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**THE IMPACT OF TRADE AND FDI ON COHESION
(PREPARATION OF THE “SECOND COHESION REPORT”)**

Final Report to the
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Summary

(1) There is little doubt that international trade and foreign direct investment (FDI) have a considerable impact on the economy and thus on national, regional, and social cohesion. As a general conclusion from economic theory, the overall result of deepening international division of labour will be positive. Nevertheless, the consequences for individual regions, sectors, or social groups are far from sure. The possibility to trade internationally or to invest abroad opens opportunities to specialise and to use economies of scale, and, therefore, may also result in a concentration of production in a smaller number of locations. Openness of an economy will increase competition and boost innovation, but competition at the same time will bring about winners and losers, and thus challenge an economy's capability to master structural change. Furthermore, trade does not take place in a homogenous territorial space, but distances and quality of infrastructure matter, so that integration will have different consequences for the centre and the periphery.

(2) Following the formation of the European Union, exchange of goods and services between its members grew considerably, mainly due to trade creation. Since the mid 1970s, however, this process seems to have come to an end. Shares of intra-EU-trade and total trade have not risen significantly since then, except for a short period in the middle of the 1980s. However, it is not quite clear from earlier work, to what extent the rise of intra-EU trade has contributed to cohesion. Whereas some analyses consider European integration as the main source of income convergence, others hint at more global trends. Anyhow, from today's perspective, trade relations between EU members are already intensive enough for the impact of future changes on cohesion to be limited.

(3) Trade between the EU and the Applicant Countries (ACs)¹ has risen substantially since 1990. In part, this reflects a "normalisation", as exchange of goods and services was particularly low as long as the economies in Central and Eastern Europe were centrally planned. The expansion of total trade was accompanied by significant shifts in its pattern, which especially holds for the Central European ACs and the Baltic States. EU exports shifted from consumption towards investment goods, and EU imports from raw materials and basic goods towards more sophisticated products such as machinery and vehicles. At the same time, outward processing declined, notably for textiles, which held a high share of trade in the early 1990s. All in all, trade relations adopted a more intra industry pattern, however, with significant differences between the individual countries due to income levels and size. Not all

¹ The applicant countries examined in this study are the Baltic States of Estonia, Latvia, and Lithuania; the Central European Countries of Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia, and Slovenia; and the Mediterranean Countries of Cyprus, Malta, and Turkey.

EU-members benefited from the rise of trade with the ACs to the same extent. Examining regional specialisation, it becomes apparent that proximity seems to play an important role: the northern EU members are linked to the Baltic States and Poland, whereas Germany and Austria are more closely connected to the Czech and the Slovak Republic, and Hungary, and the southern EU members with Mediterranean ACs. The EU members in Western Europe, including France and the UK, show no clear specialisation and they benefited little from the trade expansion.

(4) In the 1990s, Foreign Direct Investment (FDI) increasingly became the driving force of globalisation, showing an extraordinary increase especially since 1996. Intra-EU FDI experienced its highest growth earlier, in the second half of the 1980s. In part, this reflected reactions of industry to the Single Market Programme, in part it was due to large investments in the financial sector, which generated large capital flows, but had little impact on economic activities and thus on cohesion. Given that levels of mutual foreign investment between the EU members are already high, future intra-EU FDI will have little impact on cohesion.

(5) Even more than trade, FDI flows to the ACs surged in the 1990s. On the one hand, they are an important source of financing fixed capital formation and thus contribute to restructuring the economies. On the other hand, FDI brings a transfer of technology, skills, tacit knowledge, and governance, which may generate spillovers to the domestic economies and contribute to cohesion. Companies from the EU are the most important investors in the ACs, accounting for about half of total FDI. Among the EU members, again half of the FDI originates from Germany. Among the ACs, most investments have been made in the Czech Republic, Hungary and Poland. In per capita terms, Estonia, Malta, and Cyprus also attracted much foreign investment, whereas Poland is falling behind. Relative to the size of its market, Turkey attracted astonishingly little FDI. From a sectoral perspective, the lion's share of investment was directed to manufacturing, and retail and wholesale trade, but patterns also reflect differences in the privatisation strategies. Evidence on spillovers resulting from FDI is mixed. As a rule, a transfer of technology can be traced, but mostly it is not accompanied by immediate spillovers, which especially holds for low income countries. If positive effects can be found, they are up to now restricted to companies in the supply chain. Looking at regional developments in the ACs, FDI is highly concentrated on the capitals and on border regions. Hence, although the overall impact is positive, the FDI undertaken so far has tended to increase regional disparities within the individual candidate countries.

(6) Comparing growth performance of the individual ACs, a positive correlation between exports and import as well as FDI per capita and GDP growth can be detected. However, the question of causality is difficult to answer. It seems plausible that trade and FDI spurred growth: the ACs' imports mainly consisted of investment goods and thus contributed to creating new capital stock and modernising existing capital. Furthermore, FDI enterprises play an important role as investors, and they pay higher incomes than domestic companies. Finally, to the extent that R&D occurs in the candidate countries, foreign companies are responsible for most of this. However, even in the long run, this may not spill over to local firms, as it is also in the interest of foreign investors to limit the diffusion of knowledge to their potential competitors.

(7) The overall impact of EU enlargement on the existing members will be positive, which is not necessarily true for all regions. To identify national and regional differences, trade patterns can give some guidance. If exports of an EU member fit into the import demand of the ACs, there is a potential for trade creation. On the other hand, if EU countries and ACs export the same products, they are competitors and there is a potential for trade diversion. Generally speaking, potential for trade creation and trade diversion coincide in most cases, suggesting that the impact of enlargement on cohesion in the EU will be limited. Taking into account regional factors, nevertheless, deepening integration with the ACs seems to benefit the Central and Northern European EU members more than the southern and western periphery. To a large extent, this reflects “natural” factors such as proximity and accessibility, which can be influenced little by policy, anyway. Furthermore, this regional profile depends much on economic developments in the southern ACs, especially in Turkey and Romania, the largest countries in terms of population. Lastly, with deeper integration in the EU, the impulses to one region or country in the EU are more likely to be disseminated to the rest of the Union.

