

## **REGIONAL PERSPECTIVES Session**

### **SEE COUNTRIES TRADE SPECIALIZATION AND POST-CRISIS RECOVERY – EMPIRICAL EVIDENCES**

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#### **ABSTRACT**

Foreign trade is one of the sectors of the economy, which is dependent both on changes in market conditions, and on national policies. It can be studied both in terms of the potential for economic growth and as an expression of economic competitiveness. The purpose of this paper is to examine the changes in foreign trade and specialization of the South Eastern Europe (SEE) countries for the period 2008 – 2012/2013. Parallel to this, we need to account for the challenges of the global economic crisis and the consequences thereof that national economies have been facing. In our analysis we will use indicators such as the value of exports and imports, net trade, geographic concentration (Herfindal Index ),the main export group and the Lafay index of international specialization.

The economic and financial crisis of 2008 put to the test all economies and encouraged governments to seek solutions that combine the complexity of international economic relations on the one hand and employ various demand for sources of growth on the other. This naturally drew the attention of policymakers and researchers back to international trade as an important factor for economic recovery and development. Considering the political processes on a global and Pan-European scale we may claim that the foreign trade of any country is indicative of both its competitiveness and its ability to take advantage of the global economy. The purpose of this paper is to examine the changes in foreign trade and specialization of the SEE countries for the period 2008-2012.

#### **Theoretical background**

According to an opinion of the European Commission, trade intensification is one of the few ways to stimulate the economic growth and create new jobs without resorting to the extremely scarce public finance. However, the question whether a more intensive international trade will have a positive effect for the opening of a country's economy remains debatable. There are many opinions regarding the relationship between international trade and economic development.

The first proponents of the idea that trade has a positive effect for the national economies and that a country's specialization in the production and marketing of products for which it has certain advantages were Adam Smith and David Ricardo. These ideas were subsequently developed and approved by other researchers, who came up with rather controversial conclusions.

In 1950 Raul Prebisch and Hans Singer found that specialization in primary industries reduces the benefits of international trade and the growth rate of the economy<sup>88</sup>. Their conclusion was later confirmed by other researchers, among whom Bencindoun, Gaulier and Ünal-Kesenci<sup>89</sup>, who concluded that the nature of specialization affects growth. The analysis of the specialization profiles of 53 countries for the period 1967-1997 shows that the GDP per capita of some less-developed economies that shifted from production of consumer goods to more complex (dynamic) products has increased significantly. However, their conclusion that a country's openness does not always guarantee high economic growth was later confirmed by Amable.<sup>90</sup> Since the openness of an economy facilitates the allocation of its resources (technologies, labour, etc.) worldwide, if its international specialization does not promote its technology-intensive industries, its GDP may grow at a much lower rates than that of a closed economy. The empirical results of his study largely confirm the results of Bencindoun, Gaulier and Ünal-Kesenci. Their main conclusion is that countries with a higher degree of specialization and a comparative advantage in the production of electronic products benefit more from their increased productivity compared to countries that do not have a comparative advantage in these industries. A key factor in this regard is the theory of the "learning by doing".<sup>91</sup>The main assumption of this theory is that international trade is the main factor that makes the less-developed countries initially change their product specialization and subsequently their trade specialization as well as they import high-tech products and thus acquire these new technologies and become producers and exporters of such products themselves. For example, such an effect is observed in China.<sup>92</sup>

However, when specialization is too narrow it is considered a potential risk to economic growth because it results in dependence on specific products or countries.<sup>93</sup>

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<sup>88</sup>See also: Zaharieva, G., Iliev, Dr., Sarkisyan, K., Stefanov, G. Foreign trade specialization and economic growth of the EU Member States. Tsenov Academy Publishing House, Almanah scientific research. Volume 17, 2012, pp. 305-332.

<sup>89</sup>Bencindoun, I., G. Gaulier and D. Ünal-Kesenci. The nature of specialization matters for growth: An empirical investigation. CEPII, Document de travail 2001. Op. cit.; see also: B. Amable. International Specialization and Growth.

