

# BEYOND THE GLOBAL RECESSION: MUTUAL TRADE AND ECONOMIC CONVERGENCE

---

**Buturac, Goran**

*Source / Izvornik:* **Ekonomski pregled, 2013, 64, 303 - 326**

**Journal article, Published version**

**Rad u časopisu, Objavljena verzija rada (izdavačev PDF)**

*Permanent link / Trajna poveznica:* <https://um.nsk.hr/um:nbn:hr:213:562651>

*Rights / Prava:* [In copyright](#)

*Download date / Datum preuzimanja:* **2022-12-09**



*Repository / Repozitorij:*

[The Institute of Economics, Zagreb](#)

Goran Buturac\*

UDK 339.923:339.926  
JEL Classification F14, F15  
Izvorni znanstveni članak

## BEYOND THE GLOBAL RECESSION: MUTUAL TRADE AND ECONOMIC CONVERGENCE<sup>1</sup>

*The purpose of this paper is to explore mutual trade and economic convergence in South-east European (SEE) countries beyond the global recession. The obtained results for the period 2000-2010 confirm the process of macroeconomic convergence among the analyzed SEE countries. The intensity of the process is different for individual analyzed variables. Macroeconomic convergence is most evident in the equalization of the price level (CPI index) and the indebtedness of the state sectors in SEE countries. The analysis of GDP per capita indicates a slight decrease in the gap which appeared in 2003, and continued to develop intensively during the recession. Convergence is also present in reducing the difference in the level of wages, as well as in levels of unemployment. The analysis of mutual trade shows that most SEE economies liberated their international trade rather quickly, and developed intense trade relations with other countries. Trade specialization and comparative advantages are still expressed in low value added products. The obtained results confirm the possibilities of the strengthening of mutual economic cooperation and joint efforts on the international markets especially in the circumstances of the global economic crisis and post-recession period.*

---

\* G. Buturac, Ph. D. Senior Research Associate, Institute of Economics, Zagreb. (E-mail: gbuturac@eizg.hr).

The paper was received on may 10<sup>th</sup> 2013. It was accepted for publication on July 1<sup>st</sup> 2013.

<sup>1</sup> The first version of the paper was presented at the international conference „Beyond the Economic Crisis: Lessons Learned and Challenges Ahead“, which was held in Sarajevo, 12-13 October 2012 and published in the Proceedings from the Conference. In this second version some new issues are included.

*Keywords: global recession, economic convergence, mutual trade, SEE countries*

## 1. Introduction

This paper examines mutual trade, trade performance and economic convergence in SEE<sup>2</sup> countries from 2000 to 2010. The observed period includes the changes made before the global economic crisis (until 2008), during the crisis (2008-2009), and the post-recession period (2010).

The preliminary event to the latest economic processes in the countries of Southeast Europe was a period of transition. It was characterized by processes of restructuring, privatization, liberalization and economic integration in the international flows of goods and capital (Bartlett, 2009). Certainly, in the last years, SEE economies have experienced significant structural adjustments and changes. These processes have been additionally initiated by the opening of the EU accession process and the emergence of the global economic crisis. The latest trends on the international markets are characterized by a fall in demand and a strengthening of competitive pressures (Havlik, P. et al., 2011). In this context the ability of adjusting to new market circumstances and the development of economic cooperation are especially important for the achievement of continued growth in production and in exports. The precondition of these processes is the strengthening of mutual trade (Buturac, Lobanov, 2011). Therefore the analysis of trade performance and mutual trade of SEE economies is central in this research.

In spite of numerous common features of economic structures of the observed countries, approaches to these processes and the adaptation to new economic and market circumstances differ significantly. This is partly a consequence of existing inequalities in the level of economic development where dynamics, ability and capacity of the implementation of structural and institutional reforms differ between the Croatian economy and the economies of Southeast Europe. Therefore, in this paper it is especially interesting to examine the process of economic convergence which is mainly conditioned by globalization and integration processes (El ouaridighi, Somun-Kapetanovic, 2009; Ancona, Patimo, 2010).

The research methodology is based on applying the following indicators: Entropy Index (EI), Revealed Comparative Advantages Indicator (RCA), Lafay

---

<sup>2</sup> SEE is the abbreviation for Southeast European countries. SEE countries in the analysis comprise the following countries: Albania, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro and Serbia.

Index (LFI), Grubel-Loyd Index (GL), Trade Intensity Index (TII). In the analysis of economic convergence the Theil Index is used. The main sources of the data are: WIIW Handbook of Statistics (2012), Eurostat database COMEXT, and IMF.

The introductory section is followed by an analysis of the macroeconomic impact of the global economic crisis in SEE countries. In the third part of the paper there is an analysis of macroeconomic convergence. The fourth part of the paper is devoted to the analysis of mutual trade which includes: an analysis of indicators of export and import trends, the analysis of trade flows among the observed countries, the analysis of competitiveness in international trade, and the analysis of trade intensity. The paper ends with a conclusion.

## **2. Impacts of the Global Economic Crisis**

The global economic recession began in the second half of the year 2008. Earlier warnings of a possible change in the direction of the trend gave way to optimism and hidden statements of numerous companies and banks. With easy financing, bad loans were rescheduled, housing markets were booming, consumption was high and so were investments. Thus when the financial crisis came most governments were taken by surprise as were the leading international institutions. In a globalized world with strong interdependencies the spread of the crisis from the central point outwards was just a matter of time. As could have been noticed, the crisis appeared differently across the globe and in different global regions with differentiated outcomes.

The first sign of economic recession in the SEE countries was a significant reduction of exports which was the consequence of a strong decline in foreign demand. The stagnation and reduction of activities in other sectors, especially in trade, construction and industry, soon followed. By analyzing the growth rate of real GDP, it is noted that in the year 2008 there was a significant decline in economic activity, while in the year 2009 annual changes of real GDP in all SEE countries were negative (Table 1). Albania is the only SEE country with positive economic growth during the global crisis. On the other hand, the highest negative growth rates were recorded in Croatia and Montenegro. The world economy has improved in the course of 2010 and the recovery has gained strength in the EU as well. Annual changes of real GDP in SEE countries in 2010 and 2011 were positive, except in Croatia.

Due to lower tax base and non-elastic government expenditures, a group of SEE countries recorded deteriorating stability in public finances. On the other hand, the current account deficit was reduced because of adjustments of domestic

## KEY MACROECONOMIC INDICATORS – IMPACTS OF THE GLOBAL CRISIS

Table 1.