Introduction

It is the goal of the cohesion report, on the one hand to make visible the progress in national, regional, and social cohesion in the European Union as well as between the EU and the applicant countries, and, on the other hand, to review, how policies have directly or indirectly contributed to cohesion. There is little doubt that international trade and foreign direct investment (FDI) have an important impact on the convergence of income among countries and regions through various channels: the possibility of trading goods and services as well as of investing abroad allows economies of scale in production and specialisation in products where nations, regions or individuals possess their comparative advantage. Furthermore, openness of an economy increases competition, and it boosts innovation. Both will lead to lower prices and higher real income. Finally, there is evidence that trade and FDI contribute to the diffusion of ideas, tacit knowledge, skills and technology and are, therefore, pivotal to the national innovation systems – another channel through which cohesion will be spurred. All in all, trade and FDI create opportunities for higher real income. Whether higher income also means convergence and cohesion may be questioned, though. More trade and FDI benefits all economies in the integration space, in the EU and in the countries applying for membership, to a different extent. Theoretical work suggests that economies in the centre might benefit more than those at the periphery (for an overview: Lohrmann 1999). The present study will consider the channels through which these effects are mediated.

The unifying theme of the second cohesion report – to which this study contributes – is the enlargement of the Union. Therefore, the focus of the project is not only on cohesion between member states, but partially on the countries having applied for membership², and on the impact enlargement itself will have on cohesion. Intra-EU trade and FDI have been liberalised for a long time. This means that the direct impact of both on cohesion *within* the Union will be limited. At the same time, trade and FDI relations between the Union and the applicant countries (ACs) are developing quite rapidly, and the consequences of enlargement for the Union come largely through international movements of goods, services, and factors.

In a first section, the impact of trade on cohesion in the applicant countries will be analysed. Some remarks on developments in trade in the Union will be followed by a more detailed analysis of trade between the EU and the ACs. A second section is dedicated to FDI and its

² The applicant countries examined in this study are the Baltic States of Estonia, Latvia, and Lithuania; the Central European Countries of Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia, and Slovenia; and the Mediterranean Countries of Cyprus, Malta, and Turkey.

consequences; again, at first for the EU, thereafter for the ACs. It also makes some reference to the regional distribution of FDI in the ACs and the impact it has on regional cohesion. A third section presents some stylised facts on the influence of trade and FDI on income in the ACs. The impact on the EU of the increasing integration of the ACs into the international division of labour will be addressed in a fourth section.

1 The Impact of International Trade on Cohesion

1.1. Some Theoretical Considerations

It is a key conclusion of economic theory, that specialisation in production, especially as a consequence of the international division of labour will be beneficial for each country. At least, this will be the case as long as prices in international markets are not biased in favour of one of the trading partners, and as long as labour, capital, and product markets are flexible enough to allow reallocation of resources from sectors with a comparative disadvantage to sectors with advantages in each economy. Given that, incomes should converge, too. At the same time, there is still disagreement about the impact trade has on growth and thus on income convergence (for a broader discussion see Rodriguez and Rodrik 1999, Baldwin 2000). The latter can not only be expected from traditional “Ricardian” effects, as it is formulated in the factor price equalisation theorem. Also in a broader context, the degree of openness of an economy will create growth opportunities by increasing competition and contributing to technological progress, as postulated in the new growth theories.


Therefore, lowering the barriers to international movements of goods, services, and production factors, as has taken place in the European Union since the 1960s, and which was spurred between the EU and the ACs in the 1990s, should contribute to higher income and, thus, also lead to cohesion between nations and regions, at least as long as markets are flexible. However, quantifying the contribution of trade to growth is a complex task. One reason behind that might be, that the degree of openness of an economy does not only cause higher growth and income, but it is in turn also determined by economic factors: higher income levels, e.g., lead to a differentiation of consumer preferences that might lead to more openness. Furthermore, trade policies are not chosen independently from a country’s attitude to free domestic markets (Frankel and Romer 1999: 379). Therefore, it is difficult to single out the impact of openness on income, and many empirical studies can only prove weak effects. Frankel/Romer (1999: 387) show that the impact of trade on income becomes greater when it is adjusted for these interdependencies by normalising trade with respect to other factors affecting the international division of labour such as country size.

The problems mentioned are of special relevance in the case of European integration as well as concerning trade between the EU and the ACs:

Table 1-1

Share of Intra-EU-Exports in Total Export					
1958-1998					
	1958	1975	1980	1990	1998
France	30.9	53.2	55.6	65.3	62.4
Belgium and Luxembourg	55.4	72.7	73.7	79.9	75.8
Netherlands	58.3	73.0	75.1	81.4	79.0
Germany	37.9	46.9	51.4	64.0	56.4
Italy	34.5	49.2	52.3	62.8	56.2
United Kingdom	21.8	35.2	45.1	57.3	58.0
Ireland	82.3	81.4	76.9	78.6	69.8
Denmark	59.3	46.6	51.6	68.4	66.8
Greece	50.9	51.6	48.3	68.0	52.3
Portugal	38.9	53.8	59.7	81.2	81.6
Spain	48.9	48.1	52.7	67.6	70.5
Sweden	-	-	-	62.3	57.3
Finland	-	-	-	62.2	56.1
Austria	-	-	-	67.2	64.2

