

Economic Convergence between the Western Balkans and the New EU Member States (EU-13)

Dzenita Siljak, Sándor Gyula Nagy¹

Abstract: *The aim of the paper is to investigate if the Western Balkan countries converge towards the new Member States of the European Union, the EU-13. The analysis is focused on beta convergence, defined as a tendency of poor countries to grow faster than rich countries. The analysed period is 2004-2017, with two sub-periods; 2004-2008 and 2009-2013. The subdivision is made in order to test the research hypotheses that the recent financial crisis negatively affected the absolute and conditional convergence process of the Western Balkans towards the EU-13. The relationships between per capita GDP growth rate and selected macroeconomic variables are econometrically tested and the empirical results support the convergence hypothesis. The convergence rates range 1.3%-3.6%. The negative effects of the crisis on convergence are not confirmed, i.e., the convergence rates during the crisis period are the highest among the analysed periods. The poorer countries should open their economies and maintain stable inflation and debt, as economic openness and inflation have a positive impact on per capita growth in the analysed countries, while general government debt has a negative impact.*

JEL Classification: F15, O47, O52

Keywords: Beta convergence, Western Balkans, European Union, New Member States, Transition, Financial crisis

1. Introduction

Convergence is defined as a tendency of poor countries to grow faster than rich countries (Barro and Sala-i-Martin, 1992). The European Union has focused on convergence since the Treaty of Rome (1957), when the common policies to promote “harmonious economic development and balanced expansions” were adopted. In 1975, with the accession of Ireland in 1973 and the future accession of Greece, Portugal and Spain in 1981 and 1986, the European Regional Development Fund was created. The Fund’s main objective is assisting underdeveloped regions to catch up (Berend, 2016). The countries that are in the transition process and want to join the European Union have to fulfil the Copenhagen criteria (1993). The gist of these economic, political and institutional criteria is for a country to be able to function as an EU Member State. In order to join the Europe’s Economic and Monetary Union, the countries have to fulfil the Maastricht or convergence criteria (1992).

In economic literature on European studies, the focus is usually on the convergence

¹ Dzenita Siljak is an assistant professor at International University of Sarajevo and associate research fellow at the Institute for Foreign Affairs and Trade, Budapest, Hungary; e-mail: dzsiljak@ius.edu.ba

Sándor Gyula Nagy is an associate professor at Corvinus University of Budapest and senior research fellow at the Institute for Foreign Affairs and Trade, Budapest, Hungary; e-mail: sandorgyula.nagy@ifat.hu

² The updated version of this article was submitted to RJE editors on 10 March 2019

process of the new Member States (EU-13) towards the old Member States (EU-15). But the aim of this research is to analyse if the Western Balkan countries converge towards the EU-13. These two groups of countries share a similar economic history. The EU-13 countries, except Cyprus and Malta, were communist countries and had to go through the transition process from centrally planned to market economies. The EU-13 Member States finished their transition when they joined the European Union. Eight countries of Central and Eastern Europe (CEE), Cyprus and Malta joined the Union in 2004, followed by Bulgaria and Romania in 2007 and Croatia in 2013.

The Western Balkan countries are considered to be the next group to join the European Union. The countries are in the process of fulfilling the Copenhagen criteria and have access to the IPA funds that should facilitate their accession process. However, they are battling high unemployment, corruption and political instability (European Commission, 2015). The Western Balkan region has made some progress towards EU membership; the countries signed the Stabilization and Association Agreement (SAA), all of them, except Kosovo, have a visa-free regime with the EU, four countries are candidate countries, while Bosnia and Herzegovina and Kosovo are potential candidates for EU membership. These countries have the advantage, because they can learn from the experience of the CEE countries. However, their progress is slow and none of the Western Balkan countries will become an EU member state any time soon.

The main objective of this research is to analyse economic convergence of the Western Balkan countries towards the new Member States of the European Union (EU-13). Other objectives are: to analyse the convergence process between different time periods, because it could show how the recent crisis affected convergence, and to analyse the determinants of per capita growth in the group. There are two research hypotheses of this analysis. The first hypothesis is that the recent financial crisis negatively affected the absolute convergence process of the Western Balkan countries towards the thirteen Member States of the European Union (EU-13). The second hypothesis is that the crisis negatively affected the conditional convergence process of the Western Balkan countries towards the EU-13. The sub-hypotheses are that the Western Balkan countries converge from below and that they act as a club.

The paper is organized as follows. The theoretical background on convergence is presented in Section 2, followed by Methodology and Data in Section 3. In Section 4, we present and discuss the empirical findings on absolute and conditional beta convergence. Section 5 concludes the paper.

We analyse the real economic convergence process among the Western Balkan countries; Albania, Bosnia and Herzegovina, Kosovo³, Montenegro, North Macedonia, and Serbia, and the EU-13 Member States, the countries that accessed the European Union in 2004, 2007 and 2013; Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, the Slovak Republic and Slovenia. We focus on absolute (unconditional) and conditional beta convergence in the period 2004-2017, with two sub-periods; 2004-2008 and 2009-2013.

