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SEE and the Trade Potential of Croatia

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About

Shortly after the end of the Kosovo war, the last of the Yugoslav dissolution wars, the Balkan Reconstruction Observatory was set up jointly by the Hellenic Observatory, the Centre for the Study of Global Governance, both institutes at the London School of Economics (LSE), and the Vienna Institute for International Economic Studies (wiiw). A brainstorming meeting on Reconstruction and Regional Co-operation in the Balkans was held in Vouliagmeni on 8-10 July 1999, covering the issues of security, democratisation, economic reconstruction and the role of civil society. It was attended by academics and policy makers from all the countries in the region, from a number of EU countries, from the European Commission, the USA and Russia. Based on ideas and discussions generated at this meeting, a policy paper on Balkan Reconstruction and European Integration was the product of a collaborative effort by the two LSE institutes and the wiiw. The paper was presented at a follow-up meeting on Reconstruction and Integration in Southeast Europe in Vienna on 12-13 November 1999, which focused on the economic aspects of the process of reconstruction in the Balkans. It is this policy paper that became the very first Working Paper of the wiiw Balkan Observatory Working Papers series. The Working Papers are published online at www.balkan-observatory.net, the internet portal of the wiiw Balkan Observatory. It is a portal for research and communication in relation to economic developments in Southeast Europe maintained by the wiiw since 1999. Since 2000 it also serves as a forum for the Global Development Network Southeast Europe (GDN-SEE) project, which is based on an initiative by The World Bank with financial support from the Austrian Ministry of Finance and the Oesterreichische Nationalbank. The purpose of the GDN-SEE project is the creation of research networks throughout Southeast Europe in order to enhance the economic research capacity in Southeast Europe, to build new research capacities by mobilising young researchers, to promote knowledge transfer into the region, to facilitate networking between researchers within the region, and to assist in securing knowledge transfer from researchers to policy makers. The wiiw Balkan Observatory Working Papers series is one way to achieve these objectives.

The wiiw Balkan Observatory

Global Development Network Southeast Europe

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SEE and the Trade Potential of Croatia[1]

0. Introduction

The question of the trade regime for Central and Eastern European countries (CEEC) has during the last decade been the subject of an intense discussion amongst the policymakers and academia from both within the region and from the EU. The main issues around which the discussion has concentrated were those of enhancing the catching-up process by the means of trade liberalization, and protection of the "sensitive" industries within the EU.

Regarding the design of the trade regime for the South-East European (SEE) countries[2], the issue of the speed of their accession towards the EU, and/or regional approach has added a new component to the discussion. Although the EU has recently engaged into the asymmetric trade liberalization with respect to the region ("Western Balkans"), that policy has an expiry date at the beginning of 2003. By that time it should become clearer what the design of the trade policy between these countries and towards the EU, as its main trading partner, will look like.

The current discussion has not been very insightful with respect to the "hard facts" on the present level of integration within the region and its relationship with the EU. An obvious fact is that all countries have in one way or the other been excluded from international trade integration during the nineties. Also, it is obvious that the region is an economic dwarf, which makes any serious competitive threat to the EU highly unlikely.

In this paper we first present some stylized facts on the Croatian trade, and the SEE trade. Second, we analyze the level of trade integration within the region, using the simple tools as trade openness ratio and trade concentration indices. We try to explain why the trade development in Croatia did not observe the canonical transitional behavior. Then we run a single country gravity model in order to get more insight into the trade potential of Croatia. Three scenarios are calibrated in order to determine trade potential of Croatia with respect to the SEE, EU and CEFTA countries. We also run gravity regressions by sector, which are supposed to reveal which sectors have highest trade potential, and look at the link between the trade and FDIs. Finally, we discuss the "right" design of the trade regime for Croatia and SEE.

1. Trade and Transition: The Forces at Work

A typical transition country can be described as a small and open economy often with a newly (re)gained independence. Croatia, indeed, fits quite well into this definition. At the onset of transition,

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[2] SEE countries are here defined as Croatia, Bosnia and Herzegovina, Yugoslavia, Macedonia and Albania, i.e. "trade isolated" countries that were neither the EU candidate countries nor CEFTA members.

three distinct forces were shaping the trade pattern of a typical transition country. First was a collapse of the CMEA. Another contribution to a new economic geography was a dissolution of supranational states like the USSR, Czech Republic and Yugoslavia. Third was an increase in trade openness ratio (TOR) as a consequence of the policies of stabilization, liberalization and privatization.

1. Although former Yugoslavia was not a member of the CMEA, its collapse, which accompanied the fall of the Iron curtain, led to a diversion of excess trade with that block. Havrylyshyn and Pritchett (1991) suggest, on a basis of an estimated gravity equations, that during the period 1980-1982 Yugoslavian trade with the CEEC's exceeded the "natural" by 13 percentage points of the total trade. At the same time, trade with Northern Europe fell short of "natural" trade by 18 percentage points. This was fairly small in comparison with their estimates of trade reorientation needed in other CEEC's. For example, it was estimated that Czechoslovakia needed trade reorientation accounting for more than 70 per cent of its total trade. Based again on a gravity approach, Wang and Winters (1994) draw somewhat different conclusion for the year 1985. Although intra-CMEA trade, according to their estimates, broadly matched the potential, trade with market economies fell by and large below the potential. Hungary appeared to be the most open of the CEEC's with the actual trade with market economies reaching 30% of the potential. Unfortunately, Wang and Winters did not estimate the potential trade for Yugoslavia, but one can assume, on a basis of other studies, that Yugoslavia (Croatia) suffered from less trade bias than other CEEC's.

Baldwin's (1994) results for the last pre-transition year 1989 confirmed that there was too much intra-CEEC trade. The extent of trade diversion varied from 160% of excess trade with the East for Romania to 40% for Poland. Potential CEE exports to EU-12 were 4,8 times higher than the actual, while the potential EU-12 exports to CEEC's were 2,1 times higher than the actual. Although Croatia was at that time still a part of Yugoslavia, which prevented comparison of potential with actual values, Baldwin has also estimated a pattern of potential Croatian exports. According to these estimates, the EC-12 should in the long run become the destination for around 60% of Croatian exports. If exports to EFTA-6 are also added, this increases the share to 76%.

In addition, Baldwin presents the projection of trade pattern in the scenario of partial income catch-up. Although the effects of the partial income catch-up would make the trade amongst the CEEC's remain important, trade with the Western Europe will become dominant with the trade share ranging for different countries between 50% and 70%.

