

THE EFFECTS OF THE CRISIS ON THE CONVERGENCE PROCESS OF THE WESTERN BALKAN COUNTRIES TOWARDS THE EUROPEAN UNION

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The aim of the paper is to analyze economic convergence of the Western Balkan countries towards the European Union member states with two types of measurement methodology, sigma and beta convergence. Sigma convergence measures the dispersion of real per capita GDP among the countries and beta convergence is based on the neoclassical growth theory. The main hypothesis of the paper is that the recent financial crisis has negatively affected the convergence process of the Western Balkan countries towards the twenty-eight member states of the European Union (EU-28). The relationship between selected macroeconomic variables and the rate of per capita GDP growth are econometrically tested. Sigma and beta convergence are estimated for the period 2004-2013 and two sub-periods: 2004-2008 and 2009-2013. The empirical findings support the hypothesis of economic convergence. The negative effects of the crisis on per capita GDP growth are confirmed, resulting in a slower convergence process. Dissimilarities between the growth patterns of the analyzed groups show the considerable heterogeneity of growth, i.e. the convergence clubs.

Keywords: real convergence, European Union, Western Balkans, economic growth, club convergence

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1. INTRODUCTION

Convergence is defined as an equalization of levels of development, and it is a necessary condition for successful integration. The European Union (EU) has focused on convergence since the Treaty of Rome (1957) when the common policies to promote “harmonious economic development and balanced expansions” were adopted. With the fall of the Berlin Wall in 1989, the countries of Central and Eastern Europe started their transition process. In 2004 ten Central and Eastern European (CEE) countries joined the Union, followed by Bulgaria and Romania in 2007 and Croatia in 2013. Seven out of thirteen new member states (EU-13) are members of the Eurozone. The Western Balkan countries, Albania, Bosnia and Herzegovina, FYR Macedonia, Kosovo,³ Montenegro and Serbia, are considered as the next group of countries to join the EU. They must therefore go through the same process as the CEE countries. Since they share a similar economic history, the Western Balkan countries could learn from the CEE countries’ experience of how to go through the transition process faster and eventually join the EU. In order to join the European Union, the candidate countries have to fulfill the Copenhagen criteria (1993), which include economic, political and institutional criteria. The transition process of the CEE countries was successful with the help of the EU, because the EU provided pre-accession funds that facilitated the criteria fulfillment. In the case of the CEE countries, it was expected that they would not perform well. For example, the quality of their food had not fulfilled the EU standards, so they had to adjust and improve productivity of the agricultural and food sector. Using the funds from the SAPARD program and the development programs of the Common Agricultural Policy (CAP), technological standards have been raised, as well as animal hygiene, welfare regulations, environmental requirements; employment opportunities and professional skills have improved, and the infrastructure has become more developed (European Commission 2009). As a result, there was trade creation and the rate of trade with the old Member States and the world increased.

The official relations between the Western Balkan region and the European Union started in May 1999, when the EU proposed the new Stabilization and Association Process (SAP) for the five countries of South-Eastern Europe.⁴ The SAP was formally endorsed by the European Union and the Western Balkan countries in November 2000. The next year, the European Union introduced the new CARDS program, which was specially designed for the SAP countries. The SAP was a progressive partnership, in which the EU offered a country a mixture of trade concessions, economic and financial assistance and contractual relationships. It served as a framework for EU negotiations with the Western Balkan countries, with the aims to stabilize

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).

⁴ Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia and Yugoslavia.

them and encourage their swift transition to a market economy; to promote regional co-operation; and to prepare the countries for eventual EU membership.

The Western Balkan countries have been moving towards EU membership. Four of them have a status of a candidate country, while Bosnia and Herzegovina and Kosovo are potential candidate countries. Even though the countries have made moderate progress, none of them are ready to join the European Union any time soon.

The main objective of this research is to analyze economic convergence of the Western Balkan countries towards the European Union member states. Other objectives are to analyze the convergence process between different time periods, because it could show how the recent crisis has affected convergence, and to determine whether the Western Balkan countries converge as a club. The main research hypothesis of this analysis is that the recent financial crisis has negatively affected the convergence process of the Western Balkan countries towards the twenty-eight member states of the EU (EU-28). There are several sub-hypotheses formulated to support answering the research questions: the dispersion between the Western Balkan countries and the EU-28 has been decreasing; there is absolute/unconditional and conditional beta convergence of the Western Balkan countries towards the EU-28 in at least one period; there is club convergence.

The financial crisis that started in 2008 had negative effects on the Western Balkan and the EU economies (Benczes – Szent-Iványi, 2015), but we will have the complete overview on the convergence process once we are able to analyze the post-crisis period. Thus the results can be considered preliminary.