<sup>90</sup>Amable, Br. International Specialization and Growth, 2000, Op. cit. p.2.

<sup>91</sup>For more details see: Yih-Chyi Chuang. Learning by doing, the Technology Gap, and Growth. International Economic Review, Vol. 39, No.3., 1998, pp.697-721; Weinhold, D. and J. Rauch. Openness, Specialization, and Productivity Growth in Less developed Countries. The Canadian Journal of Economics, Vol. 32, No. 4, 1999, pp. 1009-1027.

<sup>92</sup>Peng Sun, Almas Heshmaty. International Trade and its Effects on Economic Growth in China. DPS, August 2010. (<http://ftp.iza.org/dp5151.pdf>, 1.02.2014).

<sup>93</sup>Kellman, M., Shachmurove. Adam Smith Meets an Index of Specialization in International Trade". PIER Working Paper 10-029 <http://economics.sas.upenn.edu/pier>, 1.02.2014).

## Research methodology

International trade research literature<sup>94</sup> provides a wide range of tools for analyzing the foreign trade performance and the specialization of each country<sup>95</sup>. In our analysis we will use indicators such as the value of exports and imports, net trade, geographic and product concentration<sup>96</sup>, the main export group and the Lafay index of international trade specialization<sup>97</sup>.

These indices were calculated using the statistical database of UN Comtrade (Standard International Trade Classification, Rev.3) and for some of the indices we used data from a second level of disaggregation.

## Results

Although many aspects of the SEE economies are similar, some of them are quite different.

After the initial decrease, in 2010 the international trade began to recover gradually but each of the SEE countries recovered at a different rate (see Fig. 2 and Fig. 3). Overall, however, all countries reported significant deficits in their net trade in goods (see Fig. 4).

The lowest degree of deviation from the average GDP in the period (2008-2012) was reported for Albania (4.02%), Bosnia and Herzegovina (4.28%) and Montenegro (4.37%)<sup>98</sup> while the highest degrees of deviation was reported for Serbia (10.85%), Greece (11.74%) and Moldova (12.41%).

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<sup>94</sup> See: Adamov, V. and Zahariev. A. International Finance. Svishtov, 2014; Damyanov, At. and others. International Economy. V. Tarnovo, Faber, 2011.

<sup>95</sup> Legend of SEE Countries: Albania (AL), Bosnia and Herzegovina (BA), Bulgaria (BG); Croatia (HR); Greece (GR); TFYR of Macedonia (MK), Moldova (MD), (Montenegro (ME), Romania (RO), Serbia (RS), Turkey (TR).

<sup>96</sup> The Hirshman Index and the Herfindahl Index are widely used for this purpose. The Hirschman index is a measure of product concentration of exports. It shows the degree to which a country's export consists of different products. High concentration levels are interpreted as high dependence from the trade with specific products. The values of HI fluctuate between 0 and 1. Values close to 1 indicate a high level of concentration. The geographical concentration is measured by the Herfindahl Index.

<sup>97</sup> Note. The Lafay index value may be below -1 as well as above +1. Positive values of the Lafay index indicate the existence of comparative advantages in a given item; the larger the value the higher the degree of specialisation. On the contrary, negative values points to de-specialisation.

<sup>98</sup> Note. These results show the coefficient of variation of each country's GDP from its average for the period.

