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THE EFFECTS OF TRADE LIBERALISATION AMONG THE SOUTH EASTERN EUROPEAN COUNTRIES

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Abstract: Trade liberalisation brings long-term benefits. Nonetheless, in order to be able to realise those benefits, a creation of a competitive economic structure is required, which would make it possible to successfully participate in the international division of labour.
Building from this fact, this paper analyzes the effects of trade liberalisation between the SEEC. To that end, a method of intra-industry trade has been applied on the example of Croatia, in order to establish dynamic effects of changes in trade flows.
Low level of trade integration and weak midterm growth prospects in inter-sectoral trade represent the biggest threat for the countries in the Region. The threat could be manifested through rising adjustment costs, as a consequence of trade liberalisation, and could, therefore, jeopardize economic stability. Low level of trade integration poses a problem even from the aspect of the policy of international community towards South East Europe in the framework of the Stability Pact.
Key words: intra-industry trade, marginal intra-industry trade, trade liberalisation, SEEC

Sažetak: UČINCI LIBERALIZACIJE TRGOVINE IZMEĐU ZEMALJA JUGOISTOČNE EUROPE. Liberalizacija trgovine jamči dugoročne koristi svim zemljama sudionicama neovisno o njihovoj veličini i stupnju gospodarske razvijenosti. Ipak, u cilju iskorištavanja prednosti koje pruža trgovinsko integriranje, nužno je stvoriti konkurentnu gospodarsku strukturu koja će omogućiti uspješno sudjelovanje u međunarodnoj podjeli rada.
Uvažavajući prethodno rečeno u ovome radu analiziraju se učinci liberalizacije trgovine između zemalja jugoistočne Europe. U tu svrhu primijenjena je metoda mjerenja intra-industrijske trgovine na primjeru Hrvatske sa ciljem utvrđivanja dinamičkih efekata liberalizacije na strukturu trgovinskih tijekova.
Nizak stupanj trgovinske integriranosti i slabi izgledi za rast međusektorske razmjene u srednjem roku predstavljaju najveću prepreku za daljnju ekonomsku suradnju zemalja Regije. Ona se iskazuje kroz mogućnost rasta troškova prilagodbe kao posljedice gospodarskog restrukturiranja što u konačnici može narušiti gospodarsku stabilnost zemlje. Nizak stupanj trgovinske integriranosti u Regiji predstavlja okolnost koju valja sagledati i sa stajališta politike međunarodne zajednice prema zemljama jugoistočne Europe uobličene u Pakt o stabilnosti u jugoistočnoj Europi.
Ključne riječi: intra-industrijska trgovina, marginalna intra-industrijska trgovina, liberalizacija trgovine, jugoistočna Europa.

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INTRODUCTION

Trade liberalisation is among the most prominent topics on the economic policy agenda today, both on the multilateral (WTO) and on the bilateral level, the latter including the creation of regional trading blocs.

Trade liberalisation realised through trade integration has its short-term and long-term effects. In a short period of time, trade creation for a country joining the integration result in an average drop in import prices. The resulting effects are: rising consumer advantage, improved exporters' access to external markets as well as growing competitive pressure on producers selling their goods on home market. Rising competition and economic restructuring are foundations for long-term benefits of trade liberalisation. Among those, one can include increasing investments, technological innovations, an improvement in allocation efficiency as well as stronger involvement in the international division of labour. Economic restructuring, which opens up new possibilities for dynamic economic growth, is also manifested through changes in the structure of trade flows. Namely, trade integration is reflected through the increase in intra-industry trade, a phenomenon described as simultaneous export and import of goods that are close substitutes in consumption as well as with regard to factor inputs (Tharakan/Calfat, 1996, p.70).

Numerous studies have confirmed the existence of interdependence between trade liberalisation and the growth in intra-industry trade (Loertscher/Wolter, 1980, Balassa/Bauwens, 1987, Falvey, 1981). By analysing the determinants of intra-industry trade, it has been proven that the intensity of intra-industry trade between two countries depends on country-specific and industry-specific characteristics.[2]

Considering different country-specific characteristics, the factors that influence the terms of supply and demand for differentiated products, since they generate 'two-way trade', are the most significant of all. Those factors include the level of development (measured by average income *per capita*) and differences in the development level between the countries analysed as well as the average country size (measured by absolute income) and the differences in country size. They also include the existing trade barriers (see: Loertscher/Wolter, 1980, p. 282) and extend to transaction costs which depend on the proximity of trade partners. Namely, geographic proximity is considered to determine the degree of similarity of preferences and consumer habits between countries.[3]

Balassa and Bauwens (1987, p. 928) talk about participation in regional economic integrations and demonstrate their positive influence on intra-industry trade. Differentiating developed and less developed countries, they found that the development level, i.e. differences in development levels between the countries as well as trade barriers are the most significant factors determining the intensity of intra-industry trade among less developed countries. On the other hand, in the trade between developed and less developed countries, all the factors which determined country-

[2] There are, however, other studies which show that trade liberalisation does not necessarily lead to an increase in intra-industry trade. Those findings are explained with regard to the changes in specialisation pattern of the particular economy that realises trade integration (Hamilton/Kniest, 1991).

[3] In analysing the effects of the creation of the 'Single Market', Fontagné *et al.* (1998) also use a wide definition of trade barriers (defined in the 'White Paper' in 1985) which, in addition to tariffs and non-tariff barriers, also include obstacles to free movement of persons, different regulations on financial markets, different technical standards, etc.

specific characteristics of intra-industry trade are proven to be relevant (Balassa/Bauwens, 1987, p. 932).