2. LITERATURE REVIEW

Convergence was popularized by Barro and Sala-i-Martin (1992), who analyzed the U.S. states between 1840 and 1988. The empirical results showed that the speed of convergence is 2 percent per year, regardless of the time period. Sala-i-Martin (1994) proved that the speed of convergence is remarkably similar across data sets, 2 percent per year. Comparing sigma and beta convergence, it can be concluded that beta convergence is more complex and interesting, and can give answers to more questions, for example how fast the convergence process is, whether convergence is conditional or unconditional, do groups with similar economic structures act as a club or if their convergence process is different (Sala-i-Martin 1994). Beta and sigma convergence are complementary; it is often the case that beta is consistent with sigma, but they do not replace each other. So, beta convergence is a necessary but not a sufficient condition for sigma convergence (Sala-i-Martin 1996). Barro (1991) analyzed the impacts of independent variables; initial per

capita GDP, primary and secondary school enrollments, number of political assassinations, investment rates and measures of distortions in capital markets on per capita GDP growth. The lessons that emerge from the analysis are that education is an important determinant of the growth rate of the economy; the investment rate is strongly positively correlated to growth; the coefficient of the initial level of income is significantly negative once other variables are held constant; different measures of political instability and market distortions seem to matter in varying degrees. El Ouardighi and Somun-Kapetanović (2009) examine the convergence process of five Western Balkan countries towards the EU-27 between 1989 and 2008. The results show that the Balkan countries have a tendency to converge in the entire period. However, there are differences in the patterns of convergence across sub-periods. Szeles and Marinescu (2010) studied absolute and conditional convergence in the CEE countries. The results showed that the countries converge. The labor productivity, trade openness and general government debt have a positive and important role in fostering regional economic convergence, while the exchange rate has a weaker significance and is in a negative relationship with growth. Cavenaile and Dubois (2011) analyzed the convergence process within the EU-27 between 1990 and 2007. They found a significant rate of convergence and the existence of two heterogeneous groups; the EU-15 and the CEE countries. Halmai and Vásáry (2012) analyzed four groups of the EU countries: “developed”, “Mediterranean”, “catch-up” and “vulnerable” countries. They showed how convergence and potential growth rates were disrupted by the 2008 crisis through three different channels: capital accumulation, labor input and total factor productivity. They estimated that a longer period of divergence might ensue in Europe. Botrić (2013) analyzed the Western Balkan countries’ (including Croatia’s) convergence process to the EU-15 between 1995 and 2010. The results show that the countries do not converge to the EU-15 level, or bilaterally to individual Member States. Tsanana et al. (2013) investigate the issue of catching up between the Balkan countries and the EU-15 in the period 1989-2009. The results showed the existence of dissimilarities among the Balkan countries in the catching up process towards the EU-15. The income gap relative to the EU-15 remained significant. Dobrinsky and Halvik (2014) provided evidence of differentiated patterns in the new Member States and the EU as a whole, in the pre-accession and the post-accession periods. The results again indicated the heterogeneity of growth, pointing more generally to uneven economic convergence within the EU. Also, the evidence of dissimilarities within the subgroups exist (for example Hungary and the Baltics in the new Member States), indicating the considerable within-group variation. Borsi and Metiu (2015) investigated economic convergence in the EU-27. The results suggested 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) analyzed economic convergence of the CEE countries in the period 2004-2014, and concluded that the countries achieved significant real convergence

vis-à-vis the twelve EU Member States which were a part of the Eurozone in 2004. However, the 2008-2009 global financial crisis had a significant negative impact on fiscal positions of most CEE-10 countries.

2. METHODOLOGY AND DATA

The convergence hypothesis predicts that less developed countries, in per capita terms, tend to grow faster than more developed countries. Sigma convergence measures the dispersion of real per capita GDP among the countries using the coefficient of variation of purchasing power adjusted per capita GDP. The declining coefficient of variation indicates convergence, while an increase in this measure indicates divergence in per capita GDP in the group. This study also includes the convergence analysis through the ratio of the lowest and highest per capita GDP level relative to the average in the group, which is an important addition. Sigma convergence can show convergence even if one country is for some reason left behind. The minimum value does not overlook this possibility (Kaitila 2013).

Beta convergence is based on the neoclassical growth model, but it was popularized by Barro and Sala-i-Martin (1992). The beta coefficient, which has to be negative, captures the rate at which a country's real per capita GDP approaches the steady state growth rate, i.e. it is a speed of convergence. A positive rate indicates divergence. There are two types of beta convergence; absolute/unconditional and conditional. When it is assumed that the countries converge to the same terminal point or the steady states point, convergence is absolute. In terms of regression analysis, the dependent variable is the growth rate of per capita GDP, and the independent variable is the initial level of per capita GDP in purchasing power terms:

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

where:

α_i – the constant term

β – the convergence coefficient, $\beta < 0$

$\gamma_{i,0,T}$ – the average annual growth rate of per capita GDP for country i

$Y_{i,0}$ – per capita GDP for country i at the beginning of the time interval

T – the end of the time interval

0 – the beginning of the time interval

ε_i – the stochastic error of the equation.