Even though different studies come to different quantitative conclusions with respect to the intra-CEEC trade, they all agree that prior to the collapse of the CMEA there existed a large potential for an increase in trade with the Western countries. The main reason behind the different estimates, apart

from the differences in the estimation methods, samples and periods for which the simulation exercises were run, lies in the great uncertainty about the exact values of the relevant variables. This is especially true for the GDP of the CEEC's and the value of trade flows that existed amongst them, estimates of which varied a great deal.

Although trade reorientation that was caused by the CMEA collapse led to a slump in demand, it was not necessarily bad since it helped the convergence towards the "natural" patterns. Indeed, most of the CEEC's recovered fairly quickly as their exports to the EU grew at double-digit rates.

2.   The dissolution of the supranational states left the inheritance of large home country biases in trade structure amongst the successor states. Even if the impact of the war that followed the Croatian separation from Yugoslavia is neglected, the emergence of the borders, dividing previously united economic area necessarily leads to a decrease in the level of trade between the newly independent countries. In other words, a division of a country decreases home bias that existed in trade, although it usually takes a long period of time before the effect fully takes place. One can observe wide spectrum of opinions with respect to reasons that lead to the fall in trade. While Djankov and Freund (2000) consider home-bias to be mostly a result of tariffs and endogenous historical developments which are specific for each country (e.g. the development of the transport network and other infrastructure, production and consumption chains, and business networks), other researchers add a number of other reasons. Rose (2000) points to the role that common currency has in promoting trade amongst countries (some of the most obvious reasons are disappearance of the costs of exchange as well as exchange rate uncertainty). One also has to take into account the costs of acquiring information, which increases when one is doing business over the border (see, for example, Obstfeld and Rogoff, 2000).

Classical case of separation is the incidence of Austro-Hungarian Empire break-up in 1919 (de Ménil and Maurel). According to their estimates, five years after the break-up trade decreased to 60% of the pre-war level, which was still four times more than what would have been expected according to the gravity model.

Contemporary estimates of home country bias in trade for high-income economies vary across countries as well as across different studies. McCallum (1995), pioneering the area, estimated the bias for Canada using the 1988 data for provinces. He shows that Canadian provinces, after controlling for size and income, used to trade 22 times more amongst themselves than with US federal states. Later studies present somewhat lower estimates. Helliwell (1998) found that during the period 1993-96 Canadian provinces traded 12 times more between themselves than with US federal states. Wei (1996) estimated home trade biases for a number of countries. The average value of bias for an OECD country during the period 1982-94, after controlling for a number of possibly important factors

(adjacency, remoteness, language), was about 2.3, which is much smaller than the previous estimates. However, this still means that national borders play an important role in directing trade flows. The estimated home country bias showed a great deal of variation through the sample - USA exhibited the smallest bias of only 1.4, while Portugal exhibited highest with internal trade exceeding external by the factor of 5.7.

One cannot look at the home country bias without taking into account the level of openness, which represents the other side of the coin. Since larger countries have a natural tendency to trade less with abroad, in comparison to smaller countries, it is possible to overcame shortcomings of the simple trade openness ratio (TOR) by looking at the home country bias in trade.

The secession, quite naturally, increases the level of openness of the country because it turns previously domestic trade into foreign trade. However, due to a decrease in home country bias, it is quite possible that the post-secession foreign trade separation is smaller than total trade that a country previously conducted, both domestic and foreign.

3.   Before the transition started, except for trade flows that existed amongst them, transition countries were relatively closed economies. This was a consequence of restrictions that central planning imposed, and of the planner's aspirations to insulate the country from influences of the world economy. One of the manifestations of that phenomenon was rather high home country bias, estimated for the successor states.

Former Yugoslavia was, by international standards, not an exception to this rule, although some of the studies mentioned suggest that the quantity of trade distortions in Croatia was lower in comparison to other transition countries. The share of merchandise exports and imports in GDP in 1987, five years prior to the break-up, was less than 40% (World Development Report, 1989). Croatia, accounted for a quarter of Yugoslavian GDP (Sirotkovic, 1996). The data from the 1987 input-output tables reveal that Croatian trade with former Republics was more than two times larger than overall foreign trade. Although detailed estimates of the home country bias in trade for former Yugoslavia are not available, from this figure one can guess that trade amongst the former Yugoslav Republics exceeded trade with other countries by a high multiple even after controlling for factors such as income and distance. Abundant foreign trade regulations that existed together with control over foreign exchange were the main impediments to larger foreign trade.

Fidrmuc and Fidrmuc (2000) present a partial piece of evidence on the size of home country bias in former Yugoslavia. According to their study, the level of trade between Slovenia and Croatia in 1990, prior to the break-up, exceeded the normal level 24 times. This figure is rather high in comparison to

the above-mentioned estimates of home country biases that are present in high-income countries, but low in comparison to other transition countries. For example, according to the same study, trade flows amongst the three groups of newly independent countries: former Republics of the Czechoslovakia, Baltic States and the Belarus-Russia-Ukraine exceeded the normal by 41-43 times. Even a number of years after the separation (in 1998), the levels of trade still surpassed the effect of PTA's that replaced unitary states. The level of trade between Croatia and Slovenia exceeded the "normal" two times, between the Czech and the Slovak Republics it was seven times, 13 times between the Baltic states and 30 times between Belarus, Russia and Ukraine.

Havrylyshyn (1998) showed that countries that have made the most progress in structural reforms have also gone farthest in diversifying their exports to new destinations - at least regarding the EU. This points to the fact that there is a correlation between domestic policies and the convergence of actual and potential trade structure. The second regularity observed by Havrylyshyn is the relationship between the progress of reforms and the level of openness. This is in concordance with the predictions based on gravity equations and assumed impediments to trade that were present before the reforms took place.

In addition to the three issues mentioned above, which affect trade in more or less unambiguous manner, GDP growth also plays an important role in driving the quantities of international trade and the levels of openness. Those countries that grow faster end up trading more both in volumes and as a share of GDP. Others, less fortunate, may turn out to have lower trade shares and volumes.

2. Croatia: A Somewhat Different Story

At the time of the declaration of independence, with the TOR being as high as 88%, Croatia was an open economy, much more open than former Yugoslavia ever was. Considering the above-mentioned determinants of trade that were expected to increase Croatia's trade integration with the EU and other developed economies, as well as to further decrease a modest (e.g. in comparison with 1987) share of trade with former Yugoslav Republics, one would have anticipated further increase in the level of openness. Yet, contrary to the expectations, quite the opposite happened. In 1993, exactly a year after Croatia became independent, TOR sharply decreased to 78%. The fall continued in the 1994, when TOR declined further to 66%. With the exception of 1997, during which a higher than average imports growth temporarily increased openness, a general declining trend continued until the end of the decade. It was only in 2000 when TOR increased due to the higher exports.