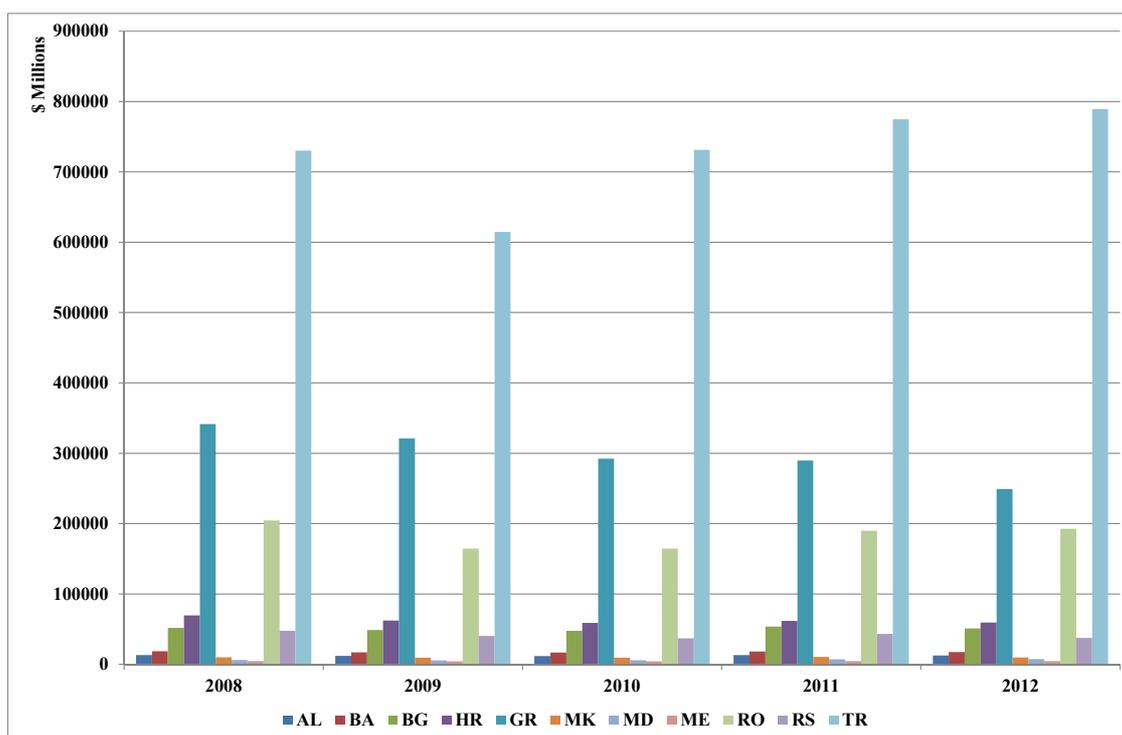
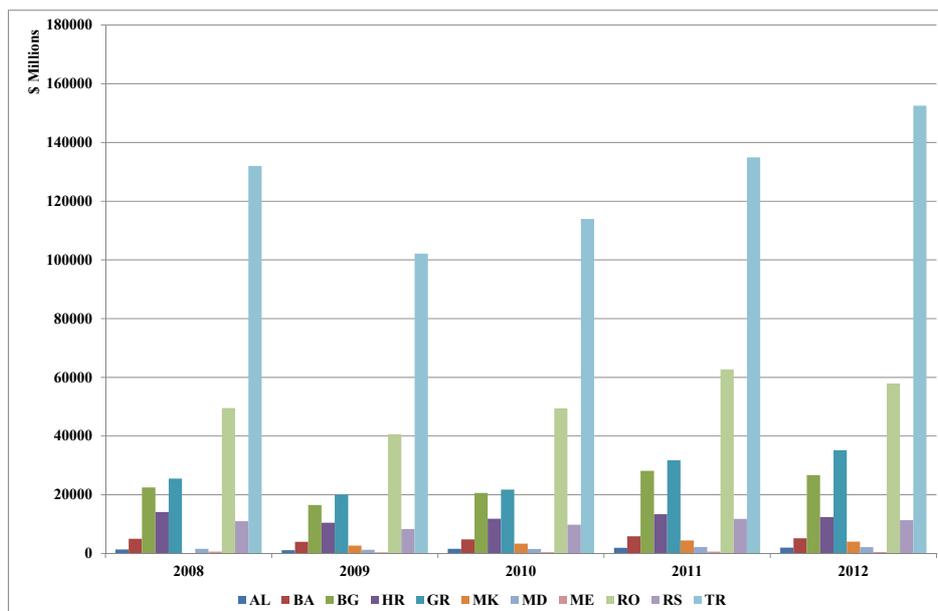