The growth of intra-industry trade is very important for less developed countries since it stimulates convergence of income, industrial structure, and development level in general with the achievements in developed countries (Fidrmuc/Grozea-Helmenstein/Wörgötter, 1999). Thanks to economic restructuring and institutional reforms realised during the 1990s, the CEEC realised a constant increase in trade integration with the EU, demonstrating in that way a successful catching-up.[4] In this matter, it is noted that less developed countries (predominantly oriented towards inter-sectoral trade) have greater potentials for increasing intra-industry trade flows.[5] However, the ultimate result of trade liberalisation, when less developed countries are concerned, depends to a large extent on the quality of structural and institutional reforms undertaken as a necessary prerequisite for achieving economic compatibility with developed countries.

Despite empirical evidence of the negative influence of differences in average country size of trade partners on their mutual intra-industry trade, one should not neglect the advantages that small economies realise through their intra-industry trade. Since these economies have an above-average level of industrial concentration as well as a modest product differentiation, they are not able to exploit the advantages of the economy of scale by producing for their home market and using only their domestic production factors. Therefore, when small economies are concerned, the elimination of trade barriers can cause a significant increase in intra-industry trade. This is primarily due to the competitive pressure on domestic producers to exploit the advantages of economies of scale by increasing product specialisation and differentiation. That way, assuming growing competitiveness, small economies are in a position to minimise structural adjustment costs which resulting from trade liberalisation. In this case, the adjustment is realised within (instead of between) industries preventing a temporary decrease in allocative efficiency (see: Hamilton/Kniest, 1991).
Considering all the advantages brought about by trade integration, it should be emphasised that they can also be realised in the case of gradual and partial asymmetric trade liberalisation between the participating countries (see: Falvey, 1981).

The aim of this paper is to explore the effects of trade liberalisation between Croatia and the rest of the SEEC, by analysing Croatian trade flows.[6] The main purpose is to determine Croatia´s position at the international market, this being an indicator of economic restructuring as well as being an economic growth determinant. The aim will be achieved through comparison of trade relations between Croatia and the SEEC and Croatia and the EU. The further purpose of the paper is to shed some light on the process of trade integration among the SEEC as an important precondition for their successful

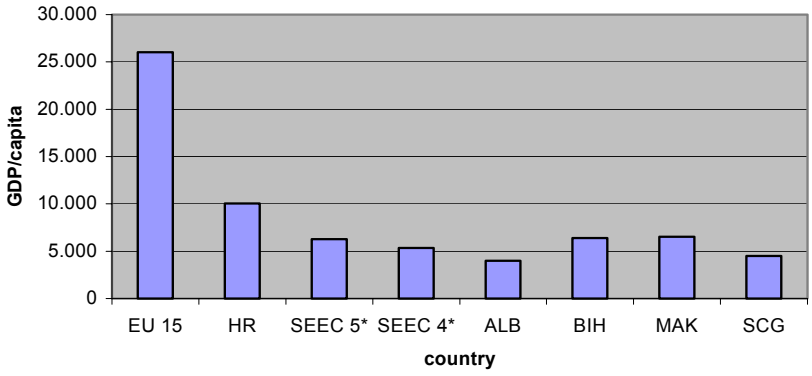
[4] At the end of the 1990s, the countries with the largest share of intra-industry trade with the EU were the Czech Republic (72,9%), Slovenia (67,4%), and Hungary (60,6%), which realised bigger 'trade overlap' then, for instance, Spain, Portugal, Ireland, Finland and Greece in intra-EU trade. The aforementioned countries are followed closely by Slovakia (55,3%) and Poland (50,8%) (Fidrmuc, 2001, p. 76).
[5] This fact is indirectly confirmed by Fontagné *et.al.* who found that the creation of the ″Single Market″ among the developed Western European countries did not contribute significantly to the growth of intra-industry trade but rather to the differentiation of production along the quality spectrum, i.e. to the increase in the horizontal intra-industry trade (see: Fontagné/Freudeuberg/Péridy, 1998, p. 22).
[6] Albania, Bosnia and Hercegovina, Croatia, Macedonia, Serbia and Montenegro.

association with the EU.[7] The importance of these issues has its roots in two circumstances – the transition and the advanced process of economic integration in Europe.

1. THE STATE OF TRADE INTEGRATION OF SEEC

With regard to the actual level of economic development, Croatia, with its 10.030 USD GDP/*capita* (purchasing power parity), is better positioned than the rest of the SEEC. However, the gap between Croatia and the EU is still distinct since Croatia realises merely about 40% of GDP/*capita* of the EU15 average. The same relation in other countries in the Region ranges from 15,4% (Albania) to app. 25% (Macedonia and Bosnia and Herzegovina). Average GDP/*capita* of the entire Region (excluding Croatia) amounts to 5.355 USD, which is 20,6% of the EU15 average (Figure 1).