Figure 1: Trade Openness Ratio (TOR) – Croatia
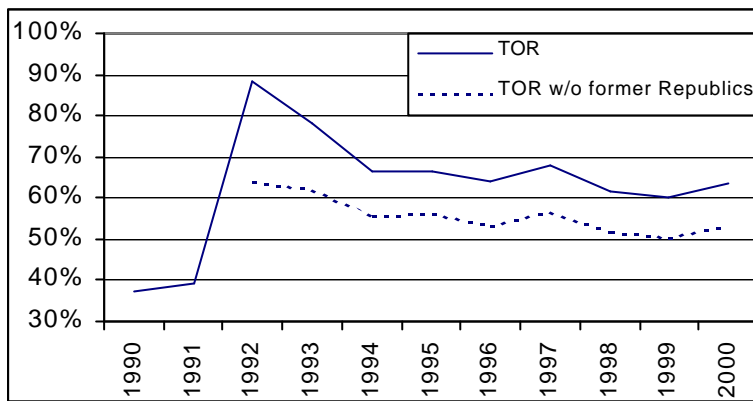
Source: Central Bureau of Statistics, Monthly Statistical Report, various issues

It has to be noted that the sharp fall in the TOR was not a result of a decrease in trade with former Republics of Yugoslavia. If one looks at the TOR without taking them into account, a similar declining trend can be observed, although a little less pronounced.

Figure 2: The Share of Former Republics in Croatia's Foreign Trade
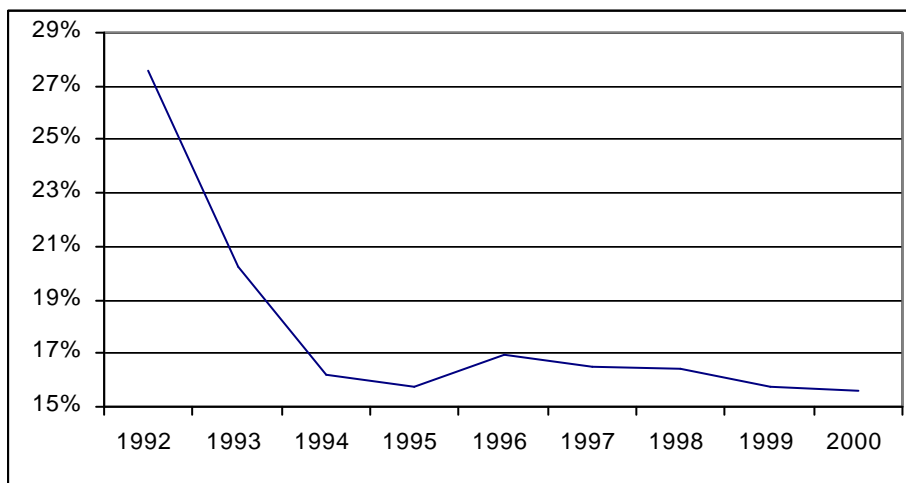
Source: Central Bureau of Statistics, Monthly Statistical Report, various issues

How can this unusual decline in TOR be explained? Especially having in mind that Croatia, according to the most commonly used indicators (e.g. EBRD), belongs to the group of advanced transition economies, i.e. those countries that are, according to the findings in Havrylyshyn (1998), supposed to make the most progress in opening-up and diversifying their trade? Not only that the TOR did not increase, but the, regional structure of Croatian trade also didn't change as one would have expected. After the declaration of the independence, the share of trade with the EU-15 was 57%, or pretty much the same as eight years later. It can be noticed that trade share of countries constituting CEFTA at the

same time fell from 23% to 14%. Most of this fall was compensated for by increase in trade with other former Yugoslav Republics Bosnia and Herzegovina and Macedonia after the end of the war in 1995.

Figure 3: Geographical pattern of Croatian trade
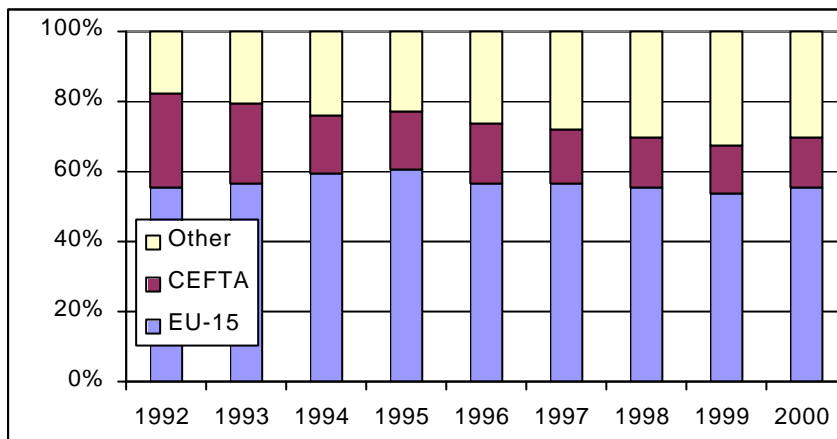
Source: Central Bureau of Statistics, Monthly Statistical Report, various issues

So, what are the likely reasons behind the observed fall in openness and stagnant trade structure? In 1993, and 1994, the main reason for the rapid decline in the TOR was break-up of trade links with former Yugoslav republics, as can be seen from the Figure 1 which demonstrates that the decline in TOR was much slower excluding the former YU republics. However, even excluding them, TOR recorded falling trend. The main explanation, along the reasons mentioned in (Vujcic, Presecan, 1999) was the exclusion of Croatia from trade associations in the region. Croatia did not have an association agreement with the EU, was not a member of the CEFTA, and did not even have a bilateral trade agreements with its main trading partners except for the bilateral free trade agreements with Slovenia and Macedonia, which are in force since January 1998, and October 1997, respectively. Bosnia and Herzegovina was a first country with which FTA agreement was signed, but was first broken in 1998[3], and then renewed on an asymmetrical basis in January 2001. Until mid-2001 Croatia was not even a member of the WTO (see Table 8 in Appendix). These were all huge impediments to trade development and increase in the TOR).