Figure 1. GDP of SEE Countries<sup>99</sup>

The ratio of the range of GDP levels towards the lowest (crisis) annual GDP of each of the 11 SEE countries varies from 9.36% to 37.13% as follows: Albania (9.36%); Montenegro (9.84%); Bosnia and Herzegovina (10.54%); TFYR of Macedonia (12.08%); Bulgaria (12.19%); Croatia (18.21%); Romania (24.33%); Turkey (28.43%); Serbia (29.12%); Moldova (33.34%); Greece (37.13%).

The lowest deviation from the average level of export of goods in the period (2008-2012) was reported for Croatia (11.29%), Serbia (13.29%) and Bosnia and Herzegovina (13.80%). The highest deviation was reported for TFYR of Macedonia (23.34%), Albania (24.07%) and Greece (24.07%).

<sup>99</sup><http://data.worldbank.org/indicator/NY.GDP.MKTP.CD>.

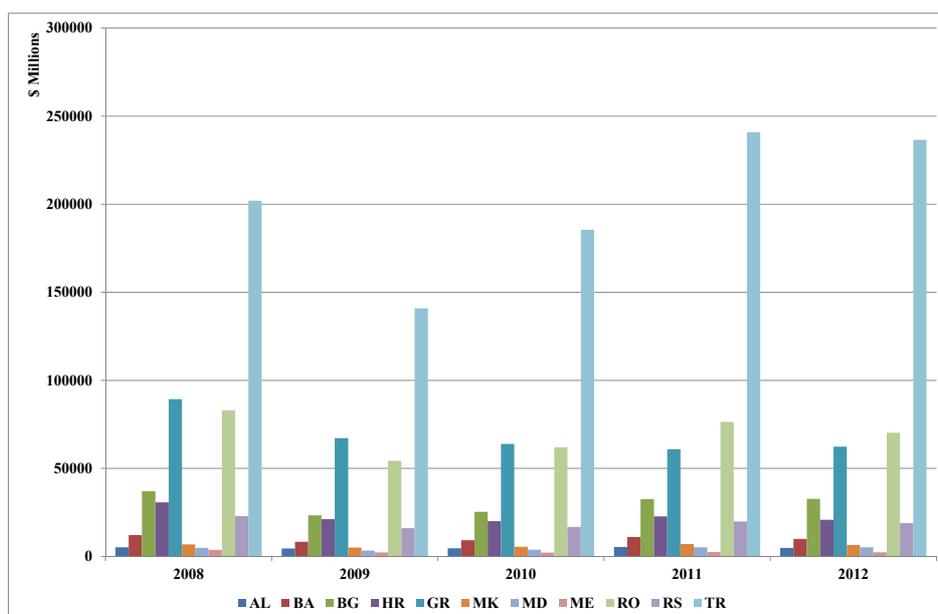


**Figure 2. Export of goods of SEE Countries**

The ratio of range of the levels of export of goods towards the lowest (crisis) annual level of each of the 11 SEE countries varies from 34.6% to 80.9% as follows: Croatia (34.6%); Serbia (41.2%); Bosnia and Herzegovina (48.0%); Turkey (49.3%); Romania (54.3%); Montenegro (61.9%); TFYR of Macedonia (65.5%); Bulgaria (70.7%); Moldova (72.8%); Greece (75.4%); Albania (80.9%).

The lowest deviations of the level of import of goods in the period 2008 – 2012 were reported for Albania (7.68%), Macedonia (14.10%) and Serbia (14.38%) while the highest deviations were reported for Moldova (19.47%), Turkey (20.36%) and Montenegro (24.18%).