³ This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence (European Commission, 2015)

2. Literature Review

Convergence was popularized by Barro and Sala-i-Martin (1992). Based on the neoclassical growth theory, they analyse if the U.S. states converge in the period 1840-1988. The empirical results show the existence of convergence, with the speed of convergence of 2% per year, regardless of the time period.

Jelnikar and Murmayer (2006) test and confirm convergence among the countries in the EU-25 during the period 1995-2007 (predicted value). The EU-10 group moved closer to the average level of income *per capita* in the EU-15 over the observed time. El Ouardighi and Somun-Kapetanovic (2007) analyse the convergence process of five Western Balkan countries towards the EU-27 in the period 1989-2005. They conclude that the inequality of income increased and that convergence in per capita GDP ran at a slow annual rate, confirming the basic rule of 2%. Borys *et al.* (2008) investigate the convergence process of five Western Balkan countries towards ten new Member States of the European Union between 1993 and 2005. The results show that total factor productivity growth has been the main driver of convergence, followed by capital deepening, whereas labour has contributed only marginally to economic growth. Vojinović *et al.* (2009) analyse and confirm beta convergence in the CEE-10 countries in the period 1992-2006. The convergence rate in the analysed period is 4.2%. Kulhánek (2012) shows that the five CEE countries - Czech Republic, Hungary, Poland, the Slovak Republic and Slovenia - converge towards the EU-15 in the period 1995-2011 at a slower rate than the new Member States (EU-12).

Botrić (2013) shows that the Western Balkan countries (including Croatia) do not converge to the EU-15 or to individual EU Member States in the period 1995-2010. Dvoroková (2014) analyses the effects of the global financial crisis on real convergence among the EU Member States using cross-sectional linear regression analysis. The results show that the countries converge in the period 2001-2012. Tsanana *et al.* (2013) investigate the issue of catching up between the Balkan countries and the EU-15 in the period 1989-2009 and conclude that there are dissimilarities among the Balkan countries in the process of catching up with the EU-15. The income gap relative to the EU-15 remains significant. Dobrinsky and Halvik (2014) provide evidence of differentiated patterns in the new Member States and the EU as a whole, in the pre-accession and the post-accession periods, pointing more generally to uneven economic convergence within the EU. Borsi and Metiu (2015) investigate economic convergence in the EU-27 and suggest that there is no overall real per capita GDP convergence. However, there is club convergence, and regional linkages play a significant role in determining the formation of convergence clubs. Forgó and Jevčák (2015) analyse economic convergence of the CEE countries in the period 2004-2014 and conclude that the countries achieved significant real convergence vis-à-vis twelve EU Member States which were a part of the Eurozone in 2004. However, the 2008-2009 global financial crisis had a significant negative effect on fiscal position of most CEE-10 countries.

Colak (2015) confirms convergence of the CEE-10 and SEE-8 countries towards the EU-15 in the period 1993-2012. Oblath *et al.* (2015) analyse if the EU-26 member states converge (Luxembourg and Croatia are excluded from the analysis) between 1999 and 2013. The analysis focuses on the ten CEE members (EU-10). The results show that the less developed EU member states were catching up in both per capita GDP and

general price levels until 2008, followed by a significant slow-down. Bićanić *et al.* (2016) show that there was no beta or sigma convergence in Yugoslavia, but with independence both kinds of convergence developed.

Grela *et al.* (2017) include twenty-six EU Member States in their analysis in the period 1997-2014 and conclude that there is convergence. However, the process was faster in the period 2001–2008 and was interrupted by the global financial crisis. Alcidi *et al.* (2018) show that the CEE countries led the convergence process in the EU-28 between 2000 and 2015. The Southern regions have underperformed relatively to the EU average. Pipień and Roszkowska (2018) analyse the convergence process of the CEE and CIS countries and conclude that the CEE group has become relatively homogeneous, while the CIS countries lack similar convergence patterns among them. Žuk *et al.* (2018) analyse the sources of economic growth in economies within and outside the European Union. Convergence has been much faster in the countries that are members of the EU than in the Western Balkan countries. The process was rapid before the crisis, but slowed down after.

3. Methodology and Data

Convergence represents a negative relationship between per capita GDP growth rate in the analysed period and per capita GDP at the beginning of the period. There are two types of beta convergence: absolute (unconditional) and conditional. The analysed period in this research is 2004-2017, with two sub-periods: the period before the recent financial crisis 2004-2008 and the crisis period 2009-2013. We estimate nine equations, three for each period; the absolute convergence models, the conditional convergence models with economic variables and the conditional convergence models with economic and socio-political variables.

We follow Sala-i-Martin's (1996) classical approach to convergence analysis and analyse absolute and conditional beta convergence among the Western Balkan and EU-13 countries using ordinary least squares (OLS) regression based on cross-sectional data, i.e., we use the average annual rates.