3. How does the Croatia fit into the region?

After looking at the dynamics of the Croatian trade during the 1990's, we address the question of the present level of Croatian integration with the SouthEast Europe (SEE) and tackle the issue of its future development. The intra-regional trade share of the SEE-5 countries in 1993 stood at 5.3%. This share increased once the war was over in 1995. In 1997 it reached the level of 10.2% and then stagnated afterwards. The increase was mostly at the expense of CEFTA countries, whose share decreased, while

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[3] Because of the IMF insistence on higher tariff revenues for Bosnia and Hercegovina

the trade share of the EU countries remained practically unchanged. Croatia, accounting for over half of total trade of the region and, well above the third of intra-regional trade, was the principal force giving the impulse to growing integration amongst the countries in the region.

Figure 4: The regional Trade Pattern of SEE-5 Countries
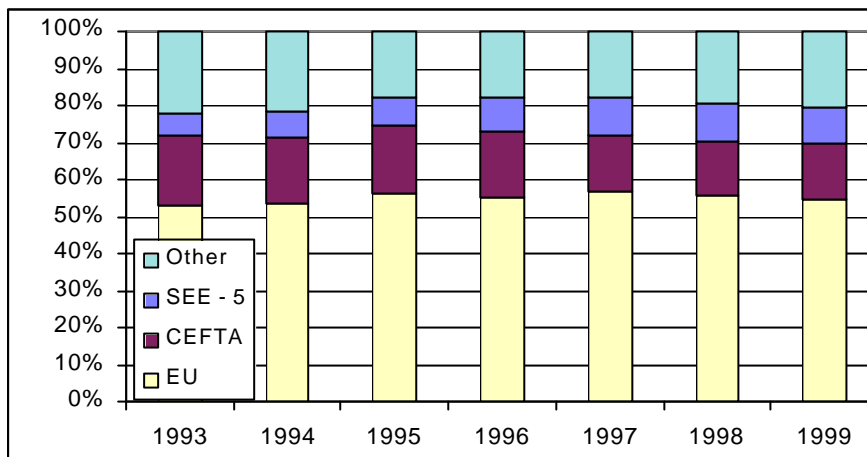
Source: IMF Direction of Trade Statistics, 2000

Taking into account the fact that, for example, share of trading conducted within the grouping of the Benelux countries, a highly integrated, and economically much larger region, was 13% (Flörkemeier, 2001), a share of 10% for a much smaller and less integrated SEE-5 group seems to be quite high. Adjusting the intraregional trade shares by a measure of the region's importance in the world trade gives a simple trade concentration ratios (or trade intensity ratios). This indicator shows to what degree the trade between the group of countries is concentrated amongst them.

Figure 5: Trade Concentration Indicators for the SEE-5 Countries
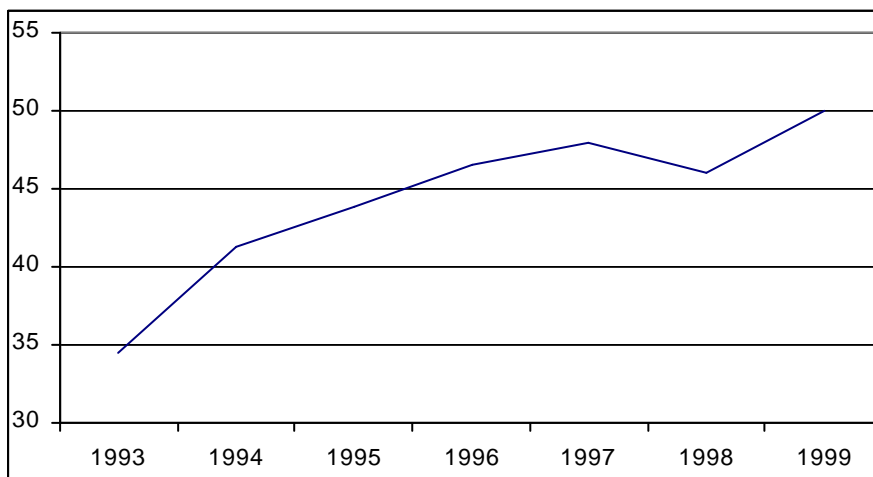
Source: IMF Direction of Trade Statistics, 2000 and author's calculations

There is a clear increasing trend in the trade concentration indicator for the SEE-5 countries reaching a value of 50 at the end of the analyzed period. This tells us that countries of the region traded amongst them 50 times more than to a typical country anywhere in the world. In order to compare the SEE countries with some of the well-established regional trading blocks, in Table 1 we present the same indicator for a number of regional trading blocks.

Table 1: Trade Concentration Ratios for Different Regions

	1993	1994	1995	1996	1997	1998	1999
SEE-5	34.5	41.3	43.9	46.5	47.9	46.0	50.0
APEC		1.6					
ASEAN-6		3.6					
EU-15		1.6					
EU-12		2.1					
Mercusor		12.8					
Andean Community		12.6					
NAFTA		2.2					

Source: Frankel (1997)

It can be noticed that trade concentration ratios reveal much higher level of integration amongst the SEE countries in comparison to the existing trading blocks. Although the data on intraregional trade show that EU countries trade a lot between themselves, because of their size and importance in the world economy the level of actual trade concentration is much smaller in comparison to other trading blocks. Also, one has to be careful when comparing the absolute levels of trade concentration index for countries that differ in the level of development because more developed economies tend to export a wide variety of products and to better diversify their exports geographically (Flörkemeier, 2001). What is more surprising is a very high trade concentration level in the SEE countries even in comparison to smaller blocks such as Mercusor or the Andean Community. According to the trade concentration indices, the SEE-5 group seems to be very highly integrated.

Trade concentration index controls for the level to which a country is integrated in to the world economy, which means that different country sizes and different levels of openness do not influence the result. This index, however, does not take into account the income and transportation costs effects. Moreover, it can compare across different levels of integration, but it cannot tell anything about the levels of trade creation and diversion that are created with the formation of trading blocks or the optimality of the trading structure. A bit more sophisticated gravity approach takes care of some of these problems.

Gravity approach was launched as a more or less "atheoretical" approach to the analysis of trade flows. However, the idea of using economic potential and the cost of doing trade in an analysis of bilateral trade flows proved to be much more theoretically based than was thought at first. Frankel

(1997) surveys a list of authors that tried to root gravity approach into different theoretical rationales, Hekscher-Ohlin model as well as the theory of imperfect substitutes. Theoretical foundations of the gravity approach also brought a few extensions to the model. A possibility of an inclusion of the "similarity" or "dissimilarity" variables to test for different trade theories is the prominent one. Although compatible with the range of trade theories, the gravity approach is unable to predict the composition of the goods that are supposed to be imported or exported by a country. One has to look at the underlying theory of trade in order to obtain an answer to that question.