The beta coefficient is obtained without any other variable, since it is assumed that the economies do not significantly differ in their levels of technology, investment ratios, industrial structure, human capital qualifications and other factors. When the economies have different structures, they converge to a different steady state point, and convergence is conditional (Marques – Soukiazis 1998). Conditional convergence includes various economic, social and political variables as independent variables, next to the initial level of per capita GDP, in the analysis. In this study, the included economic variables are inflation rate (measured by the consumer price index), economic openness (measured as a sum of exports and imports divided by GDP) and gross fixed capital formation (measured as a percentage of GDP), whereas the socio-political variables are unemployment rate (measured as a percentage of total labor force), population growth rate (measured as the annual growth rate of a country's population) and general government debt rate (measured as the government debt to GDP ratio).

$$\Upsilon_{i,0,T} = \alpha_i + \beta_1 \log(Y_{i,0}) + \beta_2 EconOp_{i,0,T} + \beta_3 Inf_{i,0,T} + \beta_4 GFCF_{i,0,T} + \varepsilon_i \quad (2)$$

and

$$\Upsilon_{i,0,T} = \alpha_i + \beta_1 \log(Y_{i,0}) + \beta_2 EconOp_{i,0,T} + \beta_3 Inf_{i,0,T} + \beta_4 GFCF_{i,0,T} + \beta_5 Debt_{i,0,T} + \beta_6 Pop_{i,0,T} + \beta_7 Unemp_{i,0,T} + \varepsilon_i \quad (3)$$

where:

EconOp – economic openness

Inf – inflation rate

GFCF – gross fixed capital formation

Debt – general government debt

Pop – population growth rate

Unemp – unemployment rate

T – the end of the time interval

0 – the beginning of the time interval

ε_i – the stochastic error of the equation.

Economic openness and gross fixed capital formation have a positive estimated coefficient, while the inflation rate has a negative estimated coefficient, since it is known that inflation slows economic activity. Socio-political variables have negative estimated coefficients. Population growth reduces the capital per labor unit, thus it is expected to reduce the rate of growth of real per capita GDP. The government debt to

GDP ratio is expected to be inversely related to per capita GDP growth, since very large government to GDP ratios tend to have a negative effect on the economic activity of the private sector and reduce economic growth (Yin et al. 2003).

Table 1 presents the descriptive statistics of the variables used in the estimation of absolute and conditional convergence. It covers all sampled countries in the period 2004-2013.

Table 1. Descriptive statistics

Variables	Mean		Minimum Value		Maximum Value		Standard Deviation	
	EU-28	WB	EU-28	WB	EU-28	WB	EU-28	WB
Per capita GDP growth	1.5	3.5	-1.1	2.9	5.1	4.8	1.8	0.6
Log (initial per capita GDP)	10.0	8.8	9.1	8.6	11.1	9.0	0.5	0.2
Economic openness	112.5	88.8	52.4	67.6	328.5	111.6	56.6	15.5
Inflation rate	2.9	4.0	1.2	2.5	6.5	9.8	1.3	2.9
Gross fixed capital formation	22.3	24.3	17.2	20.8	29.3	32.9	3.0	4.5
General government debt	54.9	33.7	6.2	6.9	131.9	58.7	29.3	17.7
Unemployment rate	8.8	25.6	4.4	13.6	16.1	40.2	2.9	10.0
Population growth	0.3	0.01	-1.0	-0.5	1.8	0.7	0.6	0.4

Note: WB denotes Western Balkans.

Source: Authors' calculations based on World Bank and EUROSTAT data.

The beta coefficient is obtained using cross-sectional linear regression analysis, because the goal is to find out whether the analyzed countries converge or diverge in the analyzed period, and not to find a model which could predict the future development of the convergence process. Therefore, this model can be applied only ex post (Dvorková 2014: 91).

Another way of analyzing the speed of convergence is through the half-life of convergence. The half-life of the convergence process is defined as the number of years that it takes for the per capita GDP gap to be cut in half. It is calculated as $h = \ln(0.5)/\ln(1+\beta)$ (Ben-David 1996).

The club convergence tests the hypothesis that per capita GDP of countries or regions that are similar in both their structural characteristics and initial factors converge with one another in the long-term (Paas et al. 2007). Club convergence is defined as the club-specific process by which each region belonging to a

club moves from a disequilibrium position to its club-specific steady-state position. At the steady-state the growth rate is the same across the regional economies of a club (Fischer and Stirböck 2004).

The analyzed period for the convergence process of the Western Balkan countries towards the European Union is 2004-2013, with two sub-periods: the pre-crisis period 2004-2008 and the period of crisis 2009-2013.

In order to investigate relevant model diagnostics, three tests were conducted in all estimated models; the Breusch-Pagan test which tests the null hypothesis that the variance of the residuals is constant, the Ramsey RESET test, which tests whether there are important omitted variables in the estimated specifications, and the multicollinearity test using the variance inflation factor (VIF).

