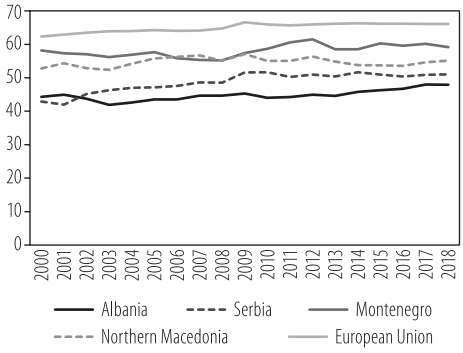


Source: World Bank Data

The service sector of the candidate countries also increased its contribution to GDP and gradually converged to this sector's share of EU's GDP (Figure 8). In the EU, this share was about 60% in the last ten years (including 60% in 2018), and in Serbia it was 51%, in Northern Macedonia – 55.1%, and 59% in Montenegro. In Albania, the share differred significantly from the other countries and was 47.9%.

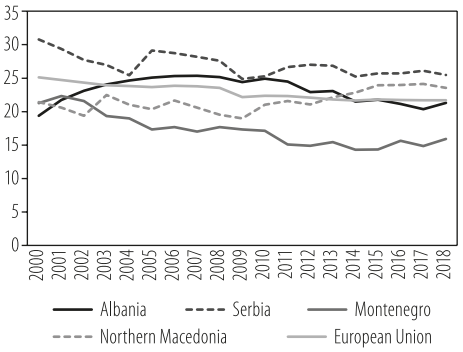
Some of the authors also include the convergence of the relative shares of construction and industry sectors as part of the structural convergence.

Figure 8: Share of services in GDP (%)



Source: World Bank Data

Figure 9: Share of industry and construction (% of GDP)



Source: World Bank Data

Data for the candidate countries show a high degree of convergence of these shares, with Montenegro having the smallest share of industry, which is related to the high share of services (Figure 9).

For the purposes of the assessment of the structural convergence (in the sense of convergence of the branch structure), the share of industry, including construction, obviously does not play a significant role.

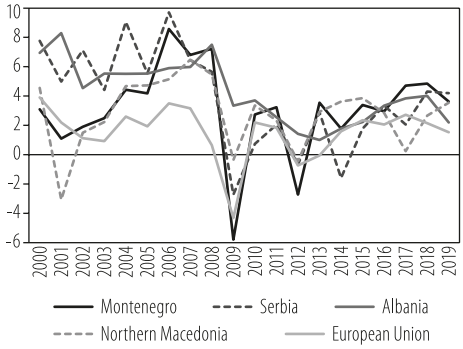
Based on these data, we can state that the hypothesis that the lower the share of services and the higher the share of agriculture, i.e. the lower the structural convergence, the weaker the real convergence, is confirmed only for Albania. According to these indicators, the Serbian economy is most converged to the European one compared with the other candidates, but it was the least converged in real terms (GDP per capita) during the studied period (by only 4%).

Business Cycle Convergence and Real Convergence

One of the important indicators for the convergence of economies of the EU candidate countries is the business cycle convergence. While before 2008 the economic dynamics of the studied countries had differred significantly from that of the EU, driven more by internal factors, during the financial and economic crisis, a faster acceleration of convergence was initiated, strengthened also by the acceleration of the process of political, legal and institutional integration processes. The accumulation of significant foreign direct investments by the EU in the real and financial sectors of the candidate countries, trade expansion, the binding to the euro, and the harmonization of the legislation, have made these economies more and more dependent on the EU.

Economic growth of the EU candidate countries has been high and volatile (Figure 10) over the past twenty years. The former Yugoslav republics show similar economic growth trends, while Albania deviates from the general trend. After the political instability in the 1990s, growth returned to high levels between 6% and 10% in the period preceding the crisis. The crisis affected the economies of the candidate countries to various degrees. The drop have reached -5% in Montenegro, -3% in Serbia, while the Albanian economy, although weak, continued to grow in the crisis as well. In the post-crisis period, the economies grew, but weakly, none of them reaching the pre-crisis levels of growth – trends similar to most of the new EU Member States. The strong convergence of the ex-Yugoslav economies, despite the disintegration of the cross-sectoral relations after the political collapse, has remained to a considerable extent and the economies have

Figure 10: Gross domestic product, real annual rate



Source: World Bank Data

similar business cycles, while the Albanian economy deviates from their general trend.