Gravity model is usually estimated over a pool of countries for a number of years using a panel approach. However, because we are solely interested in the pattern of Croatian trade, we rely on a single-country equation. Gravity equation that we estimate, in its simplest form, is the following one:

$$TR_i = \beta_0 + \beta_1 GDP_i + \beta_2 DIST_i + S?_k D_{ik}$$

where TR_i stands for the natural logarithm of Croatian trade with country i, GDP_i for the natural logarithm of the gross domestic product of the country i, measured at exchange rate parity (World Bank, 2000) and $DIST_i$ for the distance between the Zagreb and the capital of the country i. D_{ik} represents a number of different dummies; adjacency, common history and trade preferential.

Single-country specification, except for serving well our purpose, also avoids some troubling specification problems that arise in pooled estimates. In the later case, differences in relative remoteness of trading partners produce systemic biases that depend on the location of a specific country (Brenton and Di Mauro, 1998). Furthermore, the issue of heterogeneity of the countries may also be alleviated with single-country specification.

Table 2 presents estimates of the gravity equations. All estimates refer to 1999, the latest year for which we could get a full coverage of trade and GDP data. Two different sets of observations were used: European countries (N=42) for which road distances were used and all Croatian trading partners (N=151) for which air distances were used. These two sets were complemented with three different dummy variables: adjacency, language (for members of the former Yugoslavia) and FTA for countries with which Croatia has a preferential trade agreement. Dummy variables were not used simultaneously because they appear to be highly collinear, but rather included one-by-one. This gives a total of 12 regressions. A number of other variables were also included, like measures of similarity or dissimilarity to trading partners. None of the two fared quite well, not being significant at the level of 10%. This means that neither the Linder nor the Hekscher-Ohlin effect could be traced in those gravity specifications. A GDP per capita variable, complementing the nominal GDP as a measure of the level of development / size, was also included. However, the variable appeared to be significant only in the

second set of equations, after the effects of common history have been dummied out. This brings a number of estimated equations to the total of 14.

Table 2 Gravity equations for Croatia - Aggregate trade flows

	1	2	3	4	5	6
const	9.02	8.36	4.25		3.48	
	(2.7)	(2.0)	(1.0)		(0.9)	
GDP	0.93	0.93	1.01	1.09	1.02	1.10
	(7.6)	(7.5)	(8.0)	(11.5)	(8.5)	(12.2)
dist_car	-2.11	-2.02	-1.64	-1.26	-1.58	-1.28
	(-5.8)	(-4.2)	(-3.7)	(-5.4)	(-3.9)	(-5.7)
border		0.28				
		(0.3)				
language			1.89	2.59		
			(1.7)	(3.1)		
FTA					2.76	3.35
					(2.5)	(3.7)
N	42	42	42	42	42	42
R2 - adj	0.68	0.67	0.70	0.70	0.72	0.72

	7	8	9	10	11	12	13	14
const	3.17	1.96	1.10			1.09		
	(1.7)	(1.0)	(0.5)			(0.5)		
GDP	0.91	0.92	0.94	0.97	0.91	0.94	0.97	0.92
	(12.8)	(12.9)	(13.3)	(20.2)	(15.8)	(13.4)	(20.6)	(16.1)
GDPpc					0.18			0.17
					(1.6)			(1.5)
dist_air	-1.27	-1.14	-1.08	-1.01	-0.92	-1.09	-1.01	-0.93
	(-8.1)	(-6.4)	(-6.3)	(-10.4)	(-8.3)	(-6.5)	(-10.6)	(-8.5)
border		1.58						
		1.62						
language			2.65	2.88	3.08			
			(2.5)	(3.0)	(3.2)			
FTA						3.34	3.57	3.73
						(2.8)	(3.3)	(3.4)
N	147	147	147	147	147	147	147	147
R2 - adj	0.65	0.66	0.67	0.67	0.67	0.67	0.67	0.68

t - values in parenthesis

GDP and distance variables are found to be significant in all fourteen specifications. Moreover, the coefficient with the GDP variable is around one in all of them, except for the specifications including the GDP per capita variable, where the sum of the two parameters has to be taken into account. The parameter on the distance variable, which is also significant in all equations, although pointing in the right direction, shows a bit more variability, depending on the selection of a dummy variable and the inclusion of the constant term. The overall level of explained variation is quite satisfactory, with the adjusted coefficient of determination ranging from 66% to 72%, which is a standard in the empirical gravity-model literature. The overall level of fit was a bit better for the smaller sample, probably

representing the fact that the land distance variable makes more sense as a proxy for costs of doing trade than the air distance.

The only dummy variable that is not significant is the one representing the adjacency. This reflects a variety of the countries surrounding Croatia. The "language" dummy representing the set of the former Republics fared much better. It is estimated that belonging to the former Yugoslavia increases bilateral trade flows between six and a half (equation 3: exp(1.89)=6.6) and almost twenty-two (equation 11: exp(3.08)=21.8) times over the "normal" level. The "benchmark" level is the Croatian trade with all other trading partners, taking care of the sample choice, of course. Three of the former republics had a PTA with Croatia in 1999. Because the two effects are intertwined, it is impossible to plausibly separate between them. Moreover, except for the trade agreement, the PTA dummy also represents a fact that there was no conflict with Slovenia and Macedonia, which is partially true even for Bosnia and Herzegovina, as opposed to Yugoslavia with which the trade was almost non-existent for most of the analyzed period. However, when only the dummy representing a PTA is included into the equation, its estimated effect on bilateral trade ranged between 15 times (equation 5: exp(2.76)=15.8) and 41 times (equation 14: exp(3.73)=40.9). The estimated size of the common language / history / PTA effects is amazing, which makes us believe that a very large share of these effects can be explained by the home-bias leftovers. These findings confirm the conclusions we reached by looking at the simpler trade concentration indices.

This could be ascribed to the links established prior to the break-up as well as to the liberal trade policies afterwards (existence of the PTA's). At the same time Croatia was excluded from closer trade integration with the EU and CEFTA countries as well as from the WTO membership .In other words by the political feasibility at trade relations, it was directed to trade with ex-Yu countries.

After describing basic properties of the estimated models, we compare the actual and estimated "potential" trade structures for different regions. This comparison is presented in Table 3. The most noticeable is the fact that actual Croatian trade conducted within the SEE-5 region is above the potential according to all estimates, regardless of the specification and even after the common language and PTA effects have been dummied out. Estimated trade potentials with the EU and CEFTA reveal the other side of the same coin. According to most estimates of the first set of equations, Croatian trade is still to a large degree biased away from the EU countries and even more from the CEFTA countries. According to the second set of equations, Croatian trade with the EU is "above" normal. However, the excess of trade with the EU is with the respect to the CEFTA and non-European countries and not in comparison to the SEE countries. This may, at least in part, be due to the misrepresentation of the trading costs with the air distance variable.