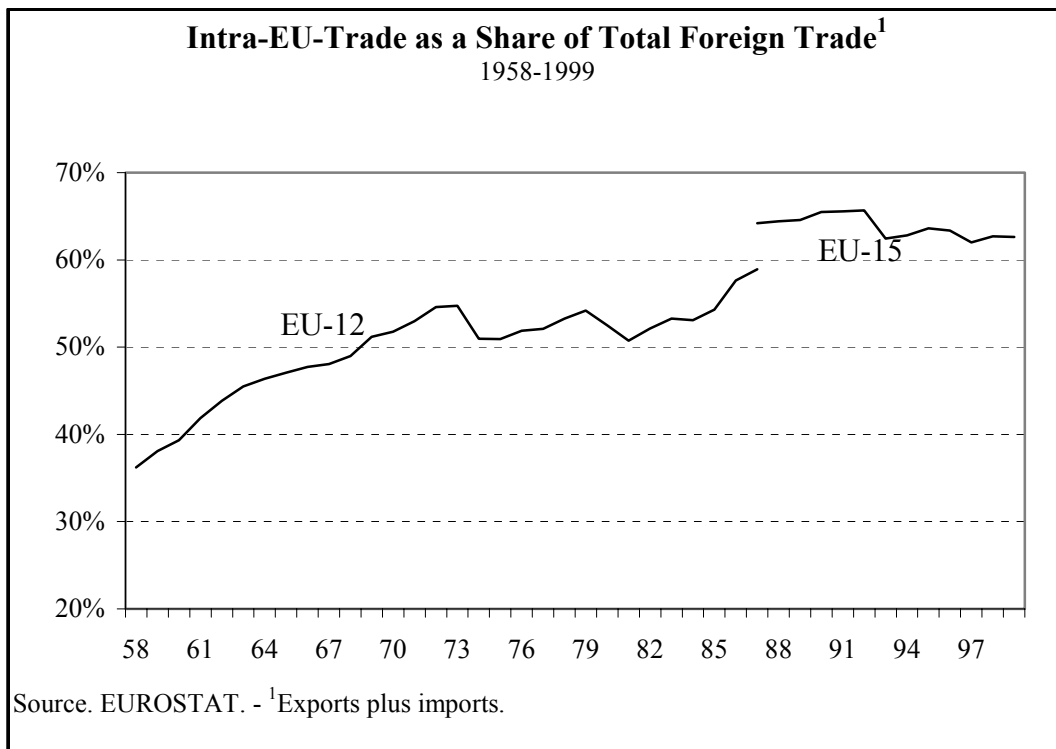
Source: EUROSTAT



European integration in the EU meant and means much more than trade liberalisation. From the beginning of the process, the scope of policies affected was much broader, and more and more steps that need not be discussed in detail here (EMS, the Single Market, EMU, Political Union) were taken to deepen integration. As all steps influenced cohesion, it is difficult to identify what impact trade in the end had on income.

The same is even more true for the ACs. In most of them, trade liberalisation coincided with a fundamental reform of their economic system in the 1990s. Under the central planning regime, the integration into the international division of labour was weak. As far as the regional aspect is related, it was heavily distorted in favour of the other countries in the Eastern European trading block. Furthermore, external trade was organised in a technocratic manner, having little impact on innovation and diffusion of technology (Brüstle et al. 1990). During the process of transformation, markets were rapidly opened for foreign goods leading to a sharp increase of imports. At the same time internal structural reforms were started that instantly resulted in a decline of production and employment. Therefore, the coincidence of rising imports and falling industrial production should not be interpreted as a negative impact of trade on income and, thus, on cohesion. Rather it must be seen that liberalisation measures in many fields were taken simultaneously.

Chart 1-1



1.2. Intra-EU-Trade

From today's perspective, trade relations between the EU-members are indeed more intensive than relations outside, even if estimates of the "Intra-EU-bias" differ depending on the specification of the model, the countries selected and the year chosen. Wang/Winters (1992) argue that bilateral trade between two EU members will be 100 % higher than trade between non-members, other factors (income, distance, etc.) being equal. According to calculations by Döhrn/Milton (1992) bilateral trade has increased by 25 % only, if both partners are EU members. Holzmann/Zukowska-Gagelmann (1998), finally, estimate the impact of EU membership to be only between 11 and 18 %.

That empirical investigations lead to different assessments is plausible, as several phases can be distinguished in the development of Intra-EU-trade. Shortly after signing the Rome Treaties, Intra-EU-trade started to rise more rapidly than trade with non-EU countries. As a consequence, the share of Intra-EU-Trade in total trade grew significantly for the EU as a whole as well as in nearly all members, taking into account the year they joined the Union (Table 1-1). Analysing this strong growth of intra-EU trade more in detail, the overwhelming part was identified as trade creation: estimates range between \$ 8 and 17 bn. (for an overview: Ohly 1993: 17 and 43-44). Trade diverting effects, on the other hand, are considered to be small, reaching \$ 2 bn at the most. The emergence of intra-trade was accompanied by shifts in trade patterns in favour of Intra Industry Trade (IIT), i.e. increasingly the same products were imported and exported. These shifts in IIT on the one hand indicate a deepening of integration, on the other hand are a rough indicator of convergence, as – following the Linder

Table 1-2

Intra Industry Trade Coefficients¹ of the EU Countries				
1988 and 1998				
	Intra-EU-Trade		Extra-EU-Trade	
	1988	1998	1988	1998
France	71	79	51	61
Belgium and Luxembourg	64	72	56	59
Netherlands	66	78	51	65
Germany	72	76	55	59
Italy	53	55	39	48
United Kingdom	72	71	65	70
Ireland	47	53	38	57
Denmark	47	54	47	50
Greece	29	42	34	44
Portugal	35	54	26	39
Spain	61	65	40	50
Sweden	-	56	-	59
Finland	-	39	-	46
Austria	-	68	-	60

Authors' computations.- ¹Adjusted Grubel-Lloyd Indices based on 4-digit CN-code trade figures.

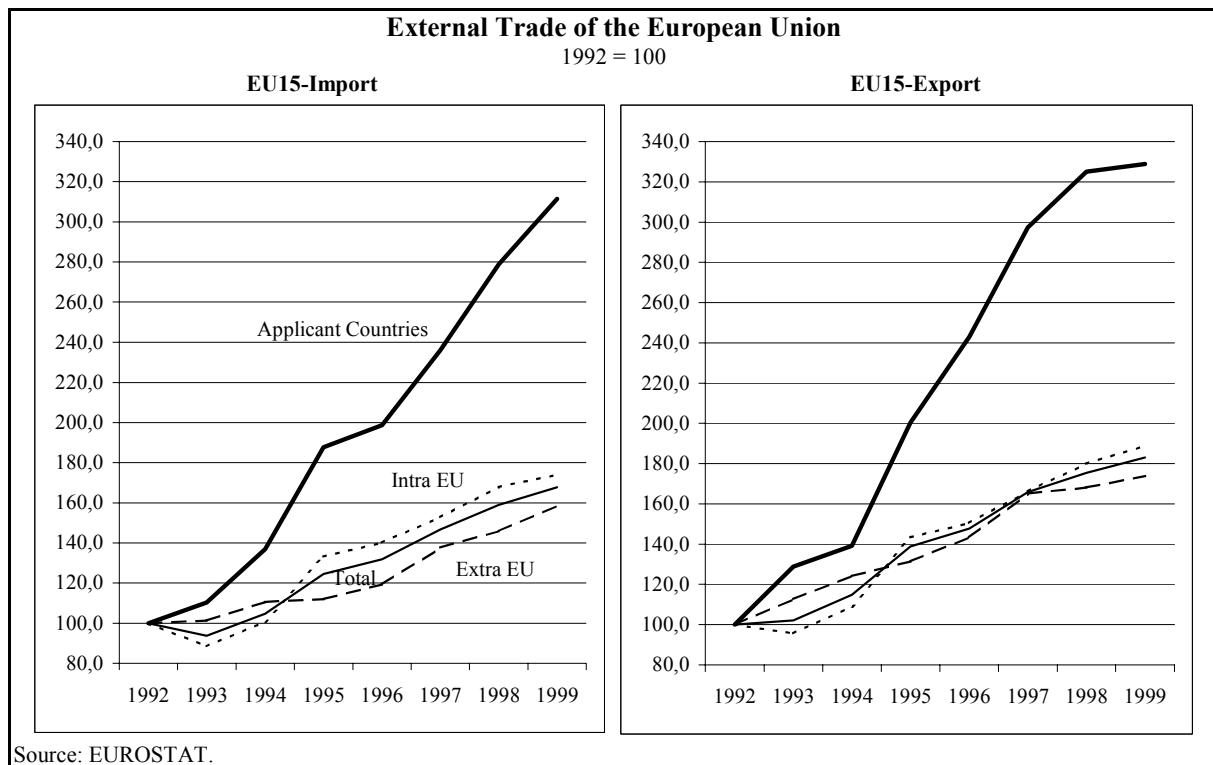


hypothesis – an increase of the similarity of consumer preferences is one factor behind this development.