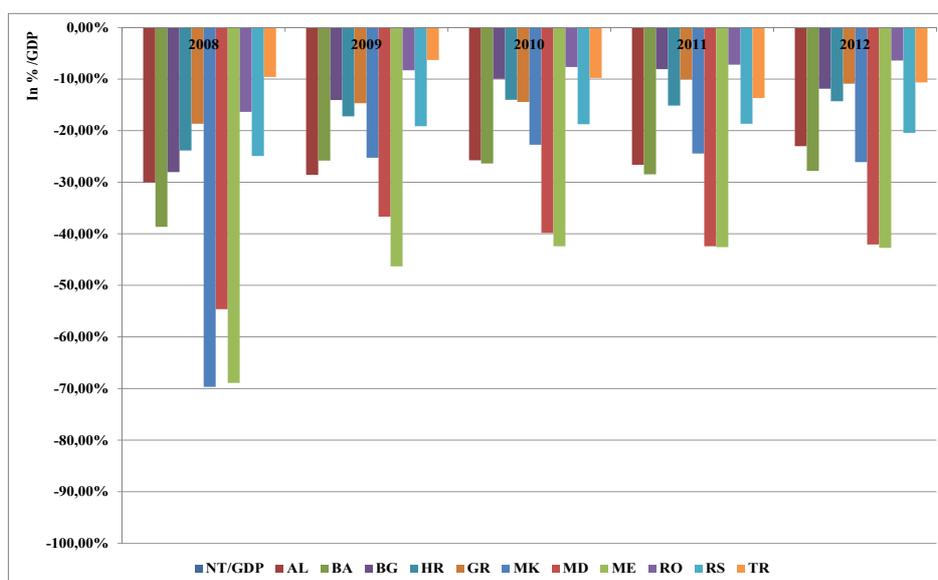
The ratio of range of the levels of import of goods towards the lowest (crisis) annual level of each of the eleven SEE countries varies from 18.63% to 71.00% as follows: Albania (18.63%); TFYR of Macedonia (38.95%); Serbia (42.55%); Bosnia and Herzegovina (45.73%); Greece (46.80%); Romania (52.91%); Croatia (53.12%); Bulgaria (58.59%); Moldova (59.01%); Turkey (70.97%); Montenegro (71.00%).



**Figure 3. Import of goods of SEE Countries**

The comparison of the ration of the annual export/import range (2008 – 2012) and the lowest level of foreign trade operations has shown that export is much more sensitive to the impact of the crisis (an index value of 34.6% for the country with the best level of export (Croatia) vs. an index value of 18.63% for the country with the best level of import (Albania)).

Regarding their net trade in goods all countries reported huge deficits (from 9.19% do 48.58% of GDP) of their balance of payments in the period. The reported average annual deficits (as a percentage of GDP) of foreign trade in goods for the period were as follows: Romania (9.19%); Turkey (10.00%); Greece (13.75%); Bulgaria (14.40%); Croatia (16.90%); Serbia (20.38%); Albania (26.79%); Bosnia and Herzegovina (29.42%); TFYR of Macedonia (33.64%); Moldova (43.12%); Montenegro (48.58%).



**Figure 4. Net trade in goods (in %/GDP) of SEE Countries**

The world trade ranks (see Table 1) of the SEE countries were as follows:

- between 32 and 168 in the export of goods;
- between 28 and 126 in the export of services;
- between 21 and 152 in the import of goods; and
- between 40 and 159 in the import of services.

The best world positions of the SEE countries of the four indices were reported for Turkey, followed by:

- Romania, Greece and Bulgaria in the export of goods;
- Greece, Croatia and Romania in the export of services;
- Romania, Greece and Bulgaria in the import of goods; and
- Greece, Romania and Bulgaria in the import of services.

Most of the SEE countries have a balanced structure of exports and imports. The data show that none of the commodity groups is main group, i.e. has a share higher than 50%. Note that a group that invariably accounts for a relatively high share of the import (as well as the export of some countries) is group 33 (Petroleum, petroleum products and related materials), which is understandable considering the availability of oil fields. The share of this group was particularly high in both the import and the export of Greece in 2012 (see Table 2).