Figure 1: GDP/capita (USD, PPP); EU 15, SEEC; 2001



*SEEC 5=HR+SEE 4 (ALB, BIH, MAK, SCG)
Source: according to: WIIW-Database, in: Gligorov/Holzer/Landesmann, 2003, p. 2

In the period 1995-2002, GDP/*capita* in Croatia grew on average 8,7% annually, while in other countries the average annual growth rate was much lower amounting to 6,5% (Albania), 7,0% (Macedonia), and 7,9% (Serbia and Montenegro). Only Bosnia and Herzegovina realised a somewhat dynamic growth of 12,9%. After 2002 a general slow down of economic growth in all the countries of SEE can be observed, Croatia being the most obvious example (GDP growth: 2002 5,2%, 2003 4,3%, 2004 3,8%). The highest GDP growth rate in 2004 has been realised in Serbia (8,6%), followed by Albania (5,9%), Bosnia and Herzegovina (5%), Montenegro (3,7%) and Macedonia (2,9%).

[7] In the process of association with the EU, the SEEC have to meet additional criteria concerning regional cooperation which include political dialogue, establishment of free trade area (realisation of the four freedoms), and the cooperation in the area of justice and home affairs (Art. 12 of the Stabilization and Association Agreement between Republic of Croatia and European Communities and their Member States). Moreover, the SEEC have to meet political criteria (democracy, rule of law) prior to starting negotiations on the Agreement.

Although all the countries in the Region achieved a modest growth of GDP/*capita* (in view of the actual development level), it is highly obvious that despite the recent economic slow down Croatia still realises a favourable ratio between the level of development and the income growth dynamics.[8] The GDP dynamics in the SEEC in the second half of the 1990s can be followed in Table 1.

Table 1: Changes in real GDP of SEEC (%); 1995-2004

country	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004*
ALB	13,3	9,1	-7,0	8,0	7,3	7,8	7,6	4,7	6,0	5,9
BIH	50,0	69,0	30,0	15,6	9,6	5,4	4,5	5,5	3,0	5,0
HR	6,8	5,9	6,8	2,5	-0,9	2,9	4,4	5,2	4,3	3,8
MAK	-1,1	1,2	1,4	3,4	4,3	4,5	-4,5	0,9	2,8	2,9
SCG**	6,1	5,9	7,4	2,5	-21,9	6,4	5,1	4,5	2,4	8,6

*preliminary data
** Data for 2002-2004 refer to Serbia without Montenegro.
Source: WIIW - South Eastern Europe Economic Statistics, 2001
WIIW - The WIIW Balkan Observatory

Strong oscillations in GDP dynamics in the countries of the Region point to the fact that in some of them the conditions needed for a long-term stabile growth rate are not yet achieved. Although all the countries (except Serbia and Montenegro) have realised one-digit inflation, the problems lie in a slow increase in industrial production, app. 5% in 2002 (Croatia, Albania), but also in its fall (Macedonia) and stagnation (Serbia and Montenegro). In the last two countries mentioned, one can also note negative net-investments. Along with high unemployment rates and a slow recovery of economic activities, all the countries in the Region face a growing external imbalance as well as slim chances for realising stronger integration on foreign markets on a competitive basis.[9]

Data shown in Table 2 point to the fact that the South and Eastern European Countries (though with some exceptions) realise a relatively low level of trade integration among themselves, however with some signs of improvement after 2000. Assuming the Linder hypothesis on the similarity of income as a condition for increasing trade flows, as well as the similarity in industrial structures among the SEE countries, there is a large potential for intra-industry trade growth in the Region.

[8] The Vienna Institute for International Economic Studies gives Croatia modest growth prospects for 2005 (3%); higher growth rates are predicted for Albania (6,5%), Bosnia and Herzegovina (5%), Macedonia (4%) and Serbia and Montenegro (4%) (WIIW-The WIIW Balkan Observatory).
[9] According to labour force survey: Albania 14,6%, Bosnia and Herzegovina 39,5%, Croatia 15,9%, Macedonia 30,5%, Serbia and Montenegro 12,9% (WIIW – Handbook of Statistics, 2004).

Table 2: Intra-regional trade of SEEC (% of total trade); 1997-2004

	of	ALB		BIH		HR		MAK		SCG	
to	**from**	**EX**	**IM**	**EX**	**IM**	**EX**	**IM**	**EX**	**IM**	**EX**	**IM**
ALB	**2004**			0,1	0,0	0,3	0,0	1,2	0,2	0,4	0,2
	2001			0,0	0,0	0,3	0,0	1,1	0,2	0,0	0,1
	1999			n.a.	n.a.	0,2	0,0	1,2	0,2	n.a.	n.a.
	1997			n.a.	n.a.	0,1	0,0	1,1	0,2	n.a.	n.a.
BIH	**2004**	0,0	0,1			14,1	2,1	1,9	0,3	17,7	2,9
	2001	0,0	0,0			12,4	1,4	2,0	0,3	13,1	2,8
	1999	n.a.	n.a.			12,8	1,5	0,1	0,1	20,3	5,7
	1997	n.a.	n.a.			15,0	1,5	0,1	0,1	17,1	6,0
HR	**2004**	0,1	1,3	18,5	22,7			6,8	3,2	4,2	3,0
	2001	0,3	0,1	10,3	18,8			4,6	2,5	2,1	3,0
	1999	0,1	0,8	15,0	21,1			4,4	3,3	0,5	0,6
	1997	4,8	0,4	18,8	25,2			3,7	4,3	2,3	0,6
MAK	**2004**	0,8	0,9	0,4	0,6	0,9	0,7			7,2	3,5
	2001	1,0	1,2	0,5	0,9	1,2	0,7			9.3	7.6
	1999	1,8	1,6	0,1	0,0	1,5	0,7			11.8	3.8
	1997	2,6	2,1	0,1	0,0	1,8	0,5			8.3	6.1
SCG	**2004**	2,6	0,6	16,2	10,9	3,6	0,8	31,6	11,2		
	2001	1,4	0,1	19,3	7,4	3,3	0,4	29,0	9,1		
	1999	0,2	0,1	26,7	10,5	0,0	0,0	11,8	11,1		
	1997	0,3	0,1	43,7	16,1	0,0	0,0	10,6	10,3		

n.a. – data not available
Source: WIIW - South Eastern Europe Economic Statistics, 2001
WIIW - The WIIW Balkan Observatory