	GDP growth			Public deficit %GDP			Current account deficit %GDP			Foreign debt %GDP			Unemployment rate			
	Average 2000-08	2009	2010	2011	Average 2000-08	2009	2010	2011	Average 2000-08	2009	2010	2011	Average 2000-08	2009	2010	2011
Albania	6.1	4.2	3.6	3.1	-5.4	-7.0	-3.1	-3.5	-8.4	-15.2	-11.5	-12.1	27.9	41.0	44.2	49.6
Bosnia and Herzegovina	5.0	-3.0	0.7	1.3	-0.3	-4.5	-2.5	-1.3	-13.6	-6.3	-5.7	-8.8	26.1	21.8	25.6	26.1
Croatia	4.3	-5.8	-1.2	0.0	-3.6	-4.1	-4.9	-5.0	-5.6	-5.2	-1.1	-1.0	66.9	95.8	103.6	101.8
Macedonia	3.2	-2.0	1.8	2.9	-1.2	-2.7	-2.4	-2.5	-6.1	-6.8	-2.0	-3.0	45.1	56.4	58.2	64.4
Montenegro	4.5	-5.0	2.5	3.2	0.5	-3.6	-3.0	-4.1	-18.5	-30.1	-24.6	-19.6	30.0	23.5	29.4	32.9
Serbia	5.0	-2.9	1.0	1.6	-1.1	-4.5	-4.7	-5.0	-9.2	-7.2	-7.4	-9.0	59.5	77.7	84.9	78.2
Average	4.7	-2.4	1.4	2.0	-1.9	-4.2	-3.3	-3.6	-10.2	-11.8	-8.9	-8.9	42.6	52.4	56.7	58.8

	Employment rate			Industrial production – annual changes			Agricultural production – annual changes			Export of goods %GDP			Import of goods %GDP			
	2008	2009	2010	2011	Average 2000-08	2009	2010	2011	Average 2000-08	2009	2010	2011	Average 2000-08	2009	2010	2011
Albania	53.8	53.4	54.7	-	7.6	10.6	18.6	10.0	3.8	4.4	5.9	4.0	8.4	8.6	13.2	15.1
Bosnia and Herzegovina	33.6	33.1	32.5	31.9	8.3	1.5	3.7	5.6	3.0	3.9	-7.1	2.0	22.3	23.8	29.8	33.4
Croatia	44.4	43.3	41.1	39.5	3.7	-9.2	-1.4	-1.2	0.2	-0.8	-8.2	-1.0	20.3	16.9	19.8	21.8
Macedonia	37.3	38.4	38.7	39.0	5.0	-8.7	-4.8	3.3	1.1	-2.3	8.2	2.0	34.6	28.8	35.9	42.2
Montenegro	42.3	41.2	40.0	39.0	1.9	-32.2	17.5	-10.3	1.4	2.6	-1.7	9.5	19.3	9.9	11.5	14.7
Serbia	44.4	41.2	37.9	35.8	2.0	-12.6	2.5	2.1	1.9	1.3	1.0	0.8	17.6	20.7	25.5	27.4
Average	42.6	41.8	40.8	37.0	4.8	-9.8	5.9	1.6	1.9	1.3	1.8	2.9	20.4	18.1	22.6	22.4

Source: wiiw Handbook of Statistics, 2012.

absorption. Despite lower current account deficits, the share of foreign debt in GDP in most countries significantly rose in 2009. In spite of slow economic recovery in 2010 foreign indebtedness continued to increase in 2010 and 2011. Due to persistent external imbalances, extremely high level of foreign debt and risk aversion of global investors, the SEE countries were not able to implement expansionary fiscal policies which could induce economic growth.

A decline in economic activity in 2009 has contributed to unfavorable labor market trends. In that year, all SEE countries except Macedonia recorded an increase in unemployment. Despite the slight growth in real GDP in 2010 and 2011, unemployment has continued to grow in all countries except Macedonia. Along with rising unemployment, the employment rate decreased. The common characteristic of all SEE countries is a very low rate of active working population and low employment rate. Average level of employment for the SEE countries in 2011 stood at 37.0 percent.

The common feature of the recession is a significant decline in industrial production as well. The industrial activity in 2009 in the SEE countries decreased on average by 9.8%. Meanwhile, in the group of observed countries there is Albania, which should be pointed out because of the industrial production growth of 7.2%. In 2011 Albania, Bosnia and Herzegovina, Macedonia and Serbia recorded industrial growth, while Croatia and Montenegro recorded a decline in industrial production.

Agricultural production handled recession conditions much more easily. This can be primarily attributed to the inelasticity of demand for agricultural products. Also, agriculture is more oriented to the domestic market and, therefore, is less exposed to external impacts. Agricultural production in 2009 in the selected group of SEE countries increased on average by 1.3%, in 2010 by 1.8% and in 2011 by 2.9%. Croatia is the only one in the group of SEE countries that suffered a decline in agricultural production in the period from 2009 to 2011.

Global recession and decline in demand in foreign markets resulted in a decreasing share of exports in GDP in 2009. The economic recovery of international markets, primarily of the EU, has contributed to the improvement in exports in 2010 and 2011, as well as an increasing share in GDP. However, the share of exports in GDP is relatively small due to the fact that the SEE countries are small economies, which by their nature must be more focused on international trade.

The share of imports in GDP for all SEE countries is significantly higher than the share of exports in GDP. The share of imports in GDP in 2009 decreased because of falling domestic demand. A slight recovery in the SEE countries has contributed to the increase of this indicator in 2010 and 2011. In the period from 2009 to 2011, the share of imports in GDP for the SEE countries increased on average from 44.4% to 50.1%.

The macroeconomic characteristics of the observed SEE countries before the appearance of the global recession, during and after the global recession, have not significantly changed (Gligorov et al., 2010). All countries are characterized by a macroeconomic imbalance which is reflected in higher domestic demand ( $C + I + G$ ) with respect to the real value of production ( $Y$ ). Macroeconomic imbalance is followed by an external imbalance where imports greatly exceed exports. Foreign trade deficit and budget deficit lead to large foreign debt. Apart from Albania, none of the analyzed countries registered significant industrial growth. The basic characteristic of the labor market is the low level of employment.

### 3. Macroeconomic Convergence: Is It A Reality?

Despite common features of the crisis in the SEE countries, approaches to economic development, as well as selecting and implementing appropriate measures and instruments, differ between countries. This is partly due to different levels of economic development where the dynamics, ability and capacity of implementing structural and institutional reforms vary. On the other hand, processes of globalization, integration and liberalization ensure the possibilities of mutual economic cooperation which could have, in the end, an impact on reducing economic differences between the observed countries. In this part of the analysis the key question is: does the integration process lead to macroeconomic convergence in SEE countries? Also, it is interesting to analyze the influence of the global economic crisis on the convergence process.