**Table 1. Rank in world trade of SEE countries**

SEE Countries	Rank in world trade, 2012			
	Export		Import	
	Merchan-dise	Com. Services	Merchan-dise	Com. Services
<b>AL</b>	135	101	130	111
<b>BA</b>	110	117	98	158
<b>BG</b>	67	61	63	75
<b>HR</b>	84	49	75	83
<b>GR</b>	62	32	47	48
<b>MK</b>	118	118	117	133
<b>MD</b>	134	126	127	137
<b>ME</b>	168	114	152	159
<b>RO</b>	56	53	43	61
<b>RS</b>	86	80	78	82
<b>TR</b>	32	28	21	40

Other groups with large shares of the foreign of trade of the SEE countries are: 77 (Electrical machinery, apparatus and appliances, n.e.s., and electrical parts thereof (including non-electrical counterparts, n.e.s., of electrical household-type equipment)), 78 (Road vehicles (including air-cushion vehicles)), 67 (Iron and steel); group 68 (Non-ferrous metals), 84 (Articles of apparel and clothing accessories) and 28 (Metalliferous ores and metal scrap.)

10<sup>th</sup> INTERNATIONAL CONFERENCE OF ASECU

Overall, the relative shares of all commodity groups in the international trade of the SEE countries did not change significantly during the period 2008-2012.

The Lafay Index shows that during the period the SEE countries specialized in different commodity groups. Bosnia and Herzegovina, Turkey, Moldova, Serbia and Romania retained and even diversified their specialization, while the international trade positions of other countries such as Bulgaria, Croatia and Greece remained unchanged.

**Table 2. Share of commodity groups in the total foreign trade of SEE countries (2008; 2012)<sup>100</sup>**

SEE Countries	2008				2012			
	Share in export		Share in import		Share in export		Share in import	
	5-10 %	>10 %	5-10%	>10%	5-10 %	>10 %	5-10 %	>10%
AL	33;67	28;84*;85	33;69;78		28;67	84;85;33*	35;78	33
BA	24;28;35;67; 68;69;82			33	28;67;68;69; 82;85		33;78	
BG	67;77;84	33;68	67;78	33	77;84	33;68	28;77	33
HR	33;77	79	79	33	77;79	33		33
GR	05;54;66;67;84	33	54;78	33	05;68	33*	54	33*
MK	05;67 <sup>101</sup>	84*	65;67;78		28;33	59;67*84	65;67;68	33
MD	05;77	11;84	34;77;78	33	11;77	05;84	65;77;93	33
ME	11	67*;68*	33;66;78		28;11	35;68*	35;78	33
RO	33;67;78;84	77	33;67;77	78	74;84	77;78	33;74;77;78	
RS	68;84	67	34;78	33	04;68;77;78		33;34;78;93	
TR	33;65;77	67;78;84	67;78;93	33	65;67;77;78;84;97		33;78	93

**Table 3. Lafay Index of SEE countries (2008;2012)**

SEE countries	2008				2012			
	From 1 to 5	>5	From -1 to -5	< -5	From 1 to 5	>5	From -1 to -5	< -5
AL	28;67	84; 85	04;35;74;77;78		28;67;84;85	33	04;35;54;65; 77;78	
BA	24;28;35;67; 68;71; 82;85		33;78		24;25;52;67;68; 69;82;85;93		33;78	
BG	04;35;84	68	33;34;72;78		04;22;84	68	28;33;34;78	
HR	24;77;79		33;67;78		24;28;77;79		33;35;67;78	
GR	05;68		33;78		05;33;68		34;54;79	
MK	05;11;85;93 <sup>102</sup>	84	65;74;78		05;12;74	59;67; 84	33;35;65;68;78	
MD	05;11;22;27;42	84	33;34;35;78		05;11;22;42;77; 82;84		33;78;93	
ME	67	68	33;35;66;78		24;28;35	68	33;78	
RO	77;79;82;84		35;54;65;78		62;77;78;82;84		33;54;65	
RS	04;05;67;68;84		33;34;72;74;78		04;05;28;62;68; 77;84		33;34;57;93	
TR	05;65;66;67;69; 78;84		28;33;57;93		05;65;67;69;77; 78;84;97		28;33;57	93

On the other hand the advantages of Macedonia and Montenegro in the trade in goods changed significantly (see Table 3).