4. SIGMA CONVERGENCE

Table 2 shows the results for sigma convergence of per capita GDP of the Western Balkan countries with the EU-28.

Table 2. Sigma convergence of the Western Balkan countries with the EU-28

Year	Coefficient of variation	Minimum to Average	Maximum to Average
2004	58.8565	0.2466	3.0611
2005	57.6094	0.2560	3.0580
2006	58.0436	0.2461	3.1988
2007	56.9261	0.2533	3.2074
2008	53.4448	0.2617	3.0551
2009	51.9229	0.2775	2.9495
2010	53.1656	0.2807	3.0599
2011	52.8829	0.2827	3.0839
2012	52.2420	0.2927	3.0443
2013	52.1852	0.2957	3.0720

Source: Authors' calculation based on World Bank data.

Between 2004 and 2013, the Western Balkan countries converged with the EU-28, as the dispersion decreased. There were two years of increasing coefficient of variation, which indicates divergence, 2006 and 2010. The highest value was in 2004, 58.86, while the lowest is in 2009, 51.92.

In the period 2004-2013, the Western Balkan countries converged to the EU-28, because the minimum to average per capita GDP ratio increased from 0.2466 to 0.2957. The only exception was 2006, when the

ratio was the lowest. The results are consistent with sigma convergence for the analyzed group. The only exception is 2010, when there is sigma divergence. The maximum to average ratio results are not consistent with sigma convergence, because there are only four periods of narrowing spread between the country with the highest per capita GDP and the group's average. The results are consistent in the periods 2005, 2008-2009 and 2012.



Figure 1. Sigma convergence of the Western Balkan countries with EU-28

Source: Authors' calculation based on World Bank data

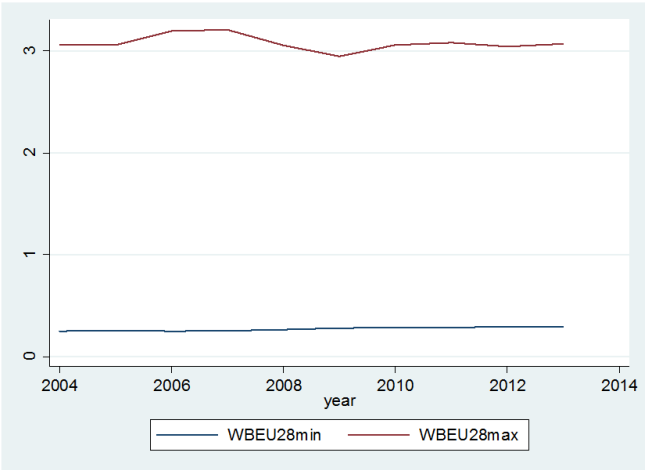


Figure 2. The minimums and maximums of per capita GDP of the Western Balkan countries and the EU-28, relative to the simple average in the group

Source: Authors' calculations based on World Bank data

5. BETA CONVERGENCE

Economic convergence requires a negative relationship between the initial year per capita GDP and the average growth rate of the countries' real per capita GDP within a specified time period. In this section, the unconditional and conditional convergence process of the Western Balkan countries towards the EU-28 member states development level will be analyzed. The estimation results for absolute and conditional convergence in the analyzed group are shown in Table 3.

Table 3. Absolute and Conditional Convergence of the Western Balkan countries with the EU-28

Period/Model	Basic Equation (1)			Equation with other Economic Variables (2)			Equation with Economic and Socio-Political Variables (3)		
	β (t)	R ²	Half-life	β (t)	R ²	Half-life	β (t)	R ²	Half-life
2004-2013	-2.17*** (-6.8)	0.59	32	-1.83*** (-4.92)	0.73	38	-1.06* (-1.78)	0.84	65
2004-2008	-2.84*** (-6.08)	0.54	24	-2.14*** (-4.80)	0.75	32	-1.94* (-2.28)	0.86	36
2009-2013	-1.51*** (-3.50)	0.28	46	-1.34** (-2.52)	0.35	51	-0.12 (-0.14)	0.45	-

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

Source: Authors' calculations based on EUROSTAT and World Bank data.

Between 2004 and 2013, the beta coefficient is negative and statistically significant (-2.17). Assuming that the countries were similar in terms of steady state characteristics, the Western Balkan region and the EU-28 converged to a common per capita GDP at the rate of 2.17%. This is higher than the benchmark of 2% from the Barro and Sala-i-Martin (1992) findings. The half-life of convergence between 2004 and 2013 is 32 years, which means that it takes 32 years for the income gap to be cut in half.

The Ramsey-RESET test implies omitted variables in the model. Since the Variance Inflation Factor (VIF) equals 1.0, there should be no multicollinearity in the model. The Breusch-Pagan test is used to test the null hypothesis that the variance of the residuals is constant, or the null hypothesis assumes homoscedasticity. Because the p-value is higher than 0.05, we cannot reject the null hypothesis and conclude there may not be heteroscedasticity. The diagnostics are consistent for the model of unconditional convergence in the pre-crisis period, while for the period of crisis omitted variables are not detected in the model.