The economic convergence<sup>3</sup> process can be defined as the reduction of the development gap between less developed countries in comparison to developed economies. The process is broadly explored in the economic literature, especially in the context of EU expansion (Angeloni, Flad, Mongelli, 2005). Based on economic theory and empirical research, factors determining the speed of convergence are: initial conditions, success of structural reforms, and macroeconomic stability (Fischer, Sahay, 2000). In the later phases of transition, determinants of

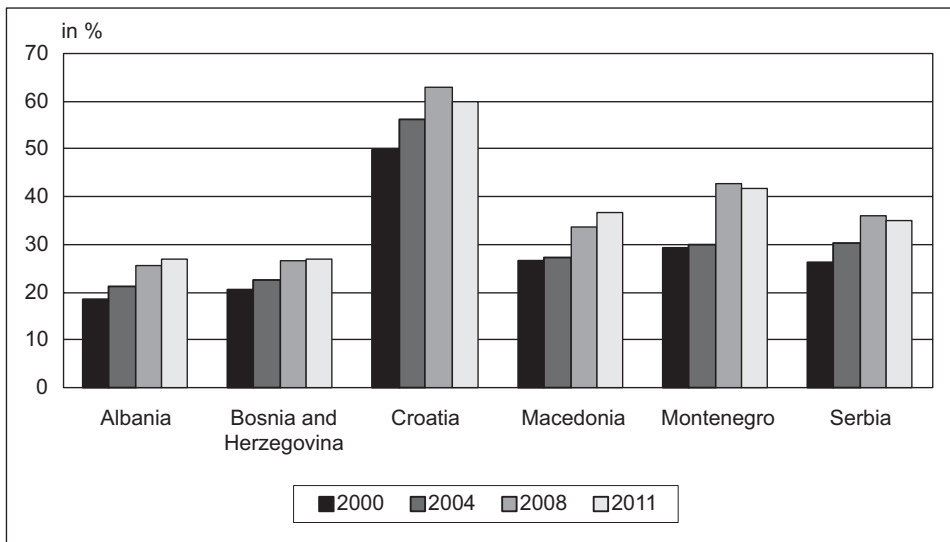
---

<sup>3</sup> The economic convergence is a concept that has gained popularity among economists, not only because of the importance of the issue about poor countries catching up with rich ones, but also because this analysis can serve as a way to verify the validity of different growth models (Varblane, Vahter, 2005). Convergence is a process that may be analyzed from various aspects. Real convergence describes the convergence of income levels, nominal convergence reflects the convergence of price levels, and institutional convergence implies harmonization of legislation. In addition one can also speak about the convergence of business cycles, consumer behavior, social stratification, and so on.

economic growth of less developed countries are more or less the same as in the most developed economies and are related to the quality of human and fixed capital in the broadest sense. Concerning the process of EU accession it is interesting at the beginning of the analysis to explore the developing gap between SEE countries and EU 27 measured by GDP per capita (Graph 1).

*Graph 1.*

GDP PER CAPITA, EU27=100



Source: Author's calculations based on data from wiiw Handbook of Statistics, 2012.

SEE countries reduced the development gap in relation to EU 27 average in terms of GDP measured by purchasing power parity in the period 2000-2011. At the same time, the average annual reduction of development gap in average for SEE countries was 2.4%. Albania showed the highest reduction where the average annual rate of reduction was 3.3%.

Macroeconomic convergence among observed SEE countries is analyzed applying the Theil index as a measure of inequality. The Theil index is defined as:

$$T = \frac{1}{n} \times \sum_{i=1}^n \left( \frac{x_i}{\bar{x}} \times \ln \frac{x_i}{\bar{x}} \right)$$

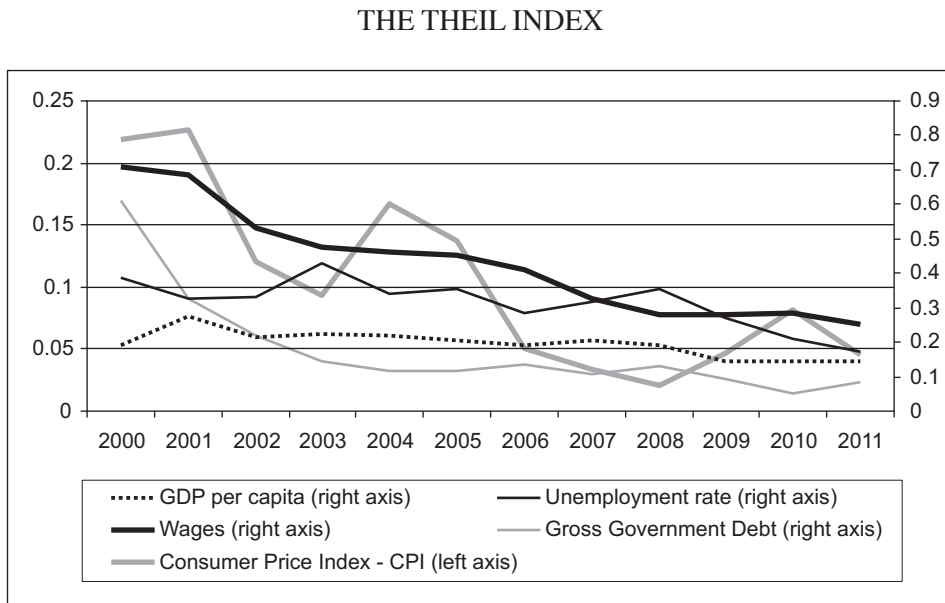


where  $x_i$  is the value of variable  $x$  for the country  $i$ ,  $\bar{x}$  is arithmetical mean of variable  $x$ ,  $n$  is the number of countries. Higher values of this index reveal to higher inequalities.

The aim of every economy is to achieve maximal value of production, full employment and price stability. Therefore, the Theil index was calculated for the following variables: GDP per capita, Unemployment rate, Wages, Consumer Price Index – CPI and Gross Government Debt. The empirical results are shown in Graph 2.

These results indicate the presence of macroeconomic convergence among the analyzed SEE countries. The intensity of the convergence process is different for each variable. Also, there are obvious effects of the global economic crisis on the convergence. Macroeconomic convergence is most evident in the equalization of the price level (CPI index) and the indebtedness of the state sectors in SEE countries.

Graph 2.



Source: Author's calculations based on data from wiiw Handbook of Statistics, 2012.

The analysis of GDP per capita indicates a slight decrease in the gap which appeared in 2003, and continued to develop intensively during the recession. Con-

vergence is also present in reducing the difference in the level of wages, as well as in the levels of unemployment.

#### 4. Trade Performance

All observed countries face the challenge of more active inclusion in the international integration process, and one of the key factors in this path is the improvement in trade patterns and export competitiveness (Buturac, 2009). The changes of export structure towards higher value added products are a precondition of a growth in export competitiveness. The latest trends on the international markets are characterized by a significant fall in demand and a strengthening of competitive pressures. These processes are additionally stressed by the appearance of the global economic crisis. In this context the ability of adjusting to new market circumstances and the development of economic cooperation are especially important for the achievement of continued growth in production and in exports. The precondition of these processes is the strengthening of trade performance and mutual trade which are analyzed below.

##### 4.1. Methodology

An empirical analysis of trade performance and mutual trade of observed SEE countries was undertaken using the following indicators:

- Trade Entropy Index (TEI) for the analysis of the dispersion and concentration;
- Revealed Comparative Advantages (RCA) for the analysis of comparative advantages;
- Grubel-Loyd Index (GL) for the analysis of intra-industry trade;
- Lafay Index (LFI) for the analysis of trade specialization;
- Trade Intensity Index.