<sup>100</sup>Note. \* indicates a value greater than 20 %. The table shows only the groups with a relative share of at least 5%.

<sup>101</sup>Calculations for TFYR of Macedonia are for the year 2009 because of lack of information for the year 2008.

<sup>102</sup>Calculations for TFYR of Macedonia are for the year 2009 because of lack of information for the year 2008.

None of the SEE countries reported a significant geographical concentration in terms of both its exports and imports. The highest values of the Herfindahl index were reported for the export of Albania, followed by Montenegro and Moldova because they traded with fewer countries, especially in 2008 (see Table 4). Although the SEE countries trade with partners from all over the world, the EU remains the main trade partner most countries in this region (except for Greece, Moldova, Turkey and Montenegro in terms of export, and for Bulgaria and Bosnia and Herzegovina in terms of import) with a relative share of both their export and import exceeding 50%. Other important partners for many of the SEE countries were Turkey and Russia.

Table 4

SEE Countries	Geographical concentration			
	2008		2012	
	export	import	export	import
Albania	0.401	0.112	0.287	0.129
Bosnia and Herzegovina	0.103	0.078	0.088	0.073
Bulgaria	0.050	0.067	0.049	0.073
Croatia	0.088	0.074	0.069	0.069
Greece	0.049	0.051	0.041	0.050
TFYR of Macedonia	-	0.056	0.134	0.060
Moldova	0.113	0.083	0.139	0.078
Montenegro	0.203	0.092	0.128	0.119
Romania	0.072	0.067	0.069	0.069
Serbia	0.066	0.063	0.061	0.053
Turkey	0.035	0.055	0.035	0.048

The values of the Hirschman index (which measures product concentration of exports) are quite similar. The top ranking countries according to this index are again Montenegro and Albania. In 2008 the groups 67 (Iron and steel) and 68 (Non-ferrous metals) accounted for about 66% of the total export of Montenegro compared to 40% in 2012. The greatest share of Albania's export have groups 84 (Articles of apparel and clothing accessories) and 85 (Footwear.)

Table 5

SEE Countries	Product concentration			
	2008		2012	
	export	import	export	import
Albania	0.128	0.035	0.130	0.040
Bosnia and Herzegovina	0.047	0.036	0.044	0.042
Bulgaria	0.058	0.053	0.056	0.062
Croatia	0.048	0.045	0.040	0.045
Greece	0.043	0.055	0.155	0.128
TFYR of Macedonia	-	0.052	0.096	0.048
Moldova	0.070	0.042	0.063	0.044
Montenegro	0.245	0.041	0.155	0.038
Romania	0.050	0.044	0.052	0.040
Serbia	0.041	0.043	0.035	0.037
Turkey	0.065	0.049	0.053	0.055

In 2012 the trade concentration of Greece increased due to the large volumes of trade in group 33 (Petroleum, petroleum products and related materials) (see Table 5).

\* \* \*

We may conclude that the economic crisis of 2008 has had a tangible effect on the foreign trade of the See countries. After the record low levels of their GDP as well as import and export of goods in 2009, the countries entered a period of gradual recovery and growth (2010-2012). According to the Lafay Index, the most important factor for the post-crisis recovery of the SEE economies was the increase of the volume of their foreign trade with their main trade partners in goods related to their trade specialization.