Table 3: The Ratio of Croatian Actual Trade to Trade Potential

Actual Trade - Potential Trade (USD millions)

	1	2	3	4	5	6	7
SEE	636	608	249	196	527	542	769
EU	-616	-644	108	-646	-74	-898	422
CEFTA	-1,288	-1,429	-2,395	-1,376	-5,944	-4,597	865

	8	9	10	11	12	13	14
SEE	628	268	253	320	495	499	534
EU	83	1,812	1,901	1,409	1,718	1,784	1,292
CEFTA	83	-512	-392	-865	-2,370	-2,227	-2,957

Actual Trade / Potential Trade

	1	2	3	4	5	6	7
SEE	410%	360%	142%	130%	267%	281%	1154%
EU	91%	91%	102%	91%	99%	88%	107%
CEFTA	56%	54%	41%	54%	22%	27%	209%

	8	9	10	11	12	13	14
SEE	394%	147%	143%	161%	243%	246%	273%
EU	105%	139%	142%	128%	136%	138%	125%
CEFTA	105%	76%	81%	66%	41%	43%	36%

A very large trade potential estimated to lie with the CEFTA countries is mostly, although not exclusively, confined to Slovenia. This is the result of the dominance of the home bias in trade with the former Republics (some of which form a PTA) which has disappeared to a greater degree in trade with Slovenia.

4. A Look into the Crystal Ball

How wills the future development of aggregate trade flows look like? In order to speculate about that, we have to make certain assumptions about the forces that will shape Croatia's trade pattern tomorrow. The gravity approach confirmed an initial conjecture that Croatia was leaning against the forces of the trade diversification most of the time after the declaration of the independence. This was mainly due to its exclusion from trade arrangements with the EU, CEFTA, and the WTO. We believe that it is rational to expect more rapid trade diversification in the future due to the inclusion of Croatia into the main trade arrangements with the EU, CEFTA as well as an entry into the WTO. Further trade diversification could also be expected because of the continuing decrease in the home bias observed in the post break-up countries. Furthermore, an expected speeding up of the reforms in Croatia as well as in other countries of the region should also contribute towards the same result (Havrylyshyn, 1998). All of the forces mentioned should decrease the intraregional trade share. On the other side, if the countries in the region are to catch-up to the EU, relative difference in growth rates of these countries vis-a-vis other countries should lead to an increase of the intraregional trade share. The actual outcome will depend on the interplay of these effects and their actual intensity.

We have used the estimated gravity models in order to project the future pattern of the Croatian trade in year 2010. These projections are based on the following assumptions. First, we assume the SEE countries to grow at the annual rate of 5%. The assumed growth rate of the CEFTA region, as well as that of Croatia (since Croatia has higher GDP per capita than the SEE countries, comparable to countries belonging to the CEFTA region) is 4%, while we expect the EU to grow at the rate of 2,5%. The projected growth rate's therefore presume a partial income catch-up. On the basis of the current trends, we believe that the assumption of the Croatian PTA with the EU and CEFTA countries as well as amongst the SEE countries is realistic. Finally, we have to deal with the quantitative effects of these PTA's. As we have already mentioned, in our gravity model the effects of PTA are intertwined with the cultural effects. However, we assume the common culture to increase trade by tenfold, with the exception of Slovenia where diversification has gone farthest, where we assume the culture to double trade. This is based on the results from Fidrmuc and Fidrmuc (2000). Obviously, the assumptions on the leftovers of home country bias in trade are highly present in our projections and that should be kept in mind when interpreting the results. The inclusion of Croatia in the PTA with the EU, CEFTA and SEE countries is assumed to increase trade by 35% in all scenarios, which is roughly similar to the numbers found in other studies (Frankel, 1997). However, this is much smaller than the 97% - 123% range that is obtained by simply dividing the "PTA" and "Language" dummies in comparable specifications. Finally, the coefficients on the GDP, GDP per capita and distance variables are taken from the equations 6, 13 and 14, which give the best fit in their class. Three different selections of parameters give three different scenarios of trade developments.

Table 4: Projected trade growth rates

	Projection 1	Projection 2	Projection 3
SEE	54.3%	-2.4%	144.8%
EU	107.1%	27.5%	350.2%
CEFTA	112.1%	16.3%	249.6%

According to these projections, the largest trade potential for Croatia clearly lies with the EU and CEFTA countries. Although according to different specifications there is a large degree of variation in magnitude of projected growth rates, there is a little change in the ordering.

5. Sectoral Gravity Equations

In this section we address the question of sectoral composition of Croatian trade. After presenting stylized data on trade structure, we run sectoral gravity equations. In principle, these equations can give us an insight into the sectoral effects of PTA's and shed more light on the actual positioning of

trade potentials with respect to the EU. Furthermore, estimated coefficients, especially the income elasticity of trade should reveal the sectors with the high potential of growth in the catch-up scenario.

In tables 5 and 6 we present the sectoral breakdown of merchandise exports and imports. This type of breakdown that focuses on the "sensitive" and other commodities is taken from Vittas and Mauro (1997). The actual trade flows are compiled from the SITC database with the high level of desegregation provided by the State Bureau of Statistics.

Table 5: Sectoral composition of the Croatian merchandise exports - 1999

	Percent of total exports	Of which: exports to EU	exports to CEFTA	exports to SEE	percent EU	percent CEFTA	percent SEE
Sensitive commodities	33.9%	20.5%	4.6%	5.8%	60.6%	13.7%	17.2%
0 (Food and live animals)	6.8%	1.1%	1.7%	3.2%	16.8%	25.5%	46.8%
5 (Chemicals)	12.0%	5.8%	2.3%	2.0%	48.9%	19.1%	16.9%
67 (Iron and steel)	1.0%	0.6%	0.1%	0.2%	59.6%	13.2%	21.0%
65 (Textile yarn and fabrics)	1.9%	1.4%	0.2%	0.2%	71.5%	8.0%	10.5%
84 (Clothing)	12.2%	11.6%	0.3%	0.2%	94.8%	2.8%	1.8%
Other commodities	66.1%	28.5%	8.9%	9.2%	43.1%	13.4%	13.9%
2 (Nonfuel crude materials)	5.6%	4.3%	1.0%	0.2%	76.1%	17.1%	2.9%
3 (Fuels, etc)	7.9%	2.1%	3.1%	2.1%	26.3%	39.6%	26.2%
7 (Machines and transport equipment)	29.3%	9.2%	1.6%	1.6%	31.5%	5.6%	5.3%
8-84 (Misc. Manufactured Goods)	10.2%	7.6%	0.7%	1.3%	73.9%	7.0%	12.9%
6-65-67 (Other Basic Manuf.)	6.9%	3.0%	1.3%	2.0%	43.4%	18.7%	29.0%
Other	6.2%	2.3%	1.2%	2.1%	38.0%	18.7%	34.3%
Total	100.0%	49.0%	13.5%	15.0%	49.0%	13.5%	15.0%