The dispersion and concentration of export and import structure are analyzed applying empirical calculations TEI indicator („Trade Entropy Index“) which is calculated according to the following expression:

$$I_{xi} = \sum_j b_{ij} \ln \left( \frac{1}{b_{ij}} \right); \quad 0 < b_{ij} < 1; \quad \sum_j b_{ij} = 1$$

where  $b_j$  is the share of the export of individual product  $i$  in total export of manufacturing  $j$ . The same is valid for imports. The higher value of the indicator reveals a higher level of export dispersion, i.e. a lower level of export concentration. Conversely, the lower value of the entropy index means lower dispersion, i.e. higher concentration. A high concentration or low dispersion implies a high share of product or several products in the total export structure. Otherwise, a low concentration or high dispersion reveals the fact that none of the products has a significantly higher share in the export structure relative to other products.

The RCA indicator is used for the analysis of comparative advantages. The methodology for calculating the RCA indicator was originally developed by Bela Balassa (1965). Later, numerous derivations originated from this indicator. The RCA indicator is useful for the purpose of comparing comparative advantages for individual product groups<sup>4</sup>. The RCA indicator is calculated by the formula:

$$RCA = \ln \left[ \frac{X_i}{M_i} \right] \times \left( \frac{\sum_{i=1}^n X_i}{\sum_{i=1}^n M_i} \right) \times 100$$

$X$  is defined as the value of exports, while  $M$  is the value of imports. Index  $i$  is the product group classified according to SITC. A positive value indicates that the country has comparative advantages in the corresponding product group. Conversely, a negative sign for the RCA indicator implies that there are no comparative advantages.

The GL index shows the level of intra-industry trade specialization. The methodologies and calculations of the GL index were developed and applied by Grubel and Lloyd (1975).<sup>5</sup> For individual product groups the GL index is calculated using the formula:

$$GLi = \frac{\sum_{i=1}^n (X_i + M_i) - \sum_{i=1}^n |X_i - M_i|}{\sum_{i=1}^n (X_i + M_i)} * 100$$

<sup>4</sup> See more details about the use of RCA indicator in Balassa (1965), Lafay (1992), and for transition economies Kaminski and Ng (2001), Yilmaz (2005).

<sup>5</sup> See more details about the use of the index of intra-industry trade specialization in transition economies in Kaminski and Ng (2001).

$GL_i$  is the value of the Grubel-Lloyd index for product group  $i$ .  $X$  is defined as the value of exports, and  $M$  is the value of imports. The coefficient can vary from 0 to 1. The closer it is to 1, the higher the degree of specialization in intra-industry trade. A lower value of the coefficient shows that the country has a higher level of specialization in inter-industry trade.

For the analysis of trade specialization the Lafay index is used. The Lafay index (LFI) takes into account intra-industry trade flows. In this respect it is superior to both the traditional Revealed Comparative Advantages index of Balassa (1965) and the Beneficial Structural Change index of Bender (2001). For a given country,  $i$ , and for any given product,  $j$ , the Lafay index is defined as:

$$LFI_j^i = 100 \left( \frac{x_j^i - m_j^i}{x_j^i + m_j^i} - \frac{\sum_{j=1}^N (x_j^i - m_j^i)}{\sum_{j=1}^N (x_j^i + m_j^i)} \right) \frac{x_j^i + m_j^i}{\sum_{j=1}^N (x_j^i + m_j^i)}$$

where  $x_j^i$  and  $m_j^i$  are exports and imports of product  $j$  of country  $i$ , to and from the rest of the world, respectively, and  $N$  is the number of traded items. According to the index, the comparative advantage of country  $i$  in the production of item  $j$  is measured by the deviation of product  $j$  normalized trade balance from the overall normalized trade balance. The normalization of each sector is obtained by weighting each product's contribution according to the respective importance in trade, that is, the share of trade of product  $j$  (imports plus exports) on total trade. Given that the index measures each group's contribution to the overall normalized trade balance, the following relation holds:  $\sum_{j=1}^N LFI_j^i = 0$ . Positive values of the Lafay index indicate the existence of a comparative advantage; the larger the value the higher the degree of specialization. Similarly, negative values point to de-specialization.

The trade intensity index (T) is used to determine whether the value of trade between two countries is greater or smaller than would be expected on the basis of their importance in world trade. It is calculated according to the following expression:

$$T_{ij} = \frac{\left( \frac{x_{ij}}{X_{it}} \right)}{\left( \frac{x_{wj}}{X_{wt}} \right)} \tag{6}$$

where  $x_{ij}$  and  $x_{wj}$  are the values of country  $i$ 's exports and of world exports to country  $j$  and where  $X_{it}$  and  $X_{wt}$  are country  $i$ 's total exports and total world exports,

respectively. An index of more (less) than unity indicates a bilateral trade flow that is larger (smaller) than expected, given the partner country's importance in world trade.

#### *4.2. Export and import trends*

Common characteristics of economic processes in SEE countries are accelerated opening and integration into the international market. Therefore, in this introductory part of the analysis of mutual trade, basic indicators and trends in international trade and rising trade openness are presented.

The growth of openness and liberalization of domestic markets had strong impacts on import growth. Conversely, the global economic crisis had a strong impact on the shrinking of domestic demand which had negative consequences on import growth. Observing the period 2000-2011 it is noted that some countries have higher export than import growth (Table 2).

These are Albania, Bosnia and Herzegovina, Croatia and Serbia. On the other hand Montenegro noted higher import growth while Macedonia had average annual export and import growth rate at the same level.

Among SEE countries, Macedonia is the most open economy in 2011, and Albania and Croatia are the least open. In all countries the share of imports in GDP is considerable higher than the share of exports in GDP.

It is clear that movements in exports and imports of goods determined corresponding movements in the balance of trade. All SEE economies face a trade deficit. In most of the analyzed countries the trade deficit was reduced in the period from 2000 to 2011. Relative trade deficit for all SEE countries in 2000 was 34.7% and in 2011 was 28.6%. Among SEE countries Macedonia recorded in 2011 the lowest relative deficit. At the same time, Montenegro had the highest relative deficit.

The characteristic for all SEE countries is a relatively high level of export concentration which is not favorable in the circumstances of the economic crisis. Trends in the concentration of merchandize exports in SEE countries were determined by the process of transition, existing trade relationships, and the proximity of a strong economy – the EU. However, dynamics in the change of economic structure, the level of integration and trade specialization can have a significant influence on the higher or lower level of export concentration (Buturac, 2009). Export concentration of SEE countries measured by the share of top three export markets in 2011 was 45.5 percent.

Table 2.

BASIC INDICATORS OF EXPORTS AND IMPORTS

Country	Average annual export growth rate <sup>6</sup>	Average annual import growth rate	Relative deficit <sup>7</sup>		(Export + Import)/GDP	
			2000	2011	2000	2011
	2000-2011	2000-2011	2000	2011	2000	2011
Albania	14.4	10.4	-61.8	-46.8	37.1	56.9
Bosnia and Herzegovina	11.6	7.2	-51.2	-30.7	75.8	93.2
Croatia	5.9	5.5	-28.1	-25.8	57.5	57.6
Macedonia	6.9	6.9	-22.6	-22.2	95.0	109.5
Montenegro	6.9	9.8	-48.9	-60.1	74.8	70.4
Serbia	14.3	12.2	-36.0	-25.6	20.5	72.8
SEE countries	9.1	7.9	-34.7	-28.6	60.1	76.7

Country	Export/GDP		Share of top 3 export markets %	Share of top 3 exported products %	Exports as a share of world exports %	Imports as a share of world imports %
	2000	2011	2011	2011	2011	2011
Albania	7.1	15.1	70.9	26.4	0.01	0.03
Bosnia and Herzegovina	18.5	32.3	45.2	14.9	0.03	0.06
Croatia	20.6	21.3	38.2	14.9	0.07	0.12
Macedonia	36.8	42.6	55.2	27.4	0.02	0.04
Montenegro	19.1	14.0	55.7	61.3	0.00	0.02
Serbia	6.6	27.1	8.0	32.6	0.07	0.12
SEE countries	14.9	25.0	45.5	29.5	0.03	0.06

Source: Author's calculations based on data from the Eurostat COMEXT database.