Table 4 shows the individual convergence process of the Western Balkan countries and the European Union Member States. All six Western Balkan countries converge from below, while the EU Member States converge from below and from above. Malta, Luxembourg and Germany diverge, due to their higher growth rates. Cyprus, Czech Republic, Greece and Portugal diverge due to negative growth rates. All of the remaining EU-13 member states converged from below, while the EU-15 member states converge from above.

Table 4. Convergence process of the Western Balkan countries and the European Union

Country	GDP per capita in PPP (EU28-WB=100)		Change	Convergence Process
	2004	2013		
Austria	155	149	-6	Converge from above
Albania	28	36	+8	Converge from below
Belgium	147	137	-10	Converged from above
Bosnia and Herzegovina	27	33	+6	Converge from below
Bulgaria	42	54	+12	Converge from below
Croatia	68	71	+3	Converge from below
Cyprus	109	100	-9	Diverge
Czech Republic	95	93	-2	Diverge
Denmark	152	145	-7	Converge from above
Estonia	69	85	+16	Converge from below
Finland	141	129	-12	Converge from above
France	132	125	-7	Converge from above
FYR Macedonia	32	40	+8	Converge from below
Germany	140	147	+7	Diverge
Greece	113	87	-26	Diverge
Hungary	76	77	+1	Converge from below
Ireland	173	147	-26	Converge from above
Italy	131	116	-15	Converge from above
Kosovo	25	30	+5	Converge from below
Latvia	57	78	+21	Converge from below
Lithuania	63	86	+23	Converge from below
Luxembourg	306	307	+1	Diverge
Malta	94	102	+12	Diverge
Montenegro	37	48	+11	Converge from below
Netherlands	157	147	-10	Converge from above
Poland	61	79	+18	Converge from below
Portugal	94	88	-6	Diverge
Romania	42	63	+21	Converge from below
Serbia	37	42	+5	Converge from below
Slovakia	69	88	+19	Converge from below
Slovenia	105	96	-9	Converge from below

Spain	122	109	-13	Converge from above
Sweden	153	147	-6	Converge from above
United Kingdom	151	123	-28	Converge from above

Source: Authors' calculations based on World Bank data.

Figure 3 supports the convergence hypothesis, since there is a negative relationship between the variables. The Western Balkan countries, which have initial per capita GDPs lower than the EU member states, are positioned in the upper left quadrant in the figure. Their average per capita GDP growth rate in the period 2004-2013 was 3.5%, compared with 1.5% in the EU-28. The countries converged with the EU-13 member states with per capita GDP lower than the group's average; excluding Croatia, which converges with the EU-15 member states, Cyprus, Czech Republic, Hungary, Malta and Slovenia. Between 2004 and 2013, the average per capita GDP of the Western Balkan countries increased from 26.9% to 33.5% of the EU-28 average. The highest average per capita growth rate was in Albania, 4.8%, and the lowest was in Bosnia and Herzegovina, 2.9%.

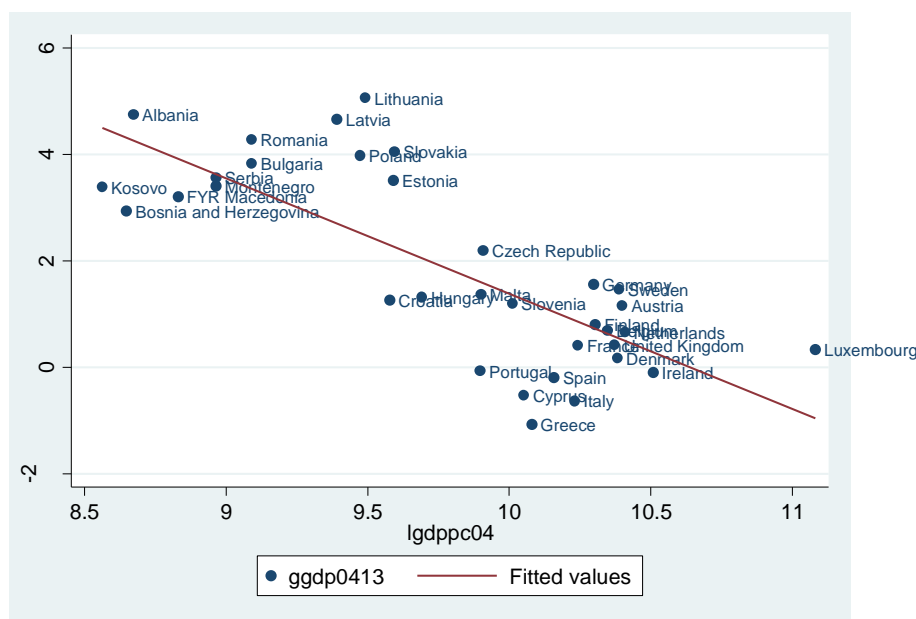


Figure 3. Club convergence in the Western Balkan countries and the EU-28, 2004-2013

Source: Authors' calculations based on World Bank data

By 2008, five Western Balkan countries signed the Stabilization and Association Agreement. Kosovo signed it in 2015, but only because it gained its independence from Serbia in 2008. The countries also signed visa facilitation agreements with the European Union, as well as the IPA Framework Agreements. In this period, only FYR Macedonia's Stabilization and Association Agreement entered into force and it was the only candidate country, while Montenegro applied for EU membership.