The strongest correlation of the business cycle with that of the EU is in Montenegro (0.76), followed by Serbia (0.63), North Macedonia (0.46), and the weakest is in Albania (0.37).

In the new Member States and, to some extent, in the candidate countries, a specific pattern of economic growth has been established, characterized by the accumulation of macroeconomic imbalances in years of high economic growth.

Institutional Convergence

As mentioned in the first chapter, the interest in the so-called institutional convergence has increased in recent years. The literature does not provide a detailed description of the nature and the approaches for measuring this type of convergence. There is an indirect reference to this in the convergence reports for the non-EU countries, prepared every two years by the ECB and the EC. They analyze the level of development of institutions using composite indices developed by international institutions such as the World Bank's Business Indicator Index and the Corruption Perception Index of Transparency International.

According to the World Bank's Business Indicator Index, the candidate countries differ significantly from each other. While in 2019 North Macedonia ranked 17th in the world in terms of the indicator, Albania was 82nd, Montenegro was 50th, and Serbia was 48th, North Macedonia performed significantly better than many EU countries. Montenegro and Serbia were at better positions than Bulgaria, Romania, Hungary, Cyprus, and Croatia. This indicator should be interpreted with caution, despite its widespread use by investors and international institutions.

According to the Corruption Perception Index, the countries are concentrated around scores between 35 and 45 (rank 100 represents the lowest level of corruption), which means a relatively high level of corruption. In terms of this indicator,

Montenegro performs best, followed by Serbia. Compared to the EU member states, only Bulgaria is ahead of Montenegro. Despite the limitations of this indicator, which reflects the perceived rather than real corruption, it is widely used in the assessments of the EC, the ECB and the international markets. In this sense, one of the obstacles to the development of institutions and their contribution to the convergence is corruption, which is one of the certain factors that slows down convergence.

Despite the different rates of institutional convergence, the candidate countries show an improvement in the used two indicators.

Conclusion

In accordance with the basic concepts and measurers of the different types of convergence, the countries can be arranged as follows:

- By the *nominal convergence* criteria: North Macedonia performs best, and Montenegro is the furthest from the criteria.
- By the *real convergence* criteria: Montenegro performs best, and Albania is the furthest from the criteria.
- By the criteria for *business cycle convergence*: Montenegro performs best, and Albania is the furthest from the European business cycle.
- By the *structural convergence* criteria as a convergence of the sectoral structure: the sectoral structures of Serbia and Montenegro are closest to the EU average, while that of Albania is the most distant.
- By the *institutional convergence* criterion: North Macedonia performs best and Albania is at the most unfavourable position.

According to the different convergence concepts, candidate countries can be ranked at different positions. It is certain that Albania lags behind by all approaches to assessing the convergence, and in most of them Montenegro has converged more, despite the fact that it has achieved the most volatile growth and non-compliance with the nominal convergence criteria. In this sense, the hypothesis that nominal convergence does not guarantee real convergence is confirmed in the candidate countries. In certain episodes, the lower nominal convergence occurs at higher real convergence.

It makes sense to study the nominal convergence not in relation to the theoretical benchmark values of the nominal convergence indicators, but also in relation

to their real values. When applying this approach, it turns out that the nominal convergence is significantly higher/significant.

Although they are outside the EU and the euro area, economies of the candidate countries converge to the European one, albeit at different speeds. Such cyclicality is observed for the catching-up economies within the EU as well. Compared to the new EU Member States, the real convergence of the candidate countries is more unsustainable, which relates to the unsustainability of the growth factors.

Applying the concept of structural convergence as a convergence of sectoral structures leads to the conclusion of imperfections in this method of defining the structural convergence, since in the candidate countries the close sectoral structure of some countries is associated with neither higher nominal nor higher real convergence.

The different monetary regimes do not affect the different types of convergence, especially the real one.

Nominal, real, and structural convergences between the candidate countries increase, while the differences remain significant institutionally, which will also affect the different speeds of progress towards the EU membership.