Data in Table 2 show that Albania realises the lowest level of trade integration with the countries in the Region, so much so that the share of other countries in Albania´s export and import does not go over 2,6%. Stronger trade integration is realised among the countries of former Yugoslavia, with strongly manifested regional pattern. Therefore, the most important trade partners for Bosnia and Herzegovina are Serbia and Montenegro and Croatia. On those markets, in 2001, Bosnia and Herzegovina realises 19,3% (Serbia and Montenegro), and 18,5% (Croatia) of its total export. The most significant import market for Bosnia and Herzegovina in 2004 was Croatia (22,7%), followed by Serbia and Montenegro (10,9%). Of all the SEEC, Croatia realises a significant trade integration only with Bosnia and Herzegovina where it places 14,1% of its exports. Macedonia realises strong trade connections with Serbia and Montenegro where it places 31,6% of its exports, while only a small fraction of it goes to Croatian market.

All the data point out that the level of trade integration among the SEE countries after 2001 shows a slight improvement after decrease in the second half of the 1990s. Namely, the SEEC realise most of its trade with non-transition countries (Table 3), where Albania features prominently with only 11,8% of its trade realised with reform economies. High trade shares with non-transition countries are realised by

Serbia and Montenegro and Croatia, the latter achieving an increase in trade share of app. 5 p.p. (1995-2003).

Table 3: Indicators of trade share in SEEC (%); 1995, 2003

country	trade with non-transition countries (% of total trade)		share of trade in GDP (%)	
	1995	2003	1995	2003
ALB	n.a.	88,2	35,8	36,2
BIH	67,3	49,6	66,1	74,8
HR	68,9	74,2	66,6	71,1
MAK	54,2	68,7	59,0	76,2
SCG	n.a.	79,3	n.a.	52,4

n.a. – data not available
Source: EBRD - Transition report, 2002, 2004

However, all the countries realise relatively low total trade integration with the rest of the world. Thus, the share of trade in GDP in the South Eastern European countries varies between app. 35% (Albania) and app. 75% (Bosnia and Herzegovina, Macedonia). Those figures are fairly poor, especially if compared to advanced transition countries.[10] In the observed period, Croatia realised quite a low increase of trade share in GDP.

Despite such unfavourable indicators of economic openness, the SEEC have been showing further improvements in trade liberalisation. Following that positive trend, tariff revenue in all the countries (except Bosnia and Herzegovina) has been lowered (Table 4). Nonetheless, it is still fairly high in comparison with the same indicator in the CEEC which started with the trade liberalisation in the early 1990s, primarily through Europe Agreement with the EU.[11]

Table 4: Indicators of trade liberalisation in SEEC; 1995, 2003

country	tariff revenues (% of imports)		EBRD index of forex and trade liberalisation
	1995	2003	2003
ALB	9,9	12,1	4,3
BIH	n.a.	10,5	3,7
HR	9,5	1,9	4,3
MAK	12,6	5,5	4,3
SCG	n.a.	6,7*	3,3

n.a. – data not available
*2002
Source: EBRD - Transition report, 2002, 2004

As far as the level of liberalisation of foreign exchange and trade system is concerned, Croatia is ranked highest of all (Table 4) which means that all the

[10] Slovakia: 137,3%, Czech Republic: 123%, Hungary: 109,2%, Slovenia: 102,6%.
[11] The Czech Republic: 0,7%, Slovenia: 1,2%, Poland: 2,4%, Hungary: 1,1%, Slovakia: 0,5%.

quantitative and administrative restrictions have been removed, as well as most tariffs in the trade with industrial products. With minimal involvement of state in exports and imports and with the membership in WTO, Croatia meets the standards of developed countries in the area of trade liberalisation.

Trade liberalisation in Croatia has been realised through free trade agreements with all the countries involved in this analysis, i.e. by the Stabilisation and Association Agreement with the EU and by bilateral agreements with the SEEC.[12]

The SAA envisions an asymmetrical liberalisation of trade with industrial and agricultural products in a way that the EU, with the Interim Agreement coming into effect in 2002, lifted most tariffs and non-tariff barriers on the import of industrial products from Croatia.[13] Croatia, for its part, claims right to a gradual elimination of import tariffs for the EU-products is committed to lifting all tariff barriers on industrial products by 2008.