In the early 1970s, progress in trade integration seems to have come to an end (chart 1-1). Shares of Intra-EU trade have not risen substantially since then, except some years in the second half of the 1980s. Some attempts have been made to explain these developments. Jacquemin/Sapir (1988) hint at primarily sectoral factors, especially the emergence of the Asian countries in the field of car manufacturing and electronics. Another plausible explanation may be that intra-regional trade in some cases has already reached high levels (more than 80 %) and cannot be expected to rise further. Finally, it was just the opening of Eastern Europe that spurred Extra-EU-Trade: about 20 % of the rise of Extra-EU trade between 1990 and 1999 can be ascribed to the Central and Eastern European economies. Therefore, shares of Intra-EU-trade remain stagnant¹ in the 1990s. At the same time, IIT trade gained in importance, indicating that integration has nevertheless deepened (table 1-2). However, it must be doubted, whether the rise of IIT reflects EU specific developments or more general trends in international trade: IIT coefficients for Extra-EU trade, although being lower for most EU members, increased significantly, too.

The deepening of integration was accompanied by a reduction of income differences. Especially in this early phase they were reduced significantly within the Union. Furthermore, the convergence was accompanied by a general rise in incomes, showing that the diminishing inequality had not been the result of a 'race to the bottom' but reflects, economies

Chart 1-2



with low incomes catching up. Ben-David (1993) argues that the reduction of income dispersion in the EU (especially in the 1950s and 1960s) was an immediate consequence of the steps taken to liberalise external trade. He argues, that the pattern of this process was unique for the EU, whereas convergence followed another path in other countries with a different timing of trade liberalisation. Furthermore, Ben-David concludes that convergence does not result merely from the fact that countries become developed, neither it follows a long-term trend. However, this interpretation is questioned by Rodriguez and Rodrik (1999: 42-51), who argue that earlier periods of trade liberalisation in Europe, namely the second half of the nineteenth century showed no sign of income convergence. In the end, they rely more on Slaughter's (1998) analysis, who in comparing pre- and post-liberalisation convergence found no evidence that liberalising trade did trigger convergence. However, it should be remembered that European integration was not just characterised by trade liberalisation. Convergence can be influenced by other factors, too, e.g. an increasing mobility of labour or the EU structural funds.

Furthermore, from a theoretical point of view it may also be argued that intensifying integration can to some extent increase income dispersion. If the Single Market has increased the specialisation in production as it is necessary to exploit economies of scale, differentiating sectoral structures may lead to larger income differences. Although being calculated on a relatively low level of disaggregation, IIT-coefficients, however, do not indicate significant shifts in this direction. They exhibit no reduction of IIT, which should have happened if specialisation has been increased.

To sum up the impact of Intra-EU trade on cohesion in the Union: the most important steps towards trade integration already came into force in the 1960s. Whether trade had an impact on cohesion at that time, is subject to controversies in economic literature. However, its impact on future cohesion will be limited.

1.3. Trade between the EU and the ACs

1.3.1. Trends in Trade

As already mentioned, EU trade with the ACs, especially those in Eastern Europe, was untypically low – considering factors such as income or distance – till the end of the 1980s. Indeed, it increased strongly in the 1990s, imports as well as exports. Whereas EU external trade as a whole was in 1999 about 75 % higher than in 1992³, trade with the ACs more than tripled in the same period (Chart 1-2). The Central European countries showed the strongest increase, but trade with the Mediterranean regions rose significantly, too.

About three quarters of EU exports to the ACs go to the Central European countries, which are the most important partners not only in absolute but also in per capita terms (Table 1-3). About 20 % of the exports went to the Mediterranean ACs, 5 % to the Baltic States. As can be seen from the figures given, trade relations are (in relative terms) negatively correlated with country size, and positively with income level: For example, Poland exhibits significantly lower exports and imports per capita than Slovakia, having nearly the same GDP per capita. Hungary, on the other hand, shows higher trade figures than Bulgaria, the latter being of the same size in terms of population, but having a lower GDP. All in all, the regional profile of EU imports is nearly the same as in the case of exports. In 1999, the trade balance showed a surplus in favour of the EU in all cases except the Slovak Republic; the surplus was largest against Poland.


The sharp increase of trade with the ACs in the Baltic and the Central European Region was fed from two sources: an increase in economic activity on the one hand, and a “normalisation” of the originally distorted trade structures on the other. Up to now, the latter contributed more to the changes in external trade than the first (Döhrn 1998: 48-51). As far as income is concerned, most ACs experienced a considerable real economic growth since the mid-1990s, with Romania and Bulgaria being exceptions. Despite these positive developments in recent years, income per capita is still close to the level observed at the start of transformation. Even in Poland, where the average annual growth of GDP was highest among the countries analysed, income per capita exceeded the 1989 level in real terms and expressed in Dollar only by 20 %. At the same time, external trade grew faster than GDP and was increasingly directed towards the EU. At the end of the 1980s, only 30 % of the exports as well as the imports of the Central European ACs were conducted with the EU, at the end of

³ 1992 has been chosen as a starting point, as no information is available for the Baltic States and Slovenia prior to that year.