The cross-sectional data is used because it is free of the distortions caused by business cycles as well as various demand-side and supply-side random shocks, both internal and external, that deviate the economy from a path towards the steady-state (Vojinović *et al.*, 2009: 127).

When it is assumed that countries do not differ in their structure, they converge to the same steady state and convergence is absolute. The beta coefficient (the convergence rate) captures the rate at which countries converge towards the steady state during one year and is obtained using a simple regression analysis with one dependent and one independent variable. Equation (1) presents the absolute convergence model:

$$\gamma_{i,0,T} = \alpha_i + \beta \log(Y_{i,0}) + \varepsilon_i \quad (1)$$

where β is the convergence coefficient; $\gamma_{i,0,T}$ is the average annual growth rate of per capita GDP for country i ; $Y_{i,0}$ is per capita GDP at PPP for country i at the beginning of the time interval 0 ; α_i is a constant; ε_i is the stochastic error of the equation; and T is the end of the time interval.

Because the convergence hypothesis tests if poor countries grow faster than rich countries, the beta coefficient has to be negative. If the coefficient is positive, it indicates divergence, i.e., rich countries tend to grow faster than poor countries.

When it is assumed that the countries differ in their structures, they are moving towards a different steady state and convergence is conditional. The beta coefficient is obtained using a multiple regression analysis. The absolute convergence model (1) is augmented with various economic, social, political or institutional variables. In this analysis, we include economic variables; economic openness, the inflation rate, and gross fixed capital formation, and socio-political variables; general government debt, the population growth rate, and the unemployment rate. Equation (2) presents the conditional convergence model with economic variables, and Equation (3) presents the model with economic and socio-political variables:

$$Y_{i,0,T} = \alpha_i + \beta_1 \log(Y_{i,0}) + \beta_2 \text{EconOp}_{i,0,T} + \beta_3 \text{Inf}_{i,0,T} + \beta_4 \text{GFCF}_{i,0,T} + \varepsilon_i \quad (2)$$

and

$$Y_{i,0,T} = \alpha_i + \beta_1 \log(Y_{i,0}) + \beta_2 \text{EconOp}_{i,0,T} + \beta_3 \text{Inf}_{i,0,T} + \beta_4 \text{GFCF}_{i,0,T} + \beta_5 \text{Debt}_{i,0,T} + \beta_6 \text{Pop}_{i,0,T} + \beta_7 \text{Unemp}_{i,0,T} + \varepsilon_i \quad (3)$$

where EconOp is economic openness; Inf is the inflation rate; GFCF is gross fixed capital formation; Debt is general government debt; Pop is the population growth rate; and Unemp is the unemployment rate.

Theoretically, economic openness and gross fixed capital formation have a positive estimated coefficient. Inflation rate, general government debt, unemployment rate and population growth rate have a negative estimated coefficient.

We investigate if the countries of the Western Balkans and the EU-13 converge from above, converge from below or diverge between 2004 and 2017. A country's convergence process depends on the country's initial level of per capita GDP (in 2004) vis-à-vis the group's average. If a country converges from below, it started from a lower *per capita* GDP, relative to the group's average, but has registered faster growth in the analysed period. If a country converges from above, it started with a higher per capita GDP, but has achieved a lower growth rate. A country can diverge for two reasons; either it had a lower initial *per capita* GDP, relative to the group's average, and has achieved lower growth rates, or it had a higher *per capita* GDP and has achieved higher growth rates.

This research is based on annual data. Table 1 presents the descriptive statistics of the variables used in the estimation of absolute and conditional convergence in the period 2004-2017. The data set includes nineteen countries.

Table 1: Descriptive statistics

Variables	Description	Mean	Standard Deviation	Minimum Value	Maximum Value
Per capita GDP growth	Annual percentage growth rate of GDP per capita based on constant local currency	3.13	1.15	0.16	4.79
Log (initial per capita GDP at PPP)	Natural logarithm of per capita GDP at the beginning of the analysed period	9.36	0.49	8.60	10.17
Economic openness	A sum of exports and imports divided by GDP	120.16	47.72	70.19	277.0
Inflation rate	Measured by the Harmonized Index of Consumer Prices	2.87	1.46	1.27	7.56
Gross fixed capital formation	Measured as a percentage of GDP	23.38	3.08	19.78	30.53
General government debt	The government debt to GDP ratio	41.80	19.93	6.27	76.09
Unemployment rate	A percentage of total labour force	14.24	9.19	6.11	38.72
Population growth	The annual growth rate of a population	-0.13	0.66	-1.35	1.23

Source: Authors' calculation based on World Bank, World Economic Outlook and EUROSTAT data

4. Empirical Results

We analyse beta convergence of the Western Balkan countries towards the EU-13 Member States for the entire period 2004-2017 and two sub-periods; 2004-2008, the period before the crisis and 2009-2013, the crisis period. We make the subdivision in order to test whether the recent financial crisis negatively affected absolute and conditional beta convergence in the analysed group. We estimate three equations for each period: the absolute convergence models (Models 1-3), the conditional convergence models with economic variables (Models 4-6) and the conditional convergence models with economic and socio-political variables (Models 7-9).