<sup>6</sup> Average annual export growth rate is calculated using the formula:

$$AAGR_{T,T-n} = \left[ \left( \frac{X_T}{X_{T-n}} \right)^{1/n} - 1 \right] \times 100$$

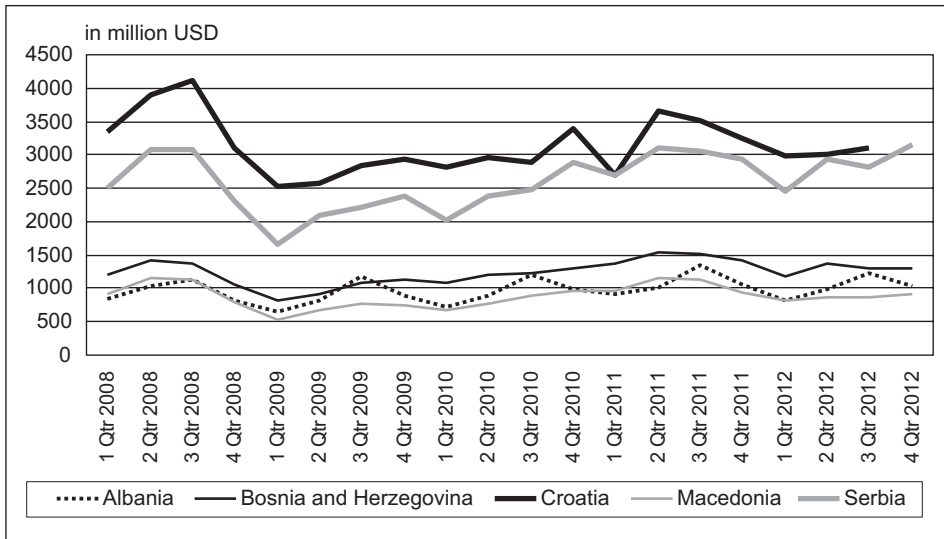
where X = the value of export, T = final year, n = number of year

<sup>7</sup> Relative deficit is defined as  $\frac{x-m}{x+m}$ , where x is the value of merchandize export, and m the value of merchandize import.

Observing the impacts of the global economic crisis, its first signs in SEE countries were a significant reduction of exports which was the consequence of a strong decline in foreign demand. Following a sharp decrease of exports in the second half of 2008 and the first half of 2009, the third quarter of 2009 brought a stabilization of exports at a lower level (Graph 3). Export trends in most SEE countries were slightly positive in the period from 2010 to 2012.

Graph 3.

EXPORT TRENDS IN SEE COUNTRIES FROM Q1 2008 TO Q4 2012

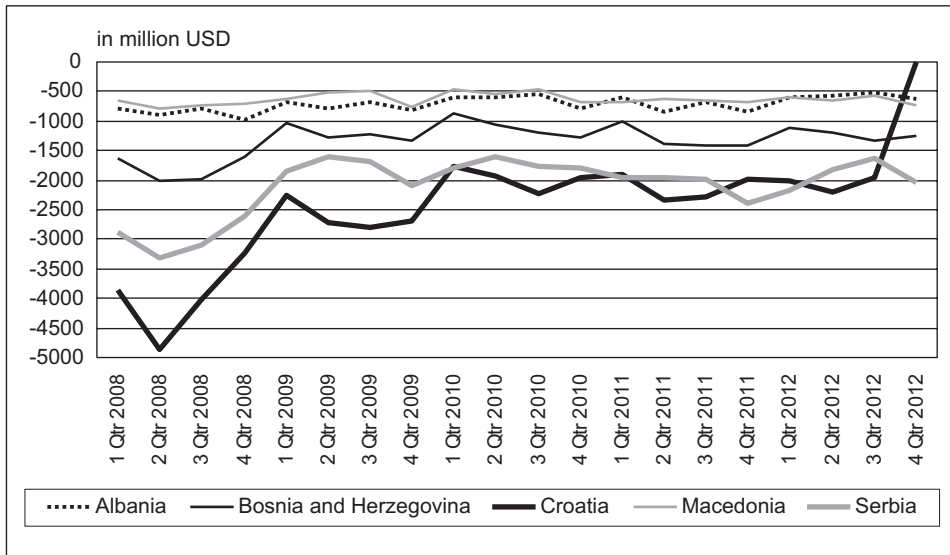


Source: Author's calculations based on data from the Eurostat COMEXT database.

A strong decline in domestic demand had impacts on a significant reduction of imports. The decrease in imports was higher than exports which resulted in the improvement of the trade balance (Graph 4).

*Graph 4.*

TRADE BALANCE IN SEE COUNTRIES FROM Q1 2008 TO Q4 2012



Source: Author's calculations based on data from the Eurostat COMEXT database.

**4.3. Mutual Trade**

The trade relations of the SEE countries in the last ten years reflect the progress of their economies and the success of their adaptation to the new economic environment. To a large degree these relations are the result of the free-market policies that were implemented after 1989, but they also reflect the competitiveness or comparative advantages of these economies (Buturac, Lobanov, 2011). Most SEE economies liberated their international trade rather quickly, and developed intense trade relations with other countries. In the following analysis, the evolution of mutual trade between SEE countries is examined.

The analysis of export trends in the period from 2000 to 2011 confirms extremely strong export growth to SEE markets of Albania and Montenegro. Beside Croatia, these countries realized stronger export growth to SEE countries than to the EU 27 (Table 3). On the import side Albania, Bosnia and Herzegovina and Croatia had higher import growth from SEE countries than from the EU 27.



Table 3.