Of all the countries in the Region, Macedonia was the first country with which Croatia implemented trade liberalisation (1997). The liberalisation included a reciprocal lowering of all tariffs on industrial products to the level of 1%, on a one-time basis. A gradual symmetrical lifting of trade barriers with Albania should be implemented through the period of five years, i.e. by 2008. A somewhat shorter period of four years is predicted for trade liberalisation with Serbia and Montenegro, i.e. by 2007. Bosnia and Herzegovina was the only country in South East Europe with which Croatia started to implement an asymmetrical trade liberalisation. A period of five years is predicted for Bosnia and Herzegovina to gradually lift all tariffs on imports from Croatia while lifted all tariffs on imports from Bosnia and Herzegovina on one-time basis.[14]

2. METHODOLOGY OF INTRA-INDUSTRY AND MARGINAL INTRA-INDUSTRY TRADE MEASUREMENT

The most widely known measure of intra-industry trade is the one developed by Grubel and Lloyd (1975, p. 20). According to this measure, 'trade overlap' represents the difference between trade volume and trade balance in a particular industry. For a simpler comparison (between countries and between industries), that measure is expressed as an index:

$$B_i = \left[1 - \frac{|X_i - M_i|}{(X_i + M_i)}\right] \cdot 100 . \qquad \text{i = 1, ..., n} \qquad (1)$$

X and *M* stand for export and import, and *i* stands for industry for which the analysis is being carried out. The index can assume values from $0 \leq B_i \leq 100$ where 0 stands for

[12] In the mid-2003, Croatia had free trade agreements with 35 countries, thus realising a bit more than ¾ of total trade.

[13] SAA also commits Croatia to legal approximation with the *acquis* in those areas that are relevant for successful trade liberalisation – market competition regulation, public procurement, state aid, intellectual property rights, technical standardisation.

[14] According to Free Trade Agreement regulations (Art. 4), stipulated between Republic of Croatia and Bosnia and Herzegovina, free trade zone should have come into effect in 2003, but due to difficulties in the implementation, the time schedule has been moved forward.

nonexistent intra-industry trade and 100 means that total trade in an observed industry has an intra-industry character.

The basic problem encountered in measuring intra-industry trade is categorial aggregation.[15] In the absence of appropriate theoretical views on the unique criteria for the classification of goods into single product groups, empirical evidence show that the three-digit level of SITC is the one that most closely defines the term 'industry'. Therefore, it provides the most comprehensive amount of information about intra-industry trade (Greenaway/Milner, 1983, Grubel/Lloyd, 1975). In view of that, the three-digit level of SITC will be applied in this paper and will serve as a basis for calculating intra-industry trade according to index (1).

To avoid the categorial aggregation effect when calculating intra-industry trade on one-digit level of aggregation the following index will be used:

$$C_j = \left[1 - \frac{\sum_i \left| X_{ij} - M_{ij} \right|}{\sum_i \left(X_{ij} + M_{ij} \right)} \right] \cdot 100 . \qquad \text{i , j = 1, ..., n} \qquad (2)$$

This index represents the value of intra-industry trade on a certain level of aggregation (*j*) which is calculated on the basis of data from an immediately lower level of aggregation (*i*=*j*-1). The value of this index ranges from $0 \leq C_j \leq 100$, and it is interpreted equally as index (1). For the total trade in Croatia, the intra-industry trade index is calculated as weighted average of the intra-industry trade index for each single commodity class (0-9), where the share of each class in the total trade volume was used as weight.

The marginal intra-industry trade index was developed because of the imperfect capacity of the Grubel-Lloyd index (1) to measure the effects of trade liberalisation.[16]

Starting from the premise that trade liberalisation, through allocation of resources, brings about adjustment costs, some authors (Hamilton/Kniest, 1991, Globerman, 1992, Menon/Dixon, 1997) tried to identify and measure those effects via changes in the structure of trade.[17] They proceeded from the idea that the increasing trade in products belonging to the same industry causes a stronger allocation of resources within the industry, thus lowering the adjustment costs. That way, increasing trade can contribute to a growing intra-industry specialisation.

The available methodology for measuring intra-industry trade, the one based on the Grubel-Lloyd index as static measure of 'trade overlap', is not appropriate for measuring dynamic changes in the structure of trade increase as a result of trade liberalisation. This methodology is merely able to establish changes in the share of intra-industry trade in total trade flows by comparing values of intra-industry trade index in two different periods. It was not, however, able to pinpoint exactly how much did the increase in intra-industry trade contribute to the total trade increase or change in the volume of trade (for further details and graphic representation see: Shelburne, 1993,

[15] It is, therefore, necessary to achieve that the analysed product groups match as closely as possible to the term ´industry´ (see: Aquino, 1978; Balassa, 1966).
[16] For further readings see: Greenaway/Milner, 1987 and Greenaway/Tonstensson, 1997.
[17] For an alternative approach to measuring effects of trade liberalisation, see: Azhar/Elliott/Milner, (1988).

p. 831). This brought about the development of the concept of marginal intra-industry trade (Hamilton/Kniest, 1991).

In the following analysis, the marginal intra-industry trade will be calculated according to Brülhart (1994). On the three-digit level of SITC (industry), marginal intra-industry trade will be defined using the following index:

$$B = \frac{\Delta X - \Delta M}{|\Delta X| + |\Delta M|}. \tag{3}$$

This index calculates the share of intra-industry trade in newly created trade flows by using data on the changes in exports ($\Delta X = X_t - X_{t-1}$) and imports ($\Delta M = M_t - M_{t-1}$) between two periods. The value of this index can range from $-1 \leq B \leq 1$. Thus, it gives two kinds of information – with its sign, it shows the interdependence between the increase in exports and imports, while with its value it gives information on the share of intra-industry trade in the total increase in the volume of trade. Negative sign stands for the increase in deficit realised in a particular industry due to liberalisation, which points to the decrease in international competitiveness; positive sign stands for the improvement in the international market position realised through a more dynamic rise in exports. The value of the index 0 marks that the total trade increase was completely realised through the intra-industry trade increase, while value (-)1 marks that the inter-industry trade was the sole contributor to the changes in the volume of trade.