References

1. Angelini, E., Bańbura, M. and Rünstler, G. (October 2008 2005). Estimating and forecasting the euro area monthly national accounts from a dynamic factor model. ECB working papers.
2. Bickenbach, F. and Bode, E. (2008). Disproportionality Measures of Concentration, Specialization, and Localization. *International Regional Science Review*, Vol. 31, N 4, pp. 359-388.
3. Bobeva, D. (2017). Nominal and Real Convergence. Adoption of the Euro. – In: "The Bulgarian Economy: 10 Years in the EU", pp. 15-38 (in Bulgarian) [Бобева, Д. (2017). Номинална и реална конвергенция. Приемане на еврото. – In: "Българската икономика: 10 години в ЕС", с. 15-38].
4. Bobeva, D. and Zlatinov, D. (2018). Ten Years since the Start of the Global Financial Economic Crisis – Lessons and Necessary Reforms. – In: Annual Report 2018 "Economic Development and Policy in Bulgaria: Evaluations and Expectations" (in Bulgarian) [Бобева, Д, Златинов, Д. (2018). Десет години от началото на глобалната финансово-икономическа криза – поуки и необходими реформи. – In: Годишен доклад 2018 "Икономическо развитие и политика в България: оценки и очаквания"].
5. Buti, M. (2018). Economic and Monetary Union – Deepening and Convergence. Conference organized by OeNB and WKÖ, July 2018, https://ec.europa.eu/info/sites/info/files/economy-finance/slides_linz_marco_buti_18062018.pdf .
6. Chenery, H. B. and Taylor, L. (1968). Development Patterns among Countries and over Time. *Review of Economics and Statistics*, 50, pp. 391-416. https://doi.org/10.2307/1926806.
7. Costello, D., Eriksgård Melander, A., and Hallet, M. (2019). Germany and France: The Case for Structural Convergence in the Euro Area. VOX CEPR Policy Portal.
8. De Grauwe, P. and Schnabl, G. (2005). Nominal vs. Real Convergence. EMU Entry Scenarios for the New Member States. – *Kyklos*, 4, p. 537-555.
9. Dedola, L. & Lippi, F. (2000). The monetary transmission mechanism; evidence from the industries of five OECD countries. Temi di discussione (Economic working papers) 389, Bank of Italy, Economic Research and International Relations Area.
10. EC Convergence Report (EC, 2020). http://www.astrid-online.it/static/upload/ip12/ip129_en.pdf.
11. Galić, E (2012). Does the currency board regime provide an exit strategy: example of the transition economy in the process of EU/EMU accession – *Journal of Central Banking Theory and Practice*, 2012, 1, pp. 59-75.

12. Grubišić, Z., Ivanović, P. (2012). Influence of different monetary regimes on financial stability in see countries, *Journal of Central Banking Theory and Practice*, 2012, 1, pp. 91-106.
13. Krugman, P. (1991) Increasing Returns and Economic Geography. *Journal of Political Economy*, 99, 483-499. https://doi.org/10.1086/261763.
14. Longhi, C., Musolesi, A. (2007). European cities in the process of economic integration: towards structural convergence. *Ann Reg Sci* 41, pp. 333–351 https://doi.org/10.1007/s00168-006-0104-4.
15. Raiser, M., Rousso, A. and Steves, F. (January 2003) Trust in Transition: Cross-Country and Firm Evidence. *SSRN Electronic Journal,* DOI: 10.2139/ssrn.475061.
16. Ramadani, G. and Pandiloski, P. (2019). Disinflationary Spillovers from The Euro Area into the Countries of Southeastern Europe, *Journal of Central Banking Theory and Practice*, 3, pp. 65-93.
17. Von Hagen, J. and Traistaru-Siedschlag, I. (2006). Macroeconomic Adjustment in the New EU Member States. Société Universitaire Européenne de Recherches Financières, 2006/4, ISBN 978-3-902109-34-7.
18. Vukčević, I. and Jovović, R. (2020). The Quality of Public Finance in the Countries of South-East Europe, *Journal of Central Banking Theory and Practice*, 2020, 1, pp. 169-184.
19. Wacziarg, R. (2001). Structural Convergence. Stanford Graduate School of Business, Prepared for the International Seminar on Macroeconomics in Dublin, Ireland, June 8-9, 2001. Available from: https://www.researchgate.net/publication/228956737_Structural_Convergence.