**AVERAGE ANNUAL GROWTH RATES  
OF EXPORT AND IMPORT (2000-2011)**

<i><b>EXPORT GROWTH RATE</b></i>						
	<b>Albania</b>	<b>B&amp;H</b>	<b>Croatia</b>	<b>Macedonia</b>	<b>Montenegro</b>	<b>Serbia</b>
Total	14.4	11.1	5.9	6.9	6.9	14.5
EU 27	11.9	11.3	4.6	8.8	17.2	15.1
EU 15	11.4	10.9	3.8	7.9	16.7	13.1
Albania	-	-	-	13.3	14.5	67.8
B&H	40.7	-	6.7	8.5	9.6	11.4
Croatia	-3.2	9.0	-	5.7	36.3	19.7
Macedonia	23.2	16.2	3.4	-	5.4	4.4
Montenegro	14.8	12.7	3.6	10.2	-	10.4
Serbia	14.4	9.6	14.9	4.5	-	-
SEE	15.0	9.8	7.3	6.2	24.6	10.4
<i><b>IMPORT GROWTH RATE</b></i>						
	<b>Albania</b>	<b>B&amp;H</b>	<b>Croatia</b>	<b>Macedonia</b>	<b>Montenegro</b>	<b>Serbia</b>
Total	10.4	5.3	5.5	6.9	9.8	12.2
EU 27	8.2	3.0	4.3	6.9	8.5	11.2
EU15	7.9	4.0	3.8	7.4	6.6	11.0
Albania	-	40.7	-3.2	22.7	20.0	14.4
B&H	62.0	-	16.2	22.5	12.2	8.9
Croatia	11.1	3.2	-	3.6	4.2	14.2
Macedonia	7.7	10.0	6.0	-	11.1	3.9
Montenegro	31.3	8.8	43.6	46.1	-	-
Serbia	60.3	9.6	20.0	4.0	8.4	-
SEE	17.8	5.4	15.4	6.3	8.5	9.5

Source: Author's calculations based on data from wiiw Handbook of Statistics, 2012.

Also, in many cases, trade growth between some individual SEE countries is significantly higher than trade growth between SEE and the EU 27. The best examples are Albania and Bosnia and Herzegovina; Croatia and Serbia; Macedonia and Montenegro. In spite of the growth in trade volume, trade among SEE countries still does not constitute the greatest portion of their trade structures (Table 4). The EU 15 is still the most important export destination for all SEE countries.

Table 4.  
 STRUCTURES OF MUTUAL TRADE - SEE COUNTRIES

CHANGES OF EXPORT STRUCTURES												
	Albania		Bosnia and Herzegovina		Croatia		Macedonia		Montenegro		Serbia	
	2011	2011-2000	2011	2011-2000	2011	2011-2000	2011	2011-2000	2011	2011-2000	2011	2011-2000
Total	100.0	-	100.0	-	100.0	-	100.0	-	100.0	-	100.0	-
EU 27	72.7	-21.6	55.8	1.4	59.79	-9.65	60.56	11.49	50.05	33.52	57.70	3.72
EU 15	68.1	-25.9	40.1	-0.8	42.73	-11.61	47.71	4.94	24.14	15.69	35.34	-5.81
Albania	-	-	-	-	-	-	1.95	0.98	1.28	1.28	1.15	1.13
B&H	0.12	0.11	-	-	12.24	1.04	2.09	0.34	1.26	1.26	10.09	-4.86
Croatia	0.16	-1.02	14.65	-3.76	-	-	3.13	-0.48	9.55	9.55	3.98	2.06
Macedonia	2.11	1.24	1.57	0.65	1.00	-0.33	-	-	-0.06	-0.06	4.47	-8.90
Montenegro	0.44	0.02	3.65	0.58	0.90	-0.28	0.77	0.23	-	-	7.52	-4.81
Serbia	2.68	0.01	12.19	-2.22	3.91	2.45	7.48	-2.44	-	-	-	-
SEE	5.51	0.34	32.06	-4.90	18.05	2.65	15.42	-1.36	29.60	29.60	27.21	-15.38

CHANGES OF IMPORT STRUCTURES												
	Albania		Bosnia and Herzegovina		Croatia		Macedonia		Montenegro		Serbia	
	2011	2011-2000	2011	2011-2000	2011	2011-2000	2011	2011-2000	2011	2011-2000	2011	2011-2000
Total	100.0	-	100.0	-	100.0	-	100.0	-	100.0	-	100.0	-
EU 27	64.0	-17.4	45.4	-14.2	61.8	-8.6	54.3	0.3	39.2	-6.1	55.5	-6.3
EU 15	56.9	-18.2	31.1	-5.3	45.8	-9.6	40.4	2.1	21.0	-9.0	35.4	-4.6
Albania	-	-	0.0	0.0	0.0	0.0	0.6	0.5	0.7	0.5	0.3	0.1
B&H	1.0	1.0	-	-	3.3	2.3	1.3	1.0	7.9	1.8	3.4	-1.4
Croatia	1.3	0.1	14.3	-4.0	-	-	1.9	-0.9	5.1	-4.5	2.5	0.5
Macedonia	1.6	-0.6	1.0	0.4	0.7	0.0	-	-	1.5	0.2	1.6	-2.4
Montenegro	1.4	1.2	0.3	0.1	0.5	0.5	1.4	1.4	-	-	0.6	-
Serbia	2.5	2.4	9.4	3.6	1.8	1.4	7.1	-2.8	29.7	-5.1	-	-
SEE	7.8	4.2	25.0	0.1	6.4	4.2	12.3	-0.8	44.9	-7.0	8.3	-2.7

Source: Author's calculations based on data from wiiw Handbook of Statistics, 2012.

#### 4.4. Trade specialization

The results above show that the period 2000-2011 was characterized by an increase in the volume of international trade. Increasing market openness and liberalization favored dynamic import growth. However, the appearance of the global economic crisis in the middle of 2008 had negative impacts on import growth because of the reduction of domestic demand. At the same time, falling foreign demand in 2008 and in 2009 had negative consequence on export trends. Economic recovery of international markets especially of the EU in 2010 and 2011 had positive influence on export growth.

Openness of the SEE economies increased primarily due to increasing imports as a share in GDP. The key question is: does an increase in trade volume and openness correspond to positive changes in trade structure? A positive change in the trade structure implies a change of comparative advantages towards higher value added sectors and products as well as a higher level of trade specialization. The comparison of trade performance for selected SEE countries is analysed applying the RCA, LFI, and GL indicators. The empirical results are displayed in Table 5.

The trade structures of all analyzed countries are characterized by the presence of comparative advantages in low value added products. Also, there is no correlation between the values of the RCA indicator and the share of individual products in the total export structure. In some countries some leading export products do not have comparative advantages. It is especially noted in Serbia, but can be found in some other countries as Croatia and Montenegro.

Table 5.

#### TRADE PERFORMANCE FOR THE FIRST FIVE PRODUCTS CONCERNING THE SHARE OF EXPORTS IN TOTAL EXPORT STRUCTURE IN 2011

<i>Albania</i>	RCA	LFI	GL	% EXP.
<i>27 Mineral fuels, oils</i>	-0.30	1.41	0.60	21.22
<i>64 Footwear, gaiters</i>	0.38	5.26	0.51	15.41
<i>72 Iron and steel</i>	-0.09	2.75	0.87	13.27
<i>62 Articles of apparel, not knit or crochet</i>	0.30	3.16	0.61	9.63
<i>61 Articles of apparel, knit or crochet</i>	0.06	1.90	0.91	6.99
<i>Bosnia and Herzegovina</i>	RCA	LFI	GL	% EXP.