In order to avoid aggregation problems during the calculation of marginal intra-industry trade on the one-digit level of SITC, this paper uses an index which was specially designed for the purpose (Brülhart, 1994, p. 905), as follows:

$$A = \sum_i w_i A_i$$ i

where index A_i is calculated in a following way:

$$A = 1 - \frac{|\Delta X - \Delta M|}{|\Delta X| + |\Delta M|} \tag{5}$$

and weight is calculated as:

$$w_i = \frac{|\Delta X|_i + |\Delta M|_i}{\sum_i \left(|\Delta X|_i + |\Delta M|_i \right)}. \qquad \text{i = 1, ..., n} \tag{6}$$

Index (4), which represents the weighted average of the marginal intra-industry trade indexes calculated on the lower level of aggregation, can range as follows: $0 \leq A \leq 1$; 0 marks the absence of marginal intra-industry trade (increase in intra-industry trade did not contribute to the total trade increase). Value 1 marks that the trade increase was achieved solely due to the increase in intra-industry trade.

3. CROATIAN INTRA-INDUSTRY TRADE WITH EU AND SEEC

Analysis of the intra-industry trade shows that Croatia realises the biggest 'trade overlap' with the EU, app. 40%, while with the South Eastern European countries the level of intra-industry trade considerably lags behind – Macedonia and Serbia and Montenegro 20% each, and Bosnia and Herzegovina 16%. In addition to having a very low level of trade integration with Albania, Croatia also realises an exceptionally weak intra-industry trade with this country, only 0,5% (Table 5).[18] In general, one can say that Croatia realises most of its trade with the analysed countries through inter-sectoral specialisation.

Although the biggest portion of intra-industry trade in Croatia is realised through manufacturing industry (classes 5-8, SITC), it is obvious that in some cases an above-average 'trade overlap' is achieved with goods found in the following classes: 2 – crude materials (Bosnia and Herzegovina, Serbia and Montenegro), 1 – beverages and tobacco (Macedonia), and 3 – mineral fuels (EU). In those cases, the commodities in question are usually natural cork, pulp and waste paper, crude minerals, various sorts of waste, and unprocessed tobacco. The highest level of intra-industry trade with the EU Croatia realises in class 3 by exchanging petroleum oils, residual petroleum products, and natural gas. In class 0 – food and live animals, Croatia realises a high share of intra-industry trade with the EU by trading in meat and meat preparations, fish (prepared or preserved), and in a smaller part by exchanging fruit preparations. In trade with the SEEC in class 0 there are for the most part vegetables and fruit, fruit juices and various cereal preparations.

Table 5: Croatian intra-industry trade with EU 15 and SEEC; 2001

	EU 15	ALB	BIH	MAK	SCG
TOTAL	41,03	0,51	16,42	23,36	21,22
0 - food and live animals	27,48	0,31	17,46	20,05	14,78
1 - beverages and tobacco	23,93	0,00	5,65	32,32	2,21
2 - crude materials	21,94	5,00	21,85	19,23	29,77
3 - mineral fuels	63,52	0,00	0,65	0,00	7,83
4 - animal and vegetable oils&fats	18,03	0,00	5,37	13,03	46,21
5 - chemicals	28,45	0,00	7,20	57,23	24,96
6 - manufactd goods by material	43,56	0,07	17,40	12,66	38,04
7 - machinery&transport equipment	33,83	1,09	20,11	18,46	39,88
8 - miscellaneous manufactd articles	54,62	9,74	45,98	26,10	55,81
9 - commodities nec	78,63	0,00	0,00	0,00	-

Source: DZS - data series: exports and imports of Croatia, 2001

In class 5 – chemicals and related products, a high share of intra-industry trade is realised in the following commodity groups: inorganic chemical elements and oxides

[18] In the total volume of trade of Croatia, Albania realises an unsignificant share of 0,017%, while Macedonia realises 0,96%, and Serbia and Montenegro 1,59%. The biggest share in the total volume of trade in Croatia in 2001 was realised by the EU 15 (65%), while Bosnia and Herzegovina participate with 12,09%.

(522), medical and pharmaceutical products (541), polymers and primary forms (571), various organo-inorganic compounds (515), and different kinds of polyethers (574). In the exchange of goods with SEEC, a significant 'two-way trade' is realised with organic chemicals (516), and organo-inorganic compounds, pigments, paints and related materials (533), as well as medicaments (542) and medical and pharmaceutical products. An above-average share of intra-industry trade is also effectuated with plastics in non-primary forms (58).

In the intra-industry trade between Croatia and all the countries analysed, with commodities from class 6 – manufactured goods classified by materials, a significant portion is occupied by the following: veneers and wood manufactures (634, 635), while paper and paperboard (641) dominate in trade with the SEEC. A large portion of intra-industry trade with the countries from the Region goes to textile yarn, cotton, and woven fabrics of natural materials (65). Articles of textile materials dominate in trade with the EU. Non-metallic mineral manufactures represent another important sector of the simultaneous export and import, in particular fabricated construction material and glassware (with the EU), and clay constructions and other mineral manufactures (66) with the SEEC. With iron and steel products, intra-industry trade is effectuated with flat-rolled products (including non-alloy steel), and iron and steel wire (67), as well as with various manufactures of metals, such as metal structure and parts, nails, screws and similar articles, cutlery and household equipment of base metal (69).