4.1. Absolute Convergence

The regression results for absolute convergence in the analysed periods are presented in Table 2.

Table 2: Absolute / unconditional convergence of the Western Balkans towards the EU-13

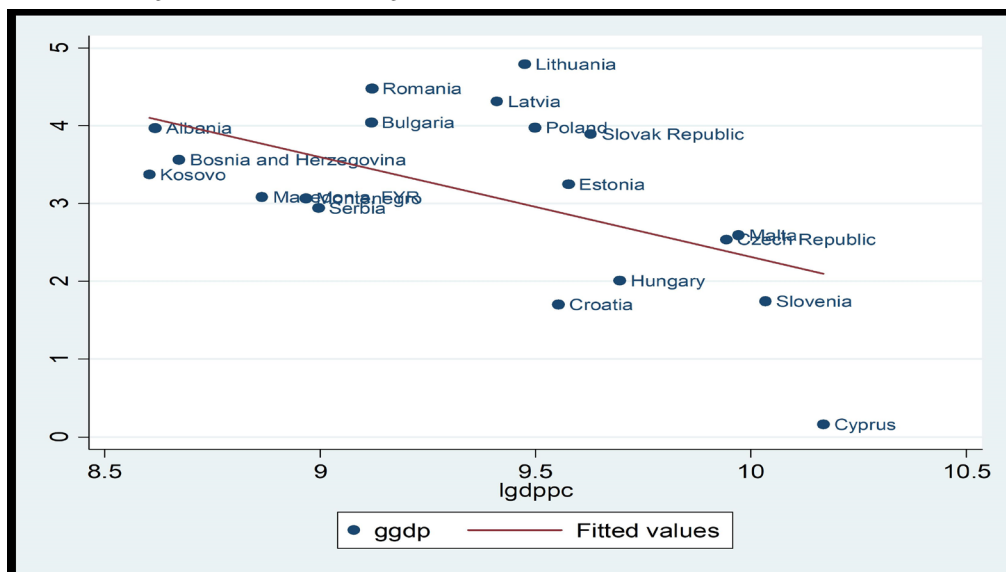
Model / Period	Model 1 2004-2017	Model 2 2004-2008	Model 3 2009-2013
	β (t)	β (t)	β (t)
Log of initial per capita GDP at PPP	-1.28** (-2.71)	-1.59* (-1.82)	-2.56*** (-3.53)
F-Statistics (p-value) R ²	7.34 (0.0149) 0.3016	3.30 (0.0868) 0.1628	12.44 (0.0026) 0.4225

Note: *** p<0.01, ** p<0.05, *p<0.1

Source: Authors' calculation based on World Bank data

The regression results show that the Western Balkan countries converge with the EU-13 Member States in every analysed period. The beta coefficient in the entire analysed period is -1.28, which means that, if the countries in the analysed group are similar in terms of steady-state characteristics; they converge to a common per capita GDP at the rate of 1.28%. The convergence rate in the pre-crisis period is 1.59%. The convergence rates in the period 2004-2017 and 2004-2008 are lower than the reference value of 2%, from the Barro and Sala-i-Martin findings. Also, it is very important to notice that the countries converge at the highest rate in the crisis period, 2.56%, and the beta coefficient is highly significant (p-value=0.003). Therefore, we reject the first research hypothesis and conclude that the recent financial crisis did not have a negative effect on the absolute convergence process in the analysed group.

Figure 1: Absolute beta convergence in the Western Balkans and the EU-13, 2004-2017



Source: Authors' calculation based on World Bank data

Figure 1 indicates that the Western Balkan countries converge with the EU-13 Member States during the entire analysed period 2004-2017. The Figure plots per capita GDP in 2004 (X-axis) against the average annual growth rates of per capita GDP in the period 2004-2017 (Y-axis). The Figure supports the convergence hypothesis, since there is a negative relation between the variables, i.e., the regression line has a downward slope.

The Western Balkans' average growth rate in the analysed period was 3.3%, higher than the average rate in the EU-13, 3.0%. However, the highest respective growth rates were recorded in Romania (4.5%), Latvia (4.3%) and Lithuania (4.8%), while the highest average growth rate among the Western Balkan countries was recorded in Albania (4.0%). On the other hand, the most developed countries (next to Hungary and Croatia) recorded the lowest growth rates: the Czech Republic (2.5%), Cyprus (0.2%), Malta (2.6%) and Slovenia (1.7%).

Table 3 presents the convergence process of each country in the analysed group from 2004 to 2017.