Regression results confirm that the Western Balkan countries converged with the EU-28 at the rate of 2.84% in the pre-crisis period. The average per capita growth rate was 5.8%, while in the EU-28 it was 3.6%. The ratio of the Western Balkans to the EU-28 per capita GDP increased from 26.9% in 2004 to 32.1% in 2008.

Figure 4 shows club convergence of the Western Balkan region and the EU-28 Member States in the 2004-2008 period. Even though the Western Balkan countries are positioned in the upper left quadrant in the figure, they had lower average per capita growth rates compared to Bulgaria, Latvia, Lithuania, Romania and Slovakia. However, they achieved an average per capita growth rate 4 percentage points higher than the EU-15.

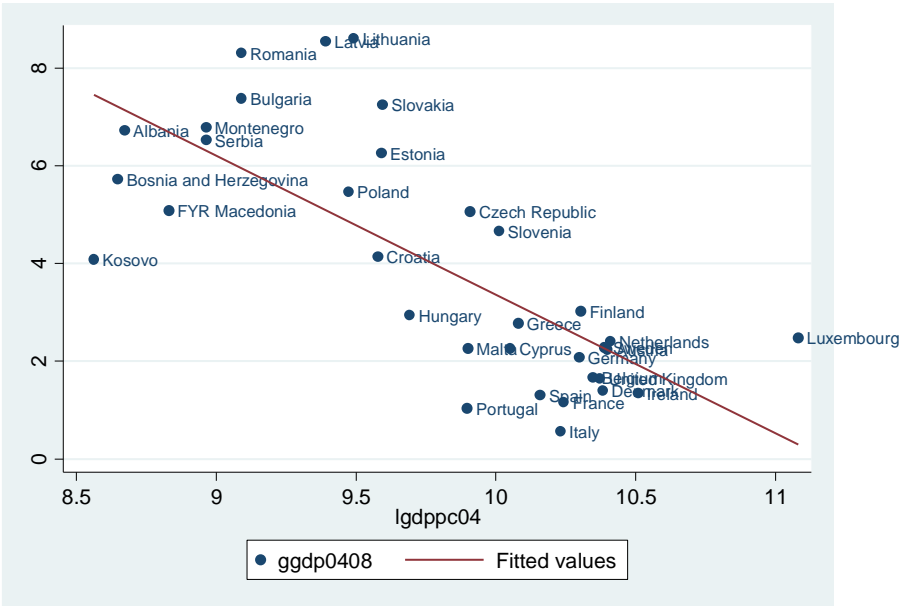


Figure 4. Club convergence in the Western Balkan countries and the EU-28, 2004-2008

Source: Authors' calculations based on World Bank data

Between 2009 and 2013, the SAA entered into force in Albania, Montenegro and Serbia. In Bosnia and Herzegovina, the Agreement entered into force in 2015, followed by Kosovo in 2016. In this period, visa

requirements for the citizens of all Western Balkan countries, except Kosovo, travelling to the Schengen area were lifted. Visa liberalization has been one of the key priorities for Kosovo. The country has made progress in its dialogue with the European Union, but it faces many challenges and reforms must be adopted and implemented by Kosovo so that the visa obligation may be lifted (European Commission 2015). Montenegro applied for EU membership in 2008, followed by Albania and Serbia in 2009 and Bosnia and Herzegovina in 2016. The European Union granted Montenegro the official status of candidate country in 2010, Serbia in 2012 and Albania in 2014. Bosnia and Herzegovina and Kosovo are still potential candidate countries.

The Western Balkan countries, excluding Albania and Kosovo, went into recession in 2009 and 2012. The average GDP growth rate was 1.3%. Montenegro was hit by the crisis the hardest, because in 2009 GDP declined at the rate of 5.7%. In 2007, the growth rate was 10.7%. Between 2009 and 2013, the average GDP growth rate in the European Union was -0.4%.

The regression results show that the convergence process of the Western Balkan countries was negatively affected by the recent financial crisis. The countries converged towards the EU Member States at the rate of 1.51%. In the period before the crisis, the rate was 1.9 times higher. There is not enough evidence to reject the main hypothesis. On average, the Western Balkan countries had a positive per capita growth rate, 1.3%, while the average rate in the EU was negative, -0.6. The ratio of the average per capita GDP in the Western Balkan countries compared to the EU average increased by only 0.2 percentage points between 2009 and 2013.