<i>27 Mineral fuels, oils</i>	-0.56	-3.41	0.51	13.97
<i>94 Furniture</i>	0.77	3.60	0.38	9.10
<i>76 Aluminum</i>	0.56	3.01	0.51	8.15
<i>72 Iron and steel</i>	0.15	2.03	0.86	7.50
<i>84 Boilers, machinery</i>	-0.36	-0.13	0.67	6.78
<i>Croatia</i>	RCA	LFI	GL	% EXP.
<i>27 Mineral fuels, oils</i>	-0.66	-4.53	0.49	12.07
<i>89 Ships, boats</i>	1.18	4.73	0.23	11.02
<i>85 Electrical, electronic equipment</i>	-0.17	0.83	0.85	8.42
<i>84 Boilers, machinery</i>	-0.39	-0.58	0.67	8.23
<i>44 Wood and articles of wood</i>	0.55	1.64	0.56	4.58
<i>Macedonia</i>	RCA	LFI	GL	% EXP.
<i>72 Iron and steel</i>	0.34	6.14	0.73	20.56
<i>38 Miscellaneous chemical products</i>	1.15	5.28	0.27	12.41
<i>62 Clothing, accessories</i>	1.81	5.54	0.11	12.10
<i>27 Mineral fuels, oils</i>	-0.86	-5.83	0.41	8.36
<i>73 Articles of iron and steel</i>	0.45	1.33	0.66	4.06
<i>Montenegro</i>	RCA	LFI	GL	% EXP.
<i>76 Aluminum</i>	-0.34	12.71	0.19	41.08
<i>27 Mineral fuels, oils</i>	0.55	-1.34	0.32	13.95
<i>72 Iron and steel</i>	-0.41	2.49	0.92	9.97
<i>22 Beverages, spirits and vinegar</i>	0.03	0.70	0.61	5.02
<i>44 Wood and articles of wood</i>	-0.20	0.94	0.91	4.21
<i>Serbia</i>	RCA	LFI	GL	% EXP.
<i>72 Iron and steel</i>	0.41	3.10	0.66	9.35
<i>85 Electrical, electronic equipment</i>	-0.25	0.34	0.78	8.03
<i>84 Boilers, machinery</i>	-0.62	-1.78	0.51	5.62
<i>74 Cooper</i>	0.25	1.59	0.78	5.49
<i>39 Plastics and articles thereof</i>	-0.29	0.11	0.76	5.14

Source: Author's calculations based on data from the Eurostat COMEXT database.

Observing intra-industry trade specialization (GL), the results show that all countries have a higher level of intra-industry trade specialization in labour-intensive sectors: textiles, base metals, wood, footwear, and leather (Table 5). At the same time, inter-industry trade prevails for capital intensive sectors and high technology sectors: vehicles, chemicals, and precision instruments.

The global economic crisis resulted in decreasing comparative advantages and export competitiveness in most export products (Buturac, Teodorović, 2010). During the crisis Croatia shows a strong drop in exports of oil derivatives, chemical products and machinery and Bosnia and Herzegovina in aluminum<sup>8</sup>. The most important Macedonian export products with comparative advantages (iron, steel, and articles thereof) are hardest hit by the crisis. Other Macedonian export goods, such as textiles, are also having a hard time on the European and regional markets. Total export competitiveness for Montenegro is strongly dependent on the aluminum sector which recorded a decrease of comparative advantages and export competitiveness during the crisis.

#### ***4.5. Trade Intensity***

Finally, after the analysis of trade performance and mutual trade of SEE countries, trade intensity is analyzed. The analysis was provided applying the Trade Intensity Index which is an alternative method of measuring and analyzing bilateral trade flows and resistances. It was pioneered by Brown (1947) and developed and popularized by Kojima (Kojima, 1964; Drysdale and Garnaut, 1982). Unlike the gravity model, the index abstracts from the effects of the size of the exporting and importing countries, and focuses on variations in bilateral trade levels that result from differential resistances.

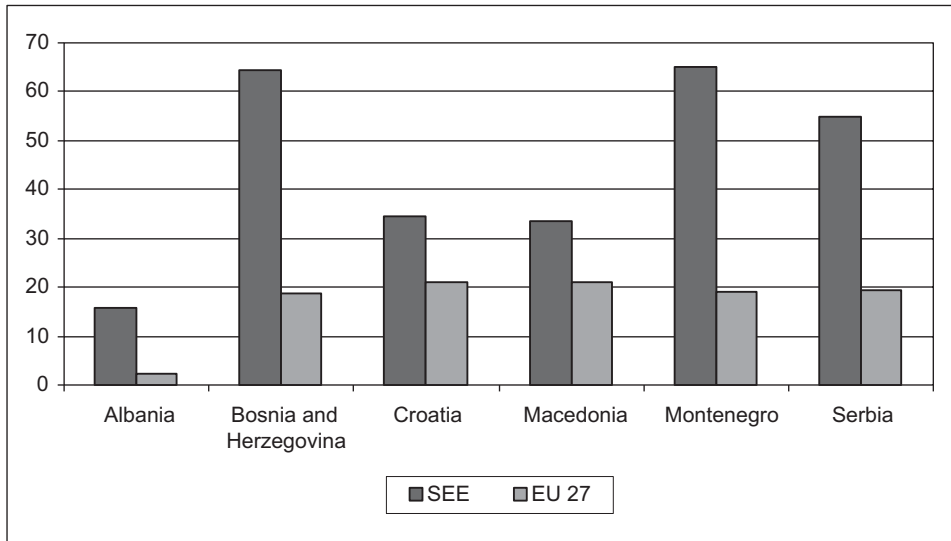
The analysis of basic trends in trade of the SEE countries shows that the trade intensity level among countries is relatively high. The highest level of trade intensity in 2000 was in Serbia and Bosnia and Herzegovina. However, the global economic crisis had a negative impact on trade intensity. The main characteristic of the process is the reduction of trade intensity in most countries. The exceptions are Albania and Montenegro.

---

<sup>8</sup> For example, exports of the aluminum producer *Aluminij* dropped by 60% year on year (Q 1 2009) (wiiw Country reports)

*Graph 5.*

THE TRADE INTENSITY INDEX: SEE COUNTRIES – EU 27 IN 2011



Source: Author's calculations based on data from wiiw Handbook of Statistics, 2012.

The comparison of trade intensity among SEE countries as well as between SEE countries and EU 27 shows higher level of trade intensity among SEE countries in 2011 (Graph 5).

## 5. Conclusions

The process of adjustment to global conditions brought hardships, costs and benefits. One of the benefits was an increased integration to international markets and increasing interdependencies. In crises those relations became an obstacle revealing at the same time the internal deficiencies of those economies. The global economic recession has ignited discussions on the sustainability of the current global economic system.

The first symptoms of the recession in SEE countries were a significant reduction of exports. The stagnation and reduction of activities in all economic sectors soon followed. Concerning the effects of the global economic crisis on SEE countries, the Albanian economy is an exception. The fall in external demand had

limited impact on the Albanian economy because of its low level of openness. Due to domestic absorption growth (personal consumption and gross fixed capital formation) and export of services, the Albanian economy was growing even in 2009, a period when most European countries recorded significant drops in economic activity.