Table 3: Convergence process of the Western Balkan countries and the EU-13

Country	GDP per capita in PPP (WB-EU13=100)		Change	Convergence Process
	2004	2017		
Albania	42	47	+5	Convergence from below
Bosnia and Herzegovina	45	51	+6	Convergence from below
Bulgaria	70	80	+10	Convergence from below
Croatia	108	100	-8	Convergence from above
Cyprus	200	136	-64	Convergence from above
Czech Republic	160	143	-17	Convergence from above
Estonia	111	125	+14	Divergence
Hungary	125	111	-14	Convergence from above
Kosovo	42	42	0	Status quo
Latvia	94	109	+15	Convergence from below
Lithuania	100	127	+27	Divergence
Malta	164	156	-8	Convergence from above
Montenegro	60	74	+14	Convergence from below
North Macedonia	54	60	+6	Convergence from below
Poland	102	115	+13	Divergence
Romania	70	102	+32	Convergence from below
Serbia	62	60	-2	Divergence
Slovak Republic	117	125	+8	Divergence
Slovenia	175	138	-37	Convergence from above

Source: Authors' calculation based on World Bank data

The results coincide with the results presented in Figure 1. The Western Balkan countries, excluding Serbia, converge. Kosovo's per capita GDP, relative to the group's average, remained the same in the analysed years. The countries with per capita GDP lower than the group's average; Bulgaria, Latvia and Romania, also converge. Estonia, Lithuania, Poland and the Slovak Republic diverge due to their higher average per capita growth rates (3.2%, 4.8%, 4.0% and 3.9% respectively).

4.2. Conditional Convergence

We estimate six conditional convergence models; three models with economic variables (Models 4-6) and three models with economic and socio-political variables (Models 7-9). The empirical results can serve as a recommendation for countries when they are deciding which policies should be pursued in order to increase per capita GDP growth rate.

Table 4 presents the regression results for conditional convergence. Models 4-6 include economic variables, and Models 7-9 include both economic and socio-political variables.

Table 4: Conditional convergence of the Western Balkans towards the EU-13

Model /Period	Model 4 2004-2017	Model 5 2004-2008	Model 6 2009-2013	Model 7 2004-2017	Model 8 2004-2008	Model 9 2009-2013
	β (t)	β (t)	β (t)	β (t)	β (t)	β (t)
Log of initial <i>per capita</i> GDP at PPP	-1.43** (-2.32)	-1.07 (-1.18)	-3.22*** (-3.77)	-2.08** (-2.63)	-1.28 (-0.68)	-3.63* (-2.15)
Economic openness (%)	0.01 (1.06)	-0.003 (-0.30)	0.01* (2.10)	0.01 (1.70)	-0.001 (-0.14)	0.01* (1.97)
Gross fixed capital formation (% of GDP)	0.08 (0.99)	0.13 (1.54)	0.08 (0.80)	-0.04 (-0.54)	-0.02 (-0.24)	0.06 (0.43)
Inflation rate (annual %)	0.17 (1.05)	0.36** (2.55)	0.07 (0.35)	-0.11 (-0.78)	0.10 (0.69)	0.03 (0.11)
General government debt (% of GDP)				-0.02* (-2.11)	-0.04* (-1.81)	-0.01 (-0.45)
Population growth (annual %)				-0.64 (-1.63)	-1.21 (-1.52)	-0.27 (-0.46)
Unemployment rate (annual %)				-0.07 (-1.63)	-0.06 (-0.66)	-0.04 (-0.50)
F-Statistics (p-value)	2.54 (0.0869)	3.93 (0.0243)	4.54 (0.0147)	5.92 (0.0048)	5.96 (0.0047)	2.44 (0.0896)
R²	0.4201	0.5286	0.5645	0.7902	0.7914	0.6086

Note: *** p<0.01, ** p<0.05, *p<0.1

Source: Authors' calculation based on World Bank, World Economic Outlook and EUROSTAT data

The regression results show that the Western Balkan countries converge in the period 2004-2017 at the rates of 1.43% and 2.08%, for the respective models. In the period before the crisis, the beta coefficients for both models are negative, but statistically insignificant, which indicates that the countries do not converge. Unexpectedly, the countries converge during the crisis period at the rates of 3.22% and 3.63%, which are the highest rates among the analysed periods. Based on these results, we can conclude that the recent financial crisis did not affect the conditional convergence process negatively, therefore we reject the second research hypothesis.

In our research, we include three economic variables; economic openness, the inflation rate and gross fixed capital formation and three socio-political variables; general government debt, the unemployment rate and the population growth rate. When only economic variables are included in the models, economic openness and the inflation rate have a positive impact on per capita growth. Economic openness is a determinant of growth in the period 2009-2013 and the inflation rate is a determinant in the period 2004-2008. Gross fixed capital formation also has positive estimated coefficients, but it is not a statistically significant variable in any of the analysed periods. When economic and socio-political variables are included in the models, economic openness is a statistically significant variable in the crisis period, and it has positive estimated coefficients. General government debt is a statistically significant variable in the periods 2004-2017 and 2004-2008, and has a negative impact on per capita growth. The population growth rate and the unemployment rate are not statistically significant variables in any of the analysed periods.