As for machinery and transport equipment (class 7), Croatia realises a dominant share of intra-industry trade with the SEEC (particularly with Macedonia and Serbia and Montenegro) primarily through specialised machinery, such as: power-generating machinery (718), agricultural and civil engineering machinery, as well as paper and pulp mill machinery, and printing and food-processing machines (72). Other types of equipment that also belong to this group are other metalworking machinery (737), heating and cooling equipment and compressors for various purposes (74), then electrical and non-electrical equipment for household, other equipment for electrical distribution, other electrical machinery and apparatus (77), parts for motor vehicles (78), railway vehicles (791) and boats (793).

In trade with the EU there is a predominance of simultaneous flows of internal combustion piston engines (713), metalworking machinery, and electrical power machinery.

As far as the trade in miscellaneous manufactured articles (class 8) is concerned, Croatia realises a high level of 'trade overlap' with various kinds of clothing, apparel and textile fabrics (84), and footwear (851). Photographic apparatus (881) and cinematographic supply (882), measuring and controlling instruments (874) and printed matter (892), and products of plastics (893) all represent commodities which contribute to intra-industry trade in this class.

This analysis points to certain differences in the level of concentration of intra-industry trade in Croatia on particular industries. Namely, intra-industry trade with the EU is realised through a small number of industries (higher concentration) and ultimately achieves higher values of the intra-industry trade index. In the case of the SEEC, Croatia realises 'two-way trade' through larger number of industries with lower shares of single industries.

From the available data it is evident that Croatia, in trading with the EU, has reached a relatively high level of intra-industry trade in particular industries and that, therefore, its long-term efforts should be focused not only on further increase in the

level of existing intra-industry trade but also on creating new trading opportunities within those industries so far characterised by inter-industry specialisation. Consequently, Croatia should focus its efforts on economic restructuring by creating investment incentives and attracting cutting edge technology. This would make Croatia an internationally competitive economy and would ensure its stable position on the international market. On the SEEC market, Croatia should make an effort to increase the level of intra-industry trade in those industries in which it is being realised at present (including the expansion of the industrial base which would realise the intra-industry trade). Such strategy calls for economic restructuring (not just in Croatia) and it could, in turn, have a role in improving Croatia´s external positions in the medium run.

4. THE EFFECTS OF TRADE LIBERALISATION MEASURED BY MARGINAL INTRA-INDUSTRY TRADE

Data in Table 6 show that, in the analysed period (1995-2001), Croatia realised a low level of marginal intra-industry trade, i.e. that, for the most part, changes in the volume of trade were realised through variations in inter-industrial trade flows. The highest marginal intra-industry trade, on the level of single commodity class, was realised in trading with machinery and transport equipment with the EU (45,95%). It could generally be said that the manufacturing industry sector is relatively well represented in Croatia´s marginal intra-industry trade, both with the EU as well as with Bosnia and Herzegovina and Macedonia, in classes 6 and 8 (Table 6).

Croatia did not realise a significant increase in intra-industry trade of chemical products with any of the countries. Therefore, commodity classes 5 and 4 are among those which, with the increase of intra-industry trade, least contributed to the total trade increase. Croatia realises low levels of marginal intra-industry trade with the EU (up to 10%) also in class 0 – food and live animals, specifically by increasing trade of live animals (001), meat and meat preparations (01), and dairy products (023, 024). In class 1, Croatia sees a significant increase in intra-industry trade in alcoholic beverages (112) with the EU, non-alcoholic beverages (111) with Serbia and Montenegro as well as in unprocessed tobacco (121) with Bosnia and Herzegovina and Macedonia.

Table 6: Croatian marginal intra-industry trade with EU 15 and SEEC; 1995-2001

	EU 15	ALB	BIH	MAK
0 - food and live animals	0,0818	0,00	0,0315	0,0830
1 - beverages and tobacco	0,2394	0,8877	0,0279	0,3120
2 - crude materials	0,1046	0,00	0,2248	0,2536
3 - mineral fuels	0,2279	0,00	0,0242	0,0074
4 - animal and vegetable oils&fats	0,0386	0,00	0,0412	0,0081
5 - chemicals	0,0683	0,00	0,0902	0,0649
6 - manufactd goods by material	0,2098	0,00	0,2047	0,1216
7 - machinery&transport equipment	0,4595	0,00	0,1545	0,0795
8 - miscellaneous manufactd articles	0,3242	0,00	0,2054	0,1545
9 - commodities nec	0,0059	0,00	0,3002	0,00

Source: DZS - data series: exports and imports of Croatia, 1995, 2001

In Croatia´s newly created trade flows the class of crude materials (2) contributed with the increase in intra-industry trade only with the SEEC (except with Albania), while the increase in intra-industry trade with the EU in this class is insignificant, focused solely on certain types of oil seeds (223) and pulp (251).[19] In trade with the countries from the Region, in the same class of commodities, there is a predominance of skins (211), synthetic rubber (232), wood, simply worked (246, 248), and metal waste and scrap (288).

In class 3, Croatia has a high marginal intra-industry with the EU, mostly due to 'trade overlap' in coke and semicoke (325), and natural gas (343); increase in intra-industry trade with Macedonia relates almost entirely to residual petroleum products and related materials (335).