Table 1-3

EU Trade with the Applicant Countries by Partner Country 1999						
	Import			Export		
	ECU mill	% of Total	Per capita (ECU)	ECU mill	% of Total	Per capita (ECU)
Estonia	1883	2.0	1345	2377	2.1	1698
Latvia	1402	1.5	584	1622	1.4	676
Lithuania	1612	1.8	436	2036	1.8	550
Baltic States	4897	5.3	653	6035	5.2	805
Poland	17428	18.9	450	28345	24.5	732
Czech Republic	16705	18.2	1622	17952	15.5	1743
Slovakia	5958	6.5	1103	5406	4.7	1001
Hungary	17312	18.8	1714	18340	15.8	1816
Slovenia	5273	5.7	2637	6753	5.8	3377
Romania	5761	6.3	256	6237	5.4	277
Bulgaria	2239	2.4	273	2636	2.3	321
Central European	70676	76.8	727	85669	73.9	881
Malta	831	0.9	2444	2056	1.8	6047
Turkey	15010	16.3	236	19834	17.1	312
Cyprus	596	0.6	795	2303	2.0	3071
Mediterranean	16437	17.9	254	24193	20.9	375
Total	92010	100.0	544	115897	100.0	685

Source: EUROSTAT




the 1990s, the EU's share was about 70 %, which is even more than the share of Intra-EU-Trade in total trade of the Union. Thus, volume as well as directions of trade approached values that were forecasted at the start of the transformation by many studies, taking developed market economies as a benchmark for the ACs future trade (e.g. Collins/Rodrik 1991; Havrylyshyn/Pritchett 1991; Döhrn/Milton 1992; Hamilton/Winters 1992; Festoc 1995).

Not all EU-members were able to raise their exports to the ACs to the same extent, and the same is true for imports as well. Some members' links to the ACs were very close at the beginning of the 1990s. In particular, the shares of Germany, Austria, and Italy were markedly above their importance for total extra EU trade. Since 1993, Austria and Italy could realise an under-proportionate increase in their exports to the ACs only (Table 1-4). The highest increases of exports – though, or perhaps because, they started from a very low level – were experienced by Ireland, followed by Finland, Portugal, Sweden and Spain. Portugal and Spain show the highest increase of imports from the ACs. Greece shows the lowest increase

Table 1-4

EU-Trade with the Applicant Countries by EU Member						
1993 - 1998, shares in %						
	EU Exports			EU Imports		
	1993	1998	1998/93 ¹	1993	1998	1998/93 ¹
Austria	7.3	7.0	16.8	7.1	7.6	19.2
Belgium/Lux.	3.7	4.5	22.3	2.8	3.9	25.9
Denmark	1.9	1.8	16.4	2.0	2.0	16.9
Finland	2.1	3.0	26.0	1.5	1.4	16.6
France	9.6	9.3	17.1	8.5	7.9	16.1
Germany	40.0	40.1	17.8	47.3	45.7	16.9
Greece	1.7	1.4	11.9	2.1	1.5	10.1
Ireland	0.4	0.7	33.3	0.3	0.4	26.5
Italy	15.6	13.7	14.7	11.5	11.4	17.6
Netherlands	5.7	5.5	16.8	5.9	5.5	16.4
Portugal	0.2	0.2	24.5	0.3	0.5	29.8
Spain	2.1	2.8	25.3	1.6	2.3	26.5
Sweden	2.4	3.3	25.6	2.1	2.7	24.2
United Kingdom	7.3	6.7	15.6	7.0	7.2	18.5
EU total	100.0	100.0	17.7	100.0	100.0	17.8

Source: EUROSTAT. - ¹Average annual growth.



of exports as well as of imports. Generally speaking, the differences between EU members in the expansion of imports are somewhat smaller than those for the exports. Astonishingly, France as well as the UK experienced an under-proportionate increase of their exports to the accession countries, despite belonging to the most important exporters among the EU-members and starting from a relatively low level of trade.

These discrepancies can be explained by many factors, among which are the diverging starting levels as well as (geographical and cultural) proximity. To illustrate the regional specialisation, actual trade between the EU and the ACs was compared with a hypothetical value gained by assuming that all EU members would have the average regional pattern of EU trade with the AC, and each AC would trade with the different EU states according to their share in EU-AC trade. If actual trade is above the hypothetical value, a regional specialisation is assumed, as far as the difference exceeds 0,1 % of EU-AC trade which was used as a

Table 1-5

Regional Specialisation in Trade ¹ between the EU and the ACs															
1998															
		North Sea				Baltic Sea			Central Europe		Mediterranean Sea				
		B/L	NL	GB	EIR	DK	S	SF	D	A	F	I	GR	P	E
Baltic Sea	EST					XXX	XXX								
	LAT		XXX												
	LIT					XXX									
	PL		XXX			XXX	XXX		XXX						
Central Europe	CR								XXX	XXX					
	SR								XXX	XXX					
	HU	XXX							XXX	XXX					
Mediterranean Sea	SLO								XXX		XXX	XXX			
	ROM											XXX			
	BG											XXX	XXX		
	MAL				XXX							XXX	XXX		
	CYP				XXX									XXX	
	TR	XXX	XXX	XXX								XXX	XXX		XXX

Authors' computations.- "XXX" denotes that regional concentration is above average. For details see text. -
¹Export plus import.

threshold to eliminate random effects⁴. Obviously, regional specialisation is mostly determined by geographical factors: 24 out of 34 cases lie within the regional groupings employed, i.e. the Baltic Sea region, the Central European region, and the Mediterranean region. Furthermore, two of the 'outliers' relate to bordering countries (Poland-Germany and Austria-Slovenia) that were grouped into different regions. The North Sea countries form a special case: they show some specialisation in trade with the Mediterranean countries, partly for historical reasons (UK-Malta and Cyprus). This regional specialisation also might explain, why Greece, but partly also Italy and France performed poor in expanding trade with the ACs: They are specialised on economies which expanded their imports from and exports to the EU below average.

Another important determinant, however, is the sectoral composition of the industries, both in the exporting and the importing countries and the structure of demand. The better the structure of exports by product in one country fits into the structure of imports of another, the higher will be the trade between the two (Döhrn/Milton 1992). According to this logic, similarity between export patterns on the one hand and import patterns on the other can be used to measure the trade-creating effects of an EU enlargement, as similar trade patterns mean that the exporter offers just those goods that the importer demands.

⁴ To give an example, Germany's share in total EU trade with the ACs is 40 %, and Poland's share in the AC's trade with the EU is roughly speaking 20 %. Therefore, it should be expected that Germany-Poland trade is $20\% \times 40\% = 8\%$ of total EU-AC trade. The actual value is 10,3 %, which is above the expected value, so that a regional specialisation is assumed.