## Appendix

0 - Food and live animals; 00 - Live animals other than animals of division 03; 01 - Meat and meat preparations; 02 - Dairy products and birds' eggs; 03 - Fish (not marine mammals), crustaceans, molluscs and aquatic invertebrates, and preparations thereof; 04 - Cereals and cereal preparations; 05 - Vegetables and fruit; 06 - Sugars, sugar preparations and honey; 07 - Coffee, tea, cocoa, spices, and manufactures thereof; 08 - Feeding stuff for animals (not including unmilled cereals); 09 - Miscellaneous edible products and preparations

1 - Beverages and tobacco; 11- Beverages; 12 - Tobacco and tobacco manufactures

2 - Crude materials, inedible, except fuels; 21 - Hides, skins and furskins, raw; 22 - Oil-seeds and oleaginous fruits; 23 - Crude rubber (including synthetic and reclaimed); 24 - Cork and wood; 25 - Pulp and waste paper; 26 - Textile fibres (other than wool tops and other combed wool) and their wastes (not manufactured into yarn or fabric); 27 - Crude fertilizers, other than those of division 56, and crude minerals (excluding coal, petroleum and precious stones); 28 - Metalliferous ores and metal scrap; 29 - Crude animal and vegetable materials, n.e.s.

3 - Mineral fuels, lubricants and related materials; 32 - Coal, coke and briquettes; 33 - Petroleum, petroleum products and related materials; 34 - Gas, natural and manufactured; 35 - Electric current

4 - Animal and vegetable oils, fats and waxes; 41 - Animal oils and fats; 42 - Fixed vegetable fats and oils, crude, refined or fractionated; 43 - Animal or vegetable fats and oils, processed; waxes of animal or vegetable origin; inedible mixtures or preparations of animal or vegetable fats or oils, n.e.s.

5 - Chemicals and related products, n.e.s.; 51 - Organic chemicals; 52 - Inorganic chemicals; 53 - Dyeing, tanning and colouring materials; 54 - Medicinal and pharmaceutical products; 55 - Essential oils and resinoids and perfume materials; toilet, polishing and cleansing preparations; 56 - Fertilizers (other than those of group 272); 57 - Plastics in primary forms; 58 - Plastics in non-primary forms; 59 - Chemical materials and products, n.e.s.

6 - Manufactured goods classified chiefly by material; 61 - Leather, leather manufactures, n.e.s., and dressed furskins; 62 - Rubber manufactures, n.e.s.; 63 - Cork and wood manufactures (excluding furniture); 64 - Paper, paperboard and articles of paper pulp, of paper or of paperboard; 65 - Textile yarn, fabrics, made-up articles, n.e.s., and related products; 66 - Non-metallic mineral manufactures, n.e.s.; 67 - Iron and steel; 68 - Non-ferrous metals; 69 - Manufactures of metals, n.e.s.

7 - Machinery and transport equipment; 71 - Power-generating machinery and equipment; 72 - Machinery specialized for particular industries; 73 - Metalworking machinery; 74 - General industrial machinery and equipment, n.e.s., and machine parts, n.e.s.; 75 - Office machines and automatic

data-processing machines; 76 - Telecommunications and sound-recording and reproducing apparatus and equipment; 77 - Electrical machinery, apparatus and appliances, n.e.s., and electrical parts thereof (including non-electrical counterparts, n.e.s., of electrical household-type equipment); 78 - Road vehicles (including air-cushion vehicles); 79 - Other transport equipment

8 - Miscellaneous manufactured articles; 81 - Prefabricated buildings; sanitary, plumbing, heating and lighting fixtures and fittings, n.e.s.; 82 - Furniture, and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; 83 - Travel goods, handbags and similar containers; 84 - Articles of apparel and clothing accessories; 85- Footwear; 87 - Professional, scientific and controlling instruments and apparatus, n.e.s.; 88 - Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks; 89 - Miscellaneous manufactured articles, n.e.s.

9 - Commodities and transactions not classified elsewhere in the SITC; 91 - Postal packages not classified according to kind; 93 - Special transactions and commodities not classified according to kind; 96 - Coin (other than gold coin), not being legal tender; 97 - Gold, non-monetary (excluding gold ores and concentrates)

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