Around one third of the Croatian merchandise exports in 1999 fell within the category of sensitive goods. While half of the Croatian exports were directed towards the EU, the share of the EU in exports of "sensitive" sectors was higher than 60%. This means that around 42% of Croatian exports to the EU

fell within the group of "sensitive" compared to 26% of exports to countries other than the EU. Share of "sensitive" commodities in the EU imports from Croatia was at the higher end of the range of these imports coming from the CEEC's at the time of signing of the European agreements.

Major items in the group of "sensitive" exports were food and live animals (0), clothing (84) and chemicals (5). While the exports of food and live animals were oriented towards the SEE countries, the exports of clothing showed a remarkably high degree of penetration to the EU market.

The imports of "sensitive sectors" goods constituted a bit more than a quarter of all Croatian imports. It is interesting to note that the share of imports from the EU in these sectors was quite similar to the share of the EU in the exports of the same commodities. Having in mind that Croatian merchandise imports in 1999 were 81,7% higher than the merchandise exports, the imports of "sensitive" goods from the EU surpassed exports by 35.9%. Therefore, Croatia does not have a revealed comparative advantage in the "sensitive" commodities with respect to the EU.

Table 6: Sectoral composition of the Croatian merchandise imports

	Percent of total	from EU	Of which: from CEFTA	from SEE	percent EU	percent CEFTA	percent SEE
Sensitive commodities	26.7%	15.4%	5.8%	0.6%	57.6%	21.6%	2.3%
0 (Food and live animals)	7.2%	3.3%	1.9%	0.3%	46.4%	25.9%	3.6%
5 (Chemicals)	12.1%	7.3%	2.3%	0.1%	60.7%	18.8%	1.1%
67 (Iron and steel)	2.7%	1.4%	1.0%	0.2%	50.1%	36.2%	6.4%
65 (Textile yarn and fabrics)	2.1%	1.3%	0.4%	0.0%	61.6%	18.2%	2.1%
84 (Clothing)	2.7%	2.1%	0.3%	0.0%	78.1%	10.5%	0.6%
Other commodities	73.3%	41.2%	8.1%	1.8%	56.2%	11.0%	2.5%
2 (Nonfuel crude materials)	2.2%	0.9%	0.4%	0.3%	38.8%	17.0%	12.4%
3 (Fuels, etc)	11.0%	0.9%	0.4%	0.1%	8.0%	3.3%	1.3%
7 (Machines and transport equipment)	35.0%	22.9%	2.7%	0.4%	65.3%	7.7%	1.0%
8-84 (Misc. Manufactured Goods)	9.1%	6.2%	1.4%	0.1%	67.9%	14.9%	1.6%
6-65-67 (Other Basic Manuf.)	6.6%	4.0%	2.1%	0.1%	59.9%	32.3%	1.1%
Other	9.3%	6.4%	1.2%	0.8%	69.2%	12.4%	9.0%

In Table 7 we present the results of the sectoral gravity models. We have included the same set of variables that we have used in the gravity equation of the aggregate flows. The only exception are the regional dummies, where we restrict ourselves to the use of the PTA dummy only since the adjacency and language dummies did not work as well in the aggregate gravity model.

Table 7: Sectoral gravity equations
Sensitive Commodities

	0	**5**	*65*	*67*	*84*
const					
GDP	0.72	1.01	0.81	1.09	0.83
	(9.9)	(13.4)	(13.4)	(9.9)	(10.0)
dist_air	-0.79	-1.47	-1.18	-1.97	-1.32
	(-5.0)	(-8.8)	(-8.6)	(-7.6)	(-7.1)
PTA	4.33	3.50	3.07	3.50	3.40
	(3.1)	(2.7)	(3.1)	(2.5)	(2.4)
N	103	94	79	63	82
R2 - adj	0.41	0.59	0.64	0.54	0.51

Other Commodities

	2	*3*	**6-65-67**	**7**	**8-84**
const		13.16			-5.29
		(3.43)			(-2.6)
GDP	0.72	0.39	0.43	0.89	1.15
	(10.6)	(2.4)	(16.5)	(12.7)	(13.8)
dist_air	-0.94	-1.90	-0.61	-1.04	-1.19
	(-6.30)	(-5.99)	(-10.93)	(-6.97)	(-7.20)
PTA	3.50		1.80	3.007652	4.71
	(2.9)		(3.5)	(2.1)	(4.2)
N	92	72	109	116	104
R2 - adj	0.49	0.41	0.66	0.54	0.74

t - values in parenthesis

In terms of the coefficients of determination, most equations perform quite well, with the adjusted R^2 falling within the 0.5 to 0.75 range. The exceptions are equations for food and live animal's (0) and fuels (3). Fuels, however, are known to perform badly within the gravity framework because trade in natural resources depends on endowments rather then production.

The regional dummy performs quite well across different specifications, meaning that existing trade biases are not confined to some sector but rather widely distributed. The largest trade diversion towards the three countries constituting the PTA with Croatia is found in miscellaneous manufactured goods, except clothing (8-84) where the dummy suggests trade 110 times higher than the "normal" and food and live animals where the trade is 75 times higher than the normal. This may be one of the reasons for rather poor performance of gravity equation for that sector. It is interesting to note that bias

that exists in trade with former Yu - Republics is germane to "sensitive" goods as well as to other goods. Any systematic deviation on the basis of belonging to a certain product group was not found.

6. Croatian trade structure and FDI

From the theoretical point of view link between the trade and FDI is ambiguous. On the one hand, moving part of the production into the host country may displace some of the exports from the source country. This refers to so called "horizontal" FDI. On the other hand, FDI flows may facilitate trade if they are connected with the outsourcing of the production process and exporting components, which is usually called "vertical" FDI. Although few FDIs can be directly observed as "vertical", most empirical evidence confirms the thesis that trade and FDI behave as complements, both in the transition countries and worldwide (Frankel, 1997; Brenton, di Mauro and Lücke, 1998). In cited studies the parameters on FDI flows are high and significant, validating the "vertical" FDI argument. However, the direction of the causality is still unclear.