Table 1-6

Trade between the EU and the Applicant Countries by Product Groups						
1990-1997, % of total						
	EU-Exports			EU Imports		
	1990	1993	1997	1990	1993	1997
Central European Countries						
Agricultural Products, Food, Beverages	10.3	9.4	5.5	17.2	9.2	5.5
Mining and Quarrying	0.5	0.3	0.3	1.7	1.9	0.9
Fuels, Gas, Energy	1.6	2.5	2.1	9.1	3.9	3.3
Chemical Products	11.5	9.7	9.1	6.5	4.5	4.1
Plastics, Rubber	4.5	4.9	6.3	3.6	3.9	4.2
Leather, Textiles, Apparel	13.8	14.5	11.6	17.4	23.4	17.3
Wood, Furniture	1.2	2.0	2.6	9.4	10.3	9.6
Paper and Paper Products	1.8	2.6	3.5	1.3	1.7	1.8
Ceramics, Glass	1.5	1.7	2.0	2.7	3.0	2.4
Metals	4.7	5.0	6.2	14.7	12.2	12.7
Products of Metals	1.2	1.2	1.4	0.4	0.7	0.9
Machinery	25.1	18.7	18.5	5.6	6.4	11.4
Electronic Goods	6.7	8.7	13.3	3.9	6.5	12.1
Optical Products, Clocks	3.8	3.2	2.6	0.4	0.9	1.1
Vehicles	5.3	11.5	11.7	2.9	8.2	10.0
Toys, Jewellery	1.0	1.0	0.6	0.9	1.1	1.0
Others	5.5	3.3	2.7	2.3	2.2	1.6
Baltic States						
Agricultural Products, Food, Beverages		33.4	13.1		4.3	4.2
Mining and Quarrying		0.1	0.1		0.9	1.0
Fuels, Gas, Energy		1.0	5.0		48.5	18.3
Chemical Products		4.8	8.1		6.8	5.2
Plastics, Rubber		2.1	5.3		0.4	0.7
Leather, Textiles, Apparel		10.4	11.7		9.9	21.6
Wood, Furniture		2.1	2.8		6.9	26.9
Paper and Paper Products		1.7	3.7		0.2	0.4
Ceramics, Glass		0.7	1.7		0.3	0.8
Metals		2.0	4.9		17.1	7.1
Products of Metals		1.6	1.3		0.1	0.2
Machinery		11.4	11.9		0.4	3.5
Electronic Goods		3.2	12.5		0.4	6.1
Optical Products, Clocks		2.0	2.2		0.1	0.4
Vehicles		15.7	12.4		0.8	1.2
Toys, Jewellery		0.6	0.7		1.4	1.7
Others		7.3	2.6		1.4	0.9
Mediterranean States						
Agricultural Products, Food, Beverages	7.4	4.3	4.2	16.2	15.4	15.4
Mining and Quarrying	0.4	0.2	0.3	3.2	2.0	2.3
Fuels, Gas, Energy	2.3	2.8	2.3	3.7	1.9	1.0
Chemical Products	9.8	9.1	9.7	1.9	1.7	1.7
Plastics, Rubber	4.2	4.2	5.7	1.4	1.6	2.5
Leather, Textiles, Apparel	7.4	6.6	8.9	48.4	49.3	46.7
Wood, Furniture	1.2	1.3	1.3	0.7	0.8	1.1
Paper and Paper Products	1.5	2.0	2.4	0.2	0.3	0.4
Ceramics, Glass	1.6	1.3	1.2	2.0	2.2	2.5
Metals	9.5	10.2	7.3	5.7	2.5	5.6
Products of Metals	0.9	1.1	1.0	0.2	0.3	0.4
Machinery	20.2	19.7	21.1	1.9	2.7	3.9
Electronic Goods	11.2	10.5	10.8	8.3	9.2	8.1
Optical Products, Clocks	2.6	2.8	2.6	0.5	0.8	0.7
Vehicles	11.8	19.0	16.6	3.9	7.7	6.2
Toys, Jewellery	0.7	0.8	0.7	0.5	0.6	0.7
Others	7.3	4.0	3.7	1.2	1.1	0.7

Authors' computations from EUROSTAT data.

1.3.2. Product Specialisation Patterns

The increase of trade volume alone is not enough to draw conclusions about the impact on income levels and on cohesion. It could, e.g., have been caused by trade with raw materials, or by trade in labour intensive goods, requiring simple technology and low skills, and, therefore, granting low incomes only. In the early 90s, specialisation patterns in trade with the Central European countries, indeed, were not very favourable for incomes in the ACs: their imports were dominated by consumer goods, as the demand for ‘western’ goods was high after the fall of the iron curtain, whereas they exported low skill labour intensive, but often also capital intensive products like fuels, basic chemicals, metals that were produced in the over-dimensioned industrial conglomerates inherited from the central planning age (table 1-6). This situation changed quite rapidly. Exports from EU soon shifted to investment goods in which modern technologies were embodied. ACs’ exports diversified, too. Producers of machinery, electronic products and vehicles that dominate EU exports to the ACs also became relevant exporters from the ACs. Hence, specialisation shifted from an inter industry to an intra industry pattern, although leather, textiles, and apparel are still the ACs’ most important export goods. In the Baltic States developments were similar, though differentiation in trade patterns started later, after their secession from the Soviet Union. With respect to the Mediterranean countries, however, the situation differs. EU imports from this region are highly concentrated in leather, textiles and apparel, though these tendencies are dominated by Turkey, whereas trade with Malta and Cyprus is more diversified.

To make the differences between the ACs evident, Intra Industry Trade (IIT) coefficients are used as an additional indicator for the convergence. Subsequent, Grubel-Lloyd coefficients are calculated on a 4-digit CN-level⁵ representing a relatively low level of disaggregation already. At this level, IIT coefficients have grown between 1993 and 1998 in all cases except three (table 1-7): in Malta and Cyprus coefficients have been high anyway, not differing much from those observed in the EU. Therefore, no far-reaching conclusion should be drawn from this decline. The third exception is Bulgaria, which underlines that it is still poorly integrated into the international division of labour, partly due to the unsatisfactory economic development it took. The highest coefficients can be found in the Czech Republic, Slovenia, Hungary, and Poland, i.e. in the countries most advanced in transformation. Hence, from a cross section perspective as well as over time, the importance of IIT is positively correlated with per capita income (chart 1-3). Nevertheless, IIT coefficients are still lower in general than those observed in EU-members (Table 1-2)


All in all, the calculations presented demonstrate that many ACs have already made considerable progress in their integration into the European division of labour, not only in view of increasing trade volumes but also in terms of an upgrading of the products exported. This upgrading allows for higher incomes. However, the share of IIT is partly determined

⁵ As imbalances between exports and imports are considerable and the standard Grubel-Lloyd index is biased by that, the adjusted index is used here.

Table 1-7

Intra Industry Trade Coefficients¹ between the Applicant Countries and the EU		
	1993	1998
Bulgaria	31	26
Czech Republic	51	61
Hungary	43	47
Poland	34	48
Romania	23	26
Slovakia	31	39
Slovenia	42	56
Estonia	14	38
Latvia	11	21
Lithuania	11	25
Cyprus	70	67
Malta	66	57
Turkey	21	29

Authors' computations. – ¹Adjusted Grubel-Lloyd Indices based on 4-digit CN-code trade figures.

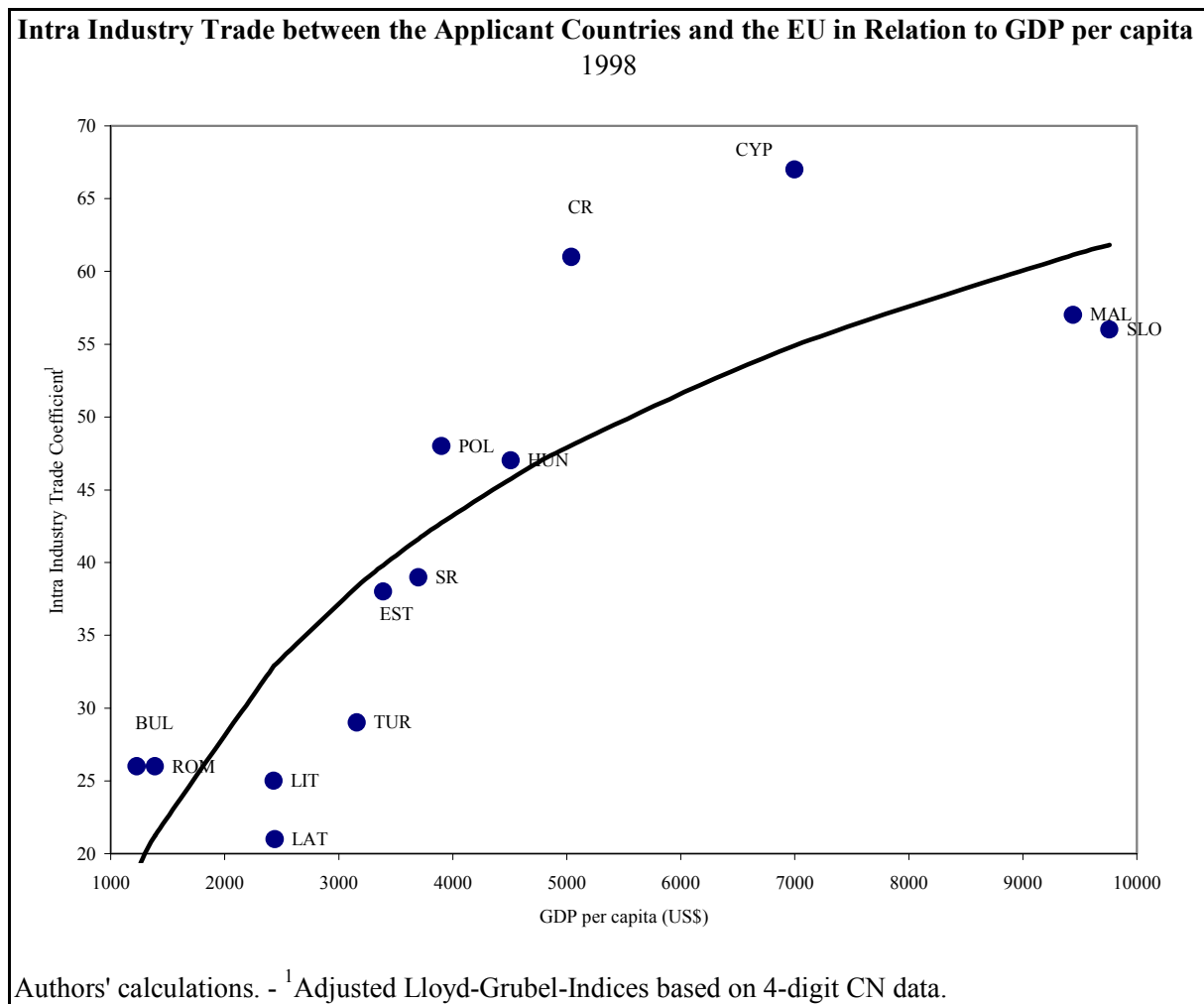


by income levels. It may also be argued that a rise in income will force producers to shift their production towards more capital intensive goods, so that IIT to some extent is a consequence of the higher incomes and not only a source to improve them (Fidrmuc 1999). Therefore, IIT coefficients are used here above all as an indicator of cohesion, leaving open the question of causality.

Anyhow, these results require some differentiation. First of all, the important role outward processing played in the development of trade between the EU and the ACs must be taken into account. Especially in the early 1990s trade with the Central European ACs was pushed ahead by outward processing. Its share in total imports from that region reached its maximum in 1993 (table 1-8). Almost 15 % of the goods delivered to the EU consisted of goods processed on behalf of producers from EU countries. After 1993, the importance of this special form of trade shrank. However, in some countries, especially Romania, Lithuania, and Bulgaria, it covers still a relevant part of trade.

One should bear in mind that outward processing trade as it is shown in the trade statistics is defined for customs purposes. In many cases, the relevant customs procedures are not applied although outward processing takes place in an economic sense, e.g. when not all materials processed originate from EU countries, or when no customs are applied. Hence, the importance of processing should be larger than expressed in the statistics. Indeed, when going more into detail it can be seen in many cases that EU imports e.g. of electronic products

Chart 1-3




consist of parts with a low technological content or labour intensive supplies. New approaches in measuring IIT try to take into account the stages of production of the goods traded. Freudenberg/Lemoine (1999: 29) show for the Central European countries that intermediate goods had in 1996 the highest and above all growing shares in their exports to the EU, which was in particular true for electronic products, machinery, and vehicles, but not for the textiles sector.

Freudenberg/Lemoine (1999: 52) present a different approach for measuring integration, examining bilateral trade on very detailed level, as well as taking into account differences in quality. They differentiate between products that are only exported by one of the two partner countries considered (one-way trade), goods that are exported by both countries, but in different qualities, which are measured in terms of price differences (vertical intra industry trade), and, finally, trade with the same products at nearly the same prices and thus qualities (horizontal intra industry trade). On that basis, they found that in 1996 only 5 % of the trade between the EU and the Central European States belonged to this last category, representing the highest level of integration. About 25 % is vertical intra industry trade, i.e. significant differences in quality exist. Finally, more than 70 % is one way trade. In the Czech Republic, Hungary, and Slovenia shares of horizontal intra-industry trade are above these averages, in

Table 1-8

Share of Outward Processing Trade in EU Imports from the Applicant Countries						
1990-1997, per cent						
	1990	1993	1994	1995	1996	1997
Bulgaria	6.0	13.6	11.4	11.3	14.6	13.3
Czech Republic ¹	5.4	12.4	12.5	10.8	10.6	8.5
Hungary	16.8	20.2	17.5	12.9	13.2	10.1
Poland	11.0	18.6	18.5	15.4	15.8	11.8
Romania	18.8	29.7	28.0	25.5	29.3	27.1
Slovakia		13.5	12.0	9.3	10.1	9.4
Slovenia		11.9	9.0	6.4	5.7	5.2
Estonia		4.6	3.9	6.4	6.9	6.2
Latvia		2.8	5.0	4.9	5.9	6.7
Lithuania		6.6	10.3	12.9	15.1	16.5
Cyprus	0.5	0.0	0.8	2.0	2.7	4.4
Malta	37.1	34.4	43.9	36.9	16.7	6.8
Turkey	1.8	2.1	2.1	1.9	1.3	0.8
Total	9.4	13.6	13.5	11.3	11.3	9.3

Source: EUROSTAT – ¹1990: Czechoslovakia.



the remaining countries significantly below, which, again, is in accordance with the per capita income levels. However, such comparisons should be made on a bilateral basis only. With respect to German trade with the ACs, e.g., shares of horizontal intra-industry trade with the Czech Republic, Slovenia and Hungary already exceed the relation observed between Germany and Portugal, indicating that the German economy might be more integrated with the bordering ACs than with the peripheral EU countries (Brüstle and Döhrn 2001).

2. The Impact of FDI on Cohesion

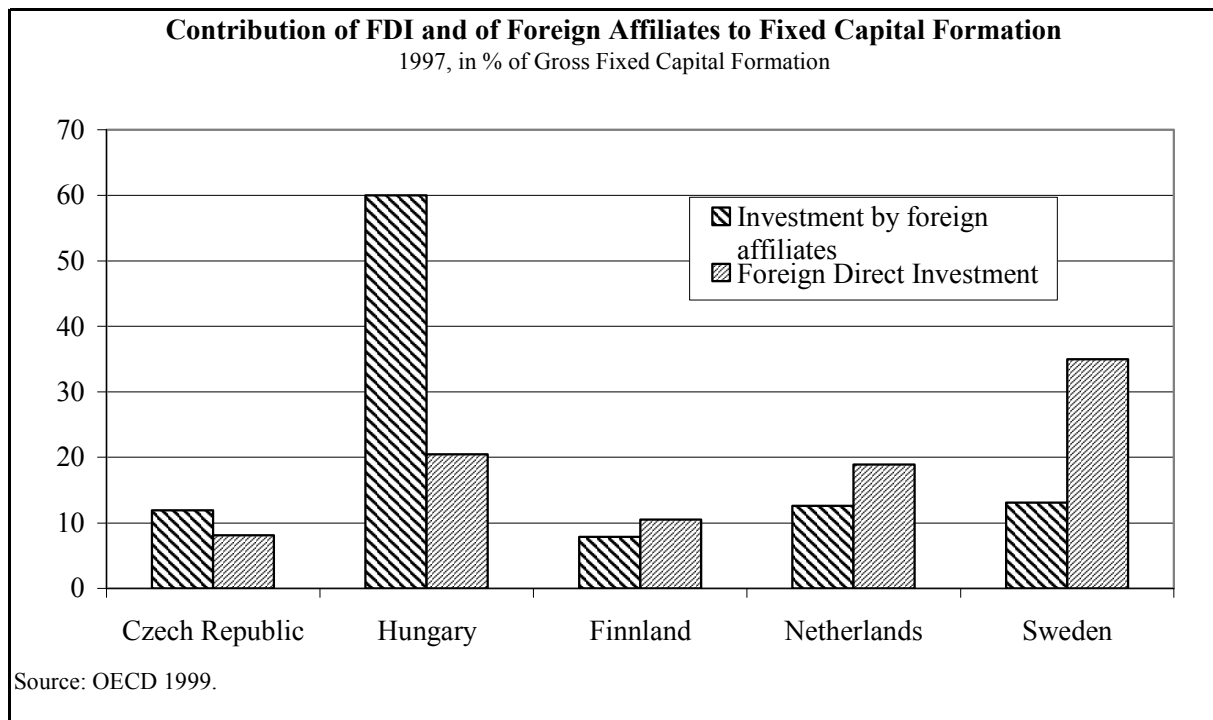
2.1. The Role of FDI in Capital Formation and Technological Transfer

Driving forces behind the globalisation of the economies changed in the 1990s. It was no longer driven by international trade but increasingly by FDI. Total FDI flows world wide were four times larger in 1999 than in 1990, while FDI stocks nearly tripled. One might argue, that FDI will contribute to fixed investment, lead to technology transfer, and, thus, improve the capital stocks and create chances for higher incomes. However, the relation between FDI and fixed capital formation is not as clear as is often thought. Following the definition applied in the Balance of Payments statistics, FDI is defined as a capital flow that creates a “lasting interest of an entity resident in one economy (direct investor) in an entity resident in another economy (direct investment enterprise)” (IMF 1993: 41). Whether inward FDI contributes to fixed capital formation is not part of the definition, and it may be questioned quite often.

In some cases, foreign investors acquire companies to use the existing capital stocks for production, or they even might be interested in closing down the site acquired, i.e. they reduce stocks of locally fixed capital, e.g. in order to serve the markets with imported products. In other cases, FDI is deemed to establish financial institutions, serving as own capital but not leading to the formation of any significant fixed capital. At the same time, fixed capital formation by foreign investors may also exceed FDI in some cases. Insofar as bank credits – regardless of whether from domestic or foreign banks – are used to finance fixed investment, it is not considered as FDI and does not show up in the relevant statistics. For some countries, data are available about the shares of FDI and of foreign companies in fixed capital formation (OECD 1999). They show that in the case of the ACs Hungary and Czech Republic foreign companies contribute more to capital formation than FDI data suggest. In the Western European countries, as far as data are available, the opposite is the case, most probably because a large share of FDI goes to the financial sector (Chart 2-1). In