Figure 5 shows that Albania and Kosovo form the best performing club, and that they achieved the highest per capita growth rates; 2.8% and 2.7%. Bosnia and Herzegovina, Montenegro and Serbia converged as a club with Bulgaria and Romania, with the average per capita growth rate of 0.5%. Only Poland and Lithuania, on average, grew faster than the club, at rates of 2.5% and 1.5%. The Western Balkan countries all had positive average per capita growth rates, while in the European Union seventeen out of twenty-eight countries had negative rates.

The current and former transition countries have been considered as a periphery of Europe. All graphs show a characteristic that there is a core-periphery polarization among the analyzed countries. Figures also show that some of the new member states, such as the Czech Republic, Slovenia, Cyprus and Hungary are moving towards the core clubs, which is as expected since they have the highest per capita GDPs among the new member states.

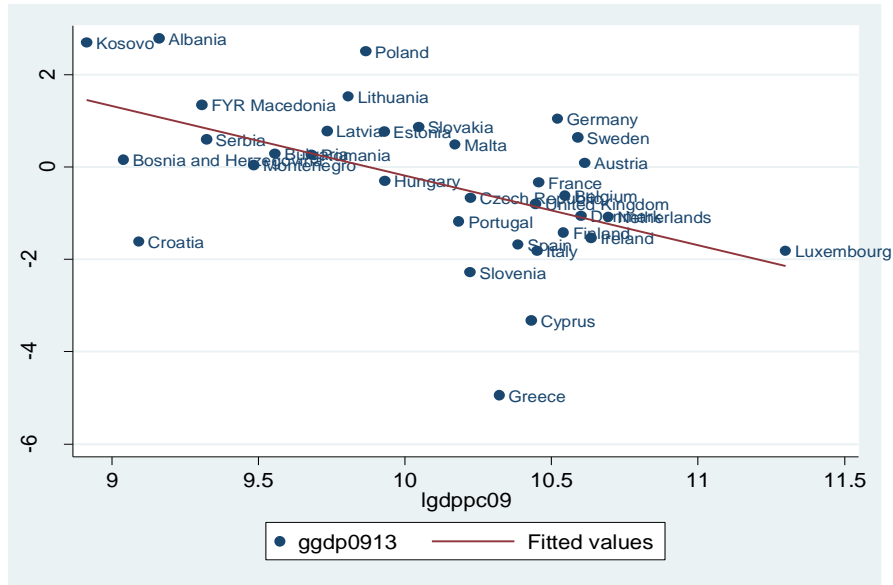


Figure 5. Club convergence in the Western Balkan countries and the EU-28, 2009-2013

Source: Authors' calculations based on World Bank data

6. CONDITIONAL CONVERGENCE

Conditional convergence is defined as the existence of an inverse relationship between the initial level of per capita GDP and its subsequent growth one controls for the determinants of the steady state level of per capita GDP (Mathur 2005). In this study, the determinants are: economic openness, gross fixed capital formation, inflation rate (economic variables), general government debt rate, unemployment rate and population growth rate (socio-political variables). Estimation results for conditional convergence of the Western Balkan countries towards the European Union in the analyzed periods are also shown in Table 3.

The regression results show that the Western Balkan countries have a tendency to converge with the EU member states in every analyzed period, when economic variables are included in the models. The highest rate is in the pre-crisis period, 2.14%. The results are consistent with absolute convergence. The conditional convergence process was also negatively affected by the recent financial crisis, because the pre-crisis rate is 1.6 times higher compared to the rate during the crisis.

The model diagnostics for conditional convergence show that multicollinearity, omitted variables and heteroscedasticity do not occur in any of the analyzed models.

Theoretically, selected macro-economic variables have a different effect on the convergence process in the group. Economic openness should have a positive effect on growth, since economies with higher openness generally have higher growth rates and converge faster (Hu 2011). Szeles and Marinescu (2010) showed that trade openness had high significant and positive influences on GDP growth in the CEE-10 countries. The results of this analysis showed that economic openness is proved to be the most important factor, contributing positively to growth in the periods 2004-2013 and 2004-2008, when economic variables are included in the models, as well as the socio-political variables. The Western Balkan countries are less open than the EU Member States. The average rate of economic openness in the Western Balkan region in the period 2004-2008 was 88.5%, compared to 108.9% in the EU-28. Even though the average rate of economic openness in the Western Balkan countries increased to 89.1% in the period of crisis, it was still lower than the EU-28 average, 116.1%.

Inflation is in a negative relationship with economic growth (Fische, 1993). In this analysis, the inflation rate has a negative impact on growth in the pre-crisis period, when economic variables are included, while in the other periods it is not statistically significant variable. Rapacki and Procnik (2009) and Vojinović et al. (2009) concluded that the inflation rate is significantly and negatively correlated with the GDP growth rate in the CEE-10 countries. Before the crisis, the average inflation rate in the Western Balkan region was 4.7%, 1.1 percentage points higher than the average rate in the EU-28. During the crisis, the average inflation rate in the group decreased to 3.3%, but it was still 1.2 percentage points higher than the EU-28 average rate.