The transition process of the CEE countries started with the fall of the Berlin Wall in 1989 and the collapse of the Soviet Union, which led to the creation of more than twenty new countries. From the early 1990s, the CEE countries went through the transition process from centrally planned to market economies. The transition ended when they joined the European Union. The Western Balkan region is still in the process of transition.

One of the characteristics of the centrally planned system was the state ownership of the entire economy and the private sector represented only 3-4% of the national economy. The companies did not act according to the market laws and did not sell their products in domestic nor foreign markets, and, consequently, did not gain profit from their activities (Berend, 2016). As a result, the economic openness rate was much lower in the CEE countries, compared to the EU-15 countries. As the EU accession was approaching, the EU-13 countries had access to the EU funds. Together with the foreign direct investment, mainly from the EU-15, they have made it possible to increase the technological content and quality of products, so the countries specialized in capital-intensive products and trade with the EU-15 and the rest of the world increased (European Commission, 2009). The economic openness rate in the EU-13 increased from 123.1% in the pre-crisis period to 136.6% during the crisis period, while in the Western Balkan region it increased by only 0.4 percentage points, from 87.2% in the pre-crisis period to 87.6% during the crisis period.

In the communist system, all prices were fixed and changed by central authorities according to policy requirements and were not influenced by supply and demand. Due to the oil crises in the 1970s, the countries started to lose control over inflation and fell

into a period of hyper-inflation in the late 1980s and early 1990s (Berend, 2016). They managed to rein in inflation within the first decade, though for some it took much longer than for the others. Inflation stabilized first in the countries of Central Europe, followed by the Baltics. In Bulgaria and Romania, the first attempts of stabilization failed (Joshi *et al.*, 2014) and in 1997 the countries experienced hyper-inflation of 1058% and 155%, respectively. Every new member state of the European Union has to join the European Economic and Monetary Union (EMU) eventually, *i.e.*, it has to adopt the euro as its currency. In order to do so, the countries have to fulfil the Maastricht criteria, and one criterion is that “an average rate of inflation, observed over a period of one year before the examination that does not exceed by more than 1.5 percentage points that of, at most, the three best performing Member States in terms of price stability” (European Central Bank, 2016: 6). So the countries had to stabilize their prices. However, in the period 2004-2017, they had higher average rate, 2.8%, compared to the EU-15 average, 1.6%. The average inflation rate in the EU-13 decreased from 4.9% in the period 2004-2008 to 2.6% in the period 2009-2013. The Western Balkan countries also inherited high inflation rates from the previous system. After hyper-inflation, the countries stabilised the inflation rates. In the pre-crisis period, the average inflation rate in the region was 4.6% and decreased by 1.3 percentage points during the crisis period.

The rapid pace of economic convergence in the pre-crisis period partly reflected an investment boom (Forgó and Jevčák, 2015: 8). The gross fixed capital formation rate in this period was 25.7% in the Western Balkan region, 1 percentage point lower than in the EU-13 group. The recent financial crisis also had a negative impact in this area, and the rate decreased to 23.2% in the Western Balkans and to 21.8% in the EU-13.

The analysed countries did not inherit high general government debt from the communist system. Comparing the general government debt rates in the EU-13 and the EU-15 in the period 2004-2017, the EU-13 countries' average rate was 29.8 percentage points lower. Also, the countries have to maintain lower debt in order to join the Eurozone. According to the Maastricht criteria, a country's general government debt must not exceed 60% of its GDP. In 2017, only Croatia, Cyprus, Hungary and Slovenia's debt rate exceeded this value. In the EU-13, the general government debt rate increased from 33.0% in the period 2004-2008 to 46.4% during the crisis period. The Western Balkans' rate increased from 30.1% to 36.7%. One of the reasons for the increase is that Kosovo declared independence from Serbia in 2008, and did not record any debt in the pre-crisis period.

One of the temporary achievements of state socialism was full employment. After the collapse of the regime, in the period 1989-1993 GDP fell by 25-30% in the region and unemployment jumped from zero to 13-20%, and to 50% in Yugoslavia's successor states (Berend, 2016). The differences in rates are still noticeable. The average unemployment rate in the Western Balkan region was 27.8% in the pre-crisis period, and it decreased to 25.3% in the crisis period. In the EU-13 the rate increased from 8.2% to 10.7%. In the entire analysed period, the lowest average rate among the Western Balkan countries was 15.3% in Albania, which was higher than the highest average rate in the EU-13 group, 12.9% in Croatia.

Both groups of countries have experienced a decline in the population growth rate. In the Western Balkan region the rate decreased from -0.04% in the period 2004-2008

to -0.11% in the period 2009-2013, and in the EU-13 Member States the rate decreased from -0.15% to -0.19% between the analysed periods.