In terms of a cumulative per capita FDIs Croatia did well compared with advanced transition countries and much better than the slower reformers. According to the empirical evidence available, this should result in higher than expected involvement of Croatia in foreign trade. Also, at first glance, it may seem that Croatia invalidates the argument of "domino FDI" (Brenton, di Mauro and Lücke, 1998) – it performs much better in FDI terms than some of the accession countries in spite of being left out of the EU enlargement process.

Table 7: Cumulative per capita FDI 1994 – IX 2001 (USD)

Czech Republic	2,296.99
Hungary	1,789.81
Croatia	1,290.00
Poland	1,085.85
Slovenia	907.58
Slovakia	901.30
Bulgaria	451.32
Romania	325.19

Source: Balance of Payments Statistics Yearbook 2001; International Financial Statistics, Volume LIV, Number 5, May 2001

However, testing the relationship between trade and cumulative FDI flows in the context of gravity equation fails to provide a proof of positive link between trade and FDI in Croatia. The parameter on log of cumulative FDI flows is low, negative in sign and insignificant in comparison to other variables included - opposite of what one would have normally expected. Therefore, we might conclude that FDI in Croatia did not play trade-enhancing role as it usually does.

Table 8: Gravity equation augmented with cumulative FDI flows

GDP	0.81
	(0.08)
DIST_AIR	-0.48
	(0.19)
FDISUM99	-0.12
	(0.10)
FTA	3.24
	(0.71)
R-squared	0.57
N	27

It seems that Croatia sets a surprising counter-evidence to the established empirical literature on trade and FDI links. This apparent anomaly can, however, be explained by the sectoral FDI structure. Most FDIs in Croatia are concentrated in non-tradable services sectors (telecommunications, financial and tourism sectors[4]) and manufacturing sectors that mainly depend on the domestic market (production of cement, bricks, beer, ...). This means that despite high level of FDI, investment in trade-promoting activities avoided Croatia, complying with the "domino FDI" theory. A consequence of the "non-export" sectoral distribution of FDIs in Croatia was a poor export performance in comparison to comparable transition countries where FDI flows were much more inclined towards export industries.

Table 9: Structure of foreign direct equity investment in Croatia by activity 1993-2001

Telecommunications	29.37
Other monetary intermediation	17.26
Manufacture of pharmaceutical preparations	15.41
Manufacture of cement	5.05
Extraction of crude petroleum and natural gas	3.11
Hotels and motels, with restaurant	2.66
Other wholesale	1.67
Manufacture of bricks, tiles and construction prod	1.53
Manufacture of beer	1.35
Manufacture of television and radio transmitters	1.11
Other	21.47
Total	**100.00**

Source: Croatian National Bank www.hnb.hr

The observed trade and FDI developments in Croatia confirm that exclusion from political and trade integration processes damages economy in various ways.

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[4] The tourism sector, in fact, is a tradable one, but not treated as such in the above gravity equation since only manufacturing trade is included. Inclusion of tourism in gravity equations is a possible direction for a further research. That will particularly become important in the future, as more FDIs will flow into that sector, and as/if it further grows as a share of total (non-service and service) trade.

7. Where Does the Croatia Belong?

An answer to that question is important because the design of the "Right" trade system can accelerate the convergence process. Often, approaches are used that rely on the actual trade flows in an attempt to identify the "functional" regions from the trade perspective. However, this approach is, due to some stubborn historical links and complete disregard of the trade potentials, misleading if one seeks the trade regime that would facilitate trade and growth.

An obvious conclusion from our gravity analysis is that the largest trade potential for Croatia lies with the EU and CEFTA countries. In terms of the trade system design it is, therefore, desirable that any further trade liberalization of trade with the SEE countries should be preceded/accompanied by trade liberalization with the EU and CEFTA countries. Right sequencing of trade liberalization will eliminate current trade biases and contribute most towards realizing potential trade growth.

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APPENDIX

Table 8: Trade agreements in Central and East Europe

	WTO	CEFTA	PHARE	OBNOVA / CARDS	Bilateral agreement with EFTA	Other bilateral agreements	EU Trade Cooperation Agreement 1/	EU Autonomous Preferential Trade Regime	EU Interim Agreement 1/	EU Association Agreement 1/	EU membership application	Negotiation on chapters provisionally closed
Bulgaria	December 1996	January 1999	1990	No	July 1993	Czech R, Slovak R, Slovenia	November 1990	No	December 1993	February 1995	December 1995	4
Croatia	November 2000	No	No	1996	June 2001 signed January 2002 in force	Slovenia, Macedonia, Hungary (2001)	November 1990	Yes	July 2001 signed January 2002 in force	October 2001 expected 2002 in force	No	…
Czech R. 3/ 4/	January 2000	March 1993	1993	No	Yes	Bulgaria, Romania	November 1990	No	March 1992	February 1995	January 1996	13
Estonia	November 1999	No	1992	No	Yes	Slovak R, Slovenia	March 1993	No	No	February 1998	November 1995	13
Hungary	January 1995	March 1993	1989	No	Yes	Israel Croatia	December 1988	No	March 1992	February 1994	March 1994	11
Latvia	February 1999	No	1992	No	Yes	Slovak R, Slovenia	February 1993	No	No	February 1998	October 1995	5
Lithuania	May 2000	No	1992	No	Yes	Slovenia	February 1994	No	No	February 1994	December 1995	5
Poland	July 1995	March 1993	1989	No	Yes	…	December 1989	No	March 1992	February 1995	April 1994	11
Romania	January 1995	July 1997	1991	No	Yes	Czech R, Slovak R	May 1991	No	May 1993	February 1995	June 1995	5
Slovak R. 3/ 4/	January 1995	March 1993	1993	No	Yes	Bulgaria, Estonia, Israel, Romania	November 1990	No	March 1992	February 1995	June 1995	6
Slovenia	July 1995	January 1996	1992	No	Yes	Bulgaria, Croatia, Estonia, Latvia, Lithuania, Macedonia	September 1993	No	January 1997	June 1996 signed	June 1996	12

1/ Data refers to when agreement came into force.
2/ As of July 2000.
3/ The Czech Republic and the Slovak Republic have a customs union agreement.
4/ The Czech and Slovak Federal Republic (CSFR) signed a Trade and Cooperation Agreement in May 1990, PHARE in 1990 and an Association Agreement in December 1991. Following the dissolution of the CSFR, separate Association Agreements and suplementary proto   e Cze
to the Interim Agreement were signed with each of the successor republics.