The rapid pace of economic convergence in the pre-crisis period partly reflected an investment boom in the European Union (Forgo – Jevčak 2015: 8). Kaitila (2005) provided the evidence that the rate has a positive effect on per capita growth in the European Union. However, this analysis shows that, even though gross fixed capital formation has a positive sign; it has no effect on growth. In the period 2004-2008, the average gross fixed capital formation rate was higher in the Western Balkan countries, 25.5%, compared to 24.2% in the EU-28. The average rate decreased by 2.3 percentage points in the Western Balkan countries, and by 3.9 percentage points in the EU-28, compared to the pre-crisis period.

When economic and socio-political variables are included in the models, the regression results show that the Western Balkan countries converge with the EU member states in every period, but the period of crisis. The results indicate that the recent financial crisis had a negative effect on the conditional convergence process as well. Even though the beta coefficient is negative in the period 2009-2013, it is not statistically significant. The selected variables theoretically have the same, negative, effect on economic growth.

Dobrinsky and Halvik (2014) showed that there is an association between economic growth and the rise of the indebtedness in the European Union. This analysis shows that, among the selected socio-political variables, general government debt is the most important determinant of per capita growth and it has the theoretically expected, negative sign. It affects the convergence process in every analyzed period. Before the crisis, the Western Balkan countries had an average general government debt of 30.4%, while in the EU-28 the rate was 47.7%. Kosovo did not have any debt in the pre-crisis period.⁵ During the crisis, the Western Balkan countries still had low general government debt, as a percentage of GDP, but it increased by 8.1 percentage points, compared to 18.4 percentage points in the EU-28.

Mankiw et al (1992) found a negative impact of population growth on economic convergence. In this research, population growth rate affects the convergence process negatively in the periods 2004-2013 and 2004-2008. The average population growth rate in the Western Balkan countries increased from 0.003% in the period 2004-2008 to 0.03% in the period 2009-2013, compared to a decrease from 0.4% to 0.2% in the EU-28.

The unemployment rate, however, is not a statistically significant variable in any analyzed period and does not affect the convergence process. Other studies, like Fagerberg and Verspagen (1996), analyzed conditional convergence across the EU regions, and include unemployment as an independent variable. The results show that unemployment has had a negative effect on the convergence process and the authors conclude that differences in unemployment have a diverging effect. In the pre-crisis period, the average unemployment rate in the Western Balkan countries was 28.4%, 3.8 times higher than in the EU-28. The lowest average rate, 13.8% in Albania, was still higher than the highest in the EU-28, 13.6% in Slovakia. During the crisis, the average rate in the Western Balkan countries decreased to 24.9%, but it was 2.4 times higher than the EU-28 average.

7. CONCLUSION

The Western Balkan countries are considered to be the next group to join the European Union. All of them have signed the Stabilization and Association Agreement. Four of them are candidate countries and Bosnia and Herzegovina and Kosovo are potential candidate countries. The region's economy lags behind, compared to the EU, and even though they have access to pre-accession funds, the bigger problem is the political situation and corruption. The European Commission has reported that the countries have made

⁵ Kosovo gained independence from Serbia in 2008

some progress towards the EU membership, but that it is not enough and none of them will become a Member State soon.

The paper examined the convergence process of the Western Balkan countries towards the EU Member States between 2004 and 2013, with two sub-periods, 2004-2008 and 2009-2013. Two measures of convergence were used; sigma convergence, which measures the dispersion of real per capita GDP through coefficient of variation, and beta convergence, based on neo-classical growth theory. The empirical results suggested that the Western Balkan countries converge towards the EU-28 Member States in the analyzed periods; however the crisis had a negative impact on the convergence process. Sigma convergence is consistent with beta convergence.

The results of this research show that per capita dispersion among the Western Balkan countries and the EU Member States has decreased in the analyzed period. Absolute convergence analysis shows that the Western Balkan countries converged with the EU Member States, but the recent financial crisis had a negative impact on the convergence process, since the convergence rate was 1.9 times higher in the pre-crisis period. The results of conditional convergence with economic variables analysis were consistent with absolute convergence. However, when economic and socio-political variables were included in the models, the Western Balkan countries did not converge with the EU Member States in the period of crisis.

Club convergence shows a characteristic that the Western Balkan countries converge as a club. There was no club convergence with the EU-15 member states, since there was a distinctive polarization between the groups. Among the EU-13 member states, the Western Balkan countries converged with Romania and Bulgaria. There was no polarization between the groups, but dispersion. When economic variables were included, economic openness had the strongest impact on the conditional convergence process of the Western Balkan countries, followed by the inflation rate. Among socio-political variables, general government debt and population growth rate affected per capita growth. Gross fixed capital formation and the unemployment rate had no impact on per capita growth.

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