5. Conclusions

The paper examines the convergence process of the Western Balkan countries, the countries that are considered to be the next group to join the European Union, towards the EU-13 Member States, the countries that joined the European Union in 2004, 2007 and 2013. The analysed period is 2004-2017 with two sub-periods; 2004-2008 and 2009-2013. Two types of beta convergence are analysed; absolute (unconditional) and conditional convergence.

The empirical results suggest that there is absolute convergence of the Western Balkan countries towards the EU-13 Member States in every analysed period. However, the crisis did not have a negative impact on the convergence process, since the convergence rate in the period 2009-2013 is the highest among the analysed periods.

Analysing the convergence process of individual countries between 2004 and 2017, the results show that Serbia is the only country in the Western Balkans that diverges, due to its lower growth rate.

The regression results for six conditional convergence models show that the convergence rates in the crisis period are the highest, while the beta coefficients in the pre-crisis period are not statistically significant. Therefore, we reject the main research hypotheses and conclude that the recent financial crisis did not have a negative effect on the absolute and conditional convergence process in the analysed group of countries.

Among the economic variables, economic openness and the inflation rate have a positive impact on per capita growth. When socio-political variables are included in the analysis, general government debt has a negative impact. Other variables are not statistically significant in the analysed periods.

This analysis has shown that economic openness and inflation promote per capita growth in the analysed group. The empirical results suggest that the countries should pursue policies that will promote trade, as well as maintain stable inflation and low general government debt. According to the empirical results of this analysis, improvements in these areas would eventually lead to higher per capita growth rates and a faster convergence process. Even though gross fixed capital formation and the unemployment rate are not determinants of growth, this does not mean that the countries should not open the economies to more investment or decrease unemployment.

References:

- Alcidi, C., Núñez Ferrer, J., Di Salvo, M., Pilati, M. and Musmeci, R. (2018). "Income Convergence in the EU: A tale of two speeds", *CEPS Commentary*, 9 January, Brussels (retrieved from <https://www.ceps.eu/system/files/ConvergencePDF.pdf>).
- Barro, R. J. and Sala-i-Martin, X. (1992). "Convergence", *Journal of Political Economy*, 100(2), pp. 223-251.
- Berend, I. T. (2016). "An Economic History of Twentieth-Century Europe: Economic Regimes from Laissez-faire to Globalization", New York: Cambridge University Press.

- Bićanić, I., Deskar-Škrbić, M. and Zrnc, J. (2016). "A Narrative Explanation of Breakpoints and Convergence Patterns in Yugoslavia and its Successor States 1952-2015", *The wiew Balkan Observatory Working Papers*, 122.
- Borsi, M. T. and Metiu, N. (2015). "The evolution of economic convergence in the European Union", *Empirical Economics*, 48(2), pp. 657-681.
- Borys, M. M., Polgár, Ę. K. and Zlate, A. (2008). "Real convergence and the determinants of growth in EU candidate and potential candidate countries - a panel data approach", *ECB Occasion Paper*, No. 86, European Central Bank, Frankfurt am Main (retrieved from <https://www.econstor.eu/bitstream/10419/154539/1/ecbop086.pdf>).
- Botrić, V. (2013). "Output Convergence between Western Balkans and EU-15. Research in Economics and Business: Central and Eastern Europe", 5(1), pp. 46-62 (retrieved from <http://www.rebcee.eu/index.php/REB/article/viewFile/43/42>).
- Colak, O. (2015). "Convergence Revisited: Case of EU and Eastern Europe", *Regional Science Inquiry*, 7(1), pp. 69-81 (retrieved from http://www.rsijournal.eu/ARTICLES/June_2015/6.pdf).
- Dobrinsky, R. and Havlik, P. (2014). "Economic Convergence and Structural Change: the Role of Transition and EU Accession", *Research report*, No. 395, Wiener Institut für Internationale Wirtschaftsvergleiched, Vienna (retrieved from <https://wiiw.ac.at/economic-convergence-and-structural-change-the-role-of-transition-and-euaccession-dlp-3357.pdf>).
- Dvoroková, K. (2014). "Sigma versus Beta-convergence in EU28: do they lead to different results, Proceedings of the Mathematical Methods in Finance and Business Administration", Tenerife, Spain, pp. 88-94 (retrieved from <http://www.wseas.us/e-library/conferences/2014/Tenerife/ECONMATH/ECONMATH-13.pdf>).
- El Ouardighi, J. and Somun-Kapetanovic, R. (2007). "Do Balkan Countries Have a European Future? An Analysis of Real Economic Convergence, 1989-2005", *South East European Journal of Economics and Business*, 2(2), pp. 23-30 (retrieved from <https://www.degruyter.com/downloadpdf/j/jeb.2007.2.issue-2/v10033-007-0002-4/v10033-007-0002-4.pdf>).
- European Central Bank (2016). "Convergence Report", *Institutional paper* 026, Publications Office of the European Union, Luxembourg (retrieved from <https://www.ecb.europa.eu/pub/pdf/conrep/cr201606.en.pdf?390892c01e236feeb06f3a14f79ea647>).
- European Commission (2009). "Five years of an enlarged EU: Economic achievements and challenges". Publications Office of the European Union, Luxembourg (retrieved from http://ec.europa.eu/economy_finance/publications/pages/publication14078_en.pdf).
- European Commission (2015). "Economic Reform Programmes (Part I) of Albania, The Former Yugoslav Republic of Macedonia, Montenegro, Serbia, Turkey, Bosnia and Herzegovina and Kosovo: The Commission's overview and Country assessments". Publications Office of the European Union, Luxembourg (retrieved from http://ec.europa.eu/economy_finance/publications/occasional_paper/2015/pdf/ocp229_en.pdf).
- European Union (2010). "Consolidated Versions of the Treaty on European Union