The obtained results for the period 2000-2011 confirm the process of macroeconomic convergence among the analyzed SEE countries. The intensity of the process is different for individual analyzed variables. Macroeconomic convergence is most evident in the equalization of the price level (CPI index) and the indebtedness of the state sectors in SEE countries. The analysis of GDP per capita indicates a slight decrease in the gap which appeared in 2003, and continued to develop intensively during the recession. Convergence is also present in reducing the difference in the level of wages, as well as in levels of unemployment.

The global economic crisis had impacts on decreasing comparative advantages and export competitiveness in most export products of SEE countries. However, the economic recovery of international markets especially of the EU in 2011 and 2012 had a positive influence on export growth. On the other hand, a strong decline in domestic demand, as a consequence of recession, impacted on the reduction of imports. These trends in most analyzed countries resulted in an improvement in the trade balance.

Although the EU-27 is the main trading partner for SEE countries, the newest trends confirm considerable trade growth between SEE countries. The trade intensity level among countries is relatively high. This kind of situation offers a strengthening of mutual economic cooperation and joint efforts on the international markets especially in the circumstances of the global economic crisis and post-recession period. Even though there is a constant growth in international trade between SEE countries, efforts towards enhancing all levels of economic cooperation are still on the agenda.

## REFERENCES

1. Ancona, G., Patimo, R. (2010). "Notes on Macroeconomic and Institutional Convergence of the Economies of Western Balkans Countries", *The Western Balkans Policy Review*, (1), 1: 49-64.
2. Angeloni I., Flad M., Mongelli, F. (2005). "Economic and Monetary Integration of the New Member States: Helping to Chart the Route", *European Central Bank*, Occasional Paper No. 36.

3. Balassa, B. (1965). "Trade Liberalization and Revealed Comparative Advantage", *Manchester School of Economic and Social Studies*, (33), 2: 99-123.
4. Bartlett, W. (2009). "Economic development in the European super-periphery: evidence from the Western Balkans", *Economic Annals*, (54), 181: 21-44.
5. Bender, S. (2001). "Suggestion for Two New Trade Performance Indices: Trade Specialization Index and Beneficial Structural Change Index", *Economic Growth Centre of Yale University*, Working Paper No. 843.
6. Brown, A.J. (1947). *Applied Economics*. George Allen & Unwin: London.
7. Buturac, G., & Lobanov, M. (2011). "The Influence of Economic Structure Transformation on Mutual Trade: Russia and Southeast European Countries", In Jurišić, S. (Ed), *South-east Europe and The European Union - Looking Ahead*, Proceedings of the 2011 SEE Management Forum, 9-10 June 2011, Opatija, Croatia: 153-178. Zagreb: Croatian Economic Association.
8. Buturac, G., Teodorović, I. (2010). "The Impacts of The Global Recession on South-east European Countries", In Trivun V. (Ed), *Economic Development Perspectives of SEE Region in the Global Recession Context*, Proceedings of the Conference, 14-15 October 2010 Sarajevo, Bosnia and Herzegovina. University of Sarajevo, School of Economics and Business.
9. Buturac, G. (2009). "Comparison of Trade Patterns of Selected South-Eastern European Countries", In Kikerova, I. (Ed), *Regional Cooperation and Economic Integration - Challenges and Opportunities*, Proceedings from the Third International Conference, 15 – 17 October 2009, Skopje, Macedonia: 75-89. Skopje: Faculty of Economics.
10. Drysdale, P., Garnaut, R. (1982). "Trade Intensities and the Analysis of Bilateral Trade flows in a many-country world: A survey", *Hitotsubashi Journal of Economics*, (22), 2: 62-84.
11. El ouardighi, J., Somun-Kapetanovic, R. (2009). "Convergence and Inequality of Income: the case of Western Balkan countries", *The European Journal of Comparative Economics*, (6), 2: 207-225.
12. Fischer S., Sahay R. (2000). "The Transition Economies After Ten Years", *National Bureau of Economic Research*, NBER Working paper No. 7664.
13. Gligorov, V. et al. (2010). "Crisis Is Over, but Problems Loom Ahead", *Current Analyses and Forecasts (5): Economic Prospects for Central, East and South-east Europe*, Vienna: The Vienna Institute for International Economic Studies.
14. Grubel, H., Lloyd, P. (1975). *Intra-industry Trade: The Theory and Measurement of International Trade in Differentiated Products*. London: Macmillan.
15. Havlik, P. et al. (2011). "Recovery – in Low Gear across Tough Terrain", *Current Analyses and Forecasts (5): Economic Prospects for Central, East and*



- Southeast Europe*, Vienna: The Vienna Institute for International Economic Studies.
16. Kaminski, B., Ng, F. (2001). "Trade and Production Fragmentation: Central European Economies in EU Networks of Production and Marketing", *Policy Research Working Paper Series*, No: 2611. World Bank, Washington.
  17. Kojima, K. (1964). "The Pattern of International Trade among Advanced Countries", *Hitotsubashi Journal of Economics*, (5), 1: 16-36.
  18. Lafay, G. (1992). "The Measurement of Revealed Comparative Advantages", In: M.G. Dagenais & P.A. Muet (Eds) 1992. *International Trade Modelling*. London: Chapman & Hall.
  19. Varblane, U., Vahter, P. (2005). "An Analysis Of The Economic Convergence Process In The Transition Countries", *University of Tartu - Faculty of Economics and Business Administration*, Working Paper Series No. 37.
  20. wiiw Handbook of Statistics (2012). *Central, East and Southeast Europe (2012)*. Vienna: The Vienna Institute for International Economic Studies.
  21. Yilmaz, B. (2005). "The Foreign Trade Pattern and Foreign Trade Specialization in the European Union", *Eastern European Economics*, (43), 1: 77-103.

## NAKON GLOBALNE RECESIJE: UZAJAMNA TRGOVINA I EKONOMSKA KONVERGENCIJA

### Sažetak

Svrha je ovoga rada istražiti uzajamnu trgovinu i ekonomsku konvergenciju zemalja jugo-istočne Europe (SEE) nakon globalne recesije. Dobiveni rezultati za analizirane zemlje jugo-istočne Europe potvrđuju proces makroekonomske konvergencije u razdoblju 2000.-2011. Intenzitet procesa je različit za pojedine analizirane varijable. Makroekonomska konvergencija se najviše očituje u izjednačavanju razine cijena (CPI indeks) i zaduženosti državnih sektora. Analiza BDP-a po glavi stanovnika ukazuje da se blago smanjivanje jaza započelo u 2003. godini, intenziviralo za vrijeme globalne recesije. Konvergencija je također prisutna u smanjivanju razlika u razini plaća, kao i razini nezaposlenosti. Analiza uzajamne trgovine pokazuje da je većina zemalja jugoistočne Europe prilično brzo liberalizirala vanjsku trgovinu, te intenzivirala trgovinske odnose s drugim zemljama. Komparativne prednosti i trgovinska specijalizacija su još uvijek izraženi kod proizvoda male dodane vrijednosti. Dobiveni rezultati potvrđuju mogućnosti jačanja uzajamne ekonomske suradnje i zajedničkih napora na međunarodnim tržištima naročito za vrijeme globalne recesije i u postrecesijskom razdoblju.

Ključne riječi: globalna recesija, ekonomska konvergencija, uzajamna trgovina, SEE zemlje