Low values of the marginal intra-industry trade index in class 5 – chemical products, is confirmed by a weak increase in intra-industry trade on a lower level of aggregation (3-digit SITC). Thus, in trade with the EU there was not any relevant upturn in intra-industry trade in any of the industries, while in trade between Croatia and the countries from the Region there was a significant upswing in intra-industry trade (1995-2001) in synthetic organic colouring components (531), medicinal and pharmaceutical products (541), cosmetics and toilette preparations (553), plastics in primary (mostly polymers) and non-primary forms (tubes, pipes, plates, sheets etc.) including monofilament (583).

A notable rise in intra-industry trade, and a contribution to the total trade increase, was achieved in machines and transport equipment (class 7). Similarly to the pattern of intra-industry trade established in the previous analysis, in this case, too, there is a more intensive marginal intra-industry trade between Croatia and the EU (rather than with the SEEC) with the concentration on smaller number of industries. Namely, lower level of marginal intra-industry trade with the SEEC is realised through larger number of industries which, by increasing their intra-industry trade, contributed to the total trade increase.

As for marginal intra-industry trade with the EU, high values were achieved in the following commodities: internal combustion piston engines (713) and non-electric engines and motors (714), but also in food-processing machines (727) and metalworking machinery (731), as well as specialised machines for particular industries (728, 723). Non-electrical parts of machinery (749), telecommunication equipment (764), various electrical machines and apparatus (778) as well as parts and accessories for different types of motor vehicles (784), motorcycles (785), trailers and semi-trailers (786), all contributed to a relatively high level of marginal intra-industry trade in this class of commodities. However, number of industries that contributed to the total trade increase in the SEEC with their intra-industry trade flows, is much bigger. Commodities which fall under this category are power generating machinery (718) and almost all kinds of specialised machines for particular industries (718-737). Then, heating and cooling equipment (741), pump and compressors for various purposes (743), electric power machinery (771), equipment for electrical distribution (773) as well as commodities from groups 784-786 (previously mentioned in the part about the EU), and railway vehicles (791) and ships (793).

[19] The analysis of Croatian marginal intra-industry trade with SEEC does not include Serbia and Montenegro due to non existent trade flows in 1995.

Regarding manufactured goods classified by material (class 6), a considerable contribution to trade growth through intra-industry trade was achieved in the following: leather manufactures (612), simple manufactures of rubber (21), and in trade with the SEEC also in veneers (634), cork manufactures (633), and paper and paperboard (641). The textile industry, with the increased intra-industry trade, considerably participates in trade flows, but for one difference – trade between Croatia and the EU is realised, mostly, through made-up articles of textile materials (658), while in trade with the SEEC there are also textile yarn (651) and different kinds of fabrics (cotton or of manmade textile materials - 65). A significant contribution to the total trade increase was also realised through 'trade overlap' in various mineral manufactures for construction (66) as well as in iron and steel products (67) which, in this case, include flat-rolled products and wire; also belonging to this class are aluminium, lead and manufactures of metal (694, 695).

In class 8 – miscellaneous manufactured articles, the highest share in changes of the trade volume is realised through clothing and footwear, and less through precise mechanic products such as meters and counters (873), controlling instruments and apparatus (874), optical instruments (871, 874), and also through various articles of plastics (893).

The analysis shows that Croatia realises a relatively low level of marginal intra-industry trade, and that the increase in intra-industry trade in the second half of the 1990s (with the exception of Serbia and Montenegro) mostly concentrated in small number of industries. It is very disconcerting that a significant increase in intra-industry trade is realised in those classes characterised by resource intensity of production and low value added, while, the class of chemical products (high technological intensity) has minimal values of marginal intra-industry trade. Such circumstances point to existing limitations in further increase in intra-industry trade, thus confirming the importance of technological innovations and economic restructuring. Both factors would, in turn, through strengthening of intra-sectoral specialisation, enable the countries in the Region to draw further advantages from trade liberalisation and to be more competitive on the international market.

CONCLUDING REMARKS

The previous analysis indicates a still dominant inter-sectoral specialisation in Croatia which results in low level of intra-industry trade and in its weak growth. Although Croatia realises a stronger intra-industry trade with the EU than with the SEEC, further efforts should be undertaken to exploit the existing possibilities on both markets. Namely, a low level of intra-industry trade with the countries from the Region calls for an increase in intra-sectoral trade, while low marginal intra-industry trade realised between 1995-2001 proves that there are still possibilities for making use of the advantages offered by economy of scale as well as for a stronger trade integration among the SEE countries. A fairly high concentration on small number of industries by which Croatia realises intra-industry trade with the EU, reveals a need for increasing the number of industries able to enter the international division of labour on a competitive basis. All the above said requires economic restructuring and technological innovations because, otherwise, it will not be possible to reverse negative tendencies in foreign trade which all the countries from the Region are facing. Moreover, without modernisation of obsolete and uncompetitive production, the liberalisation process

under the dominance of the inter-industry trade, could cause high adjustment costs which, in turn, could jeopardize economic stability.

The present state of trade integration among the SEEC can be evaluated, with regard to the goals of the Stability Pact, as being fairly poor. The economic stabilisation, as a necessary precondition for economic restructuring and increase in trade flows, has been slowed down by the postponed reforms. However, gradual trade liberalisation still offers possibilities for the SEEC to undertake the necessary reforms and thus seize the advantages of successful trade integration as a basis for a long-term economic growth.

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