and of the Treaty on the Functioning of the European Union: Charter of Fundamental Rights of the European Union", Office for Official publications of the European Communities, Luxembourg.

- Eurostat (2018). *Eurostat Database*, www.ec.europa.eu/Eurostat (accessed 7.12.2018).
- Forgó, B. and Jevčák, A. (2015). "Economic convergence of central and eastern European EU member states over the last decade (2004-2014)", Directorate General Economic and Financial Affairs (DG ECFIN), No. 001, European Commission, Publications Office of the European Union, Luxembourg (retrieved from https://ec.europa.eu/info/sites/info/files/economy-finance/dp001_en.pdf).
- Grela, M., Majchrowska, A., Michałek, T., Mućk, J., Stażka-Gawrysiak, A., Tchorek, G. and Wagner, M. (2017). "Is Central and Eastern Europe converging towards the EU-15?", *Narodowy Bank Polski*, Education and Publishing Department, Warsaw (retrieved from https://www.nbp.pl/publikacje/materialy_i_studia/264_en.pdf).
- International Monetary Fund (2018). *World Economic Outlook Database*, www.imf.org (accessed 7.12.2018).
- Jelnikar, E. and Murmayer, U. (2006). "Convergence in Europe Empirical Analysis on Two Groups of Countries of the European Union", *Human and Economic Resources Proceedings Book*, pp. 246-260 (retrieved from https://www.researchgate.net/profile/Figen_Ebren/publication/262494749_Impact_of_Integrated_Marketing_Communications_Programs_in_Enhancing_Manager_and_Employee_Performance/links/0f317537ded871927e000000.pdf#page=247).
- Joshi, B., Atoyan, R. and Roaf, M. J. (2014). "Regional Economic Issues - Special Report 25 Years of Transition: Post-Communist Europe and the IMF". International Monetary Fund.
- Kulhánek, L. (2012). "Real convergence in Central and Eastern European EU member states", *MPRA Paper*, No. 39822, Munich (retrieved from https://mpra.ub.uni-muenchen.de/39822/1/MPRA_paper_39822.pdf).
- Oblath, G., Palocz, E., Popper, D. and Valentinyi, Á. (2015). "Economic convergence and structural change in the new member states of the European Union", Centre for Economic and Regional Studies, Hungarian Academy of Science, Budapest (retrieved from <http://econ.core.hu/file/download/mtdp/MTDP1544.pdf>).
- Pipień, M. and Roszkowska, S. (2018). "The heterogeneity of convergence in transition countries", *Post-Communist Economies*, pp. 1-31.
- Sala-i-Martin, X. (1996). "The Classical approach to Convergence Analysis", *The Economic Journal*, 106, pp. 1019-1036
- Solow, R. M. (1956). "A Contribution to the Theory of Economic Growth", *Quarterly Journal of Economics*, 70, pp. 65-94.
- Tsanana, E., Katrakilidis, C. and Pantelidis, P. (2013). "Balkan area and EU-15: An empirical investigation of income convergence. Balkan and Eastern European Countries in the Midst of the Global Economic Crisis", *Physica*, Heidelberg, pp. 23-33.
- Vojinović, B., Acharya, S. and Próchniak, M. (2009). "Convergence analysis among the ten European transition economies", *Hitotsubashi Journal of Economics*, pp. 123-141.
- World Bank (2018). *World Development Indicators Database*, www.databank.

worldbank.org (accessed 7.12.2018).

- Žuk, P., Polgar, E.K., Savelin, L., Diaz del Hoyo, J.L. and König, P. (2018), "Real convergence in central, eastern and south-eastern Europe", *ECB Economic Bulletin*, No. 3/2018, European Central Bank, Frankfurt am Main (retrieved from https://www.ecb.europa.eu/pub/pdf/other/ecb.ebart201803_01.en.pdf?11251773fa4b91219aa01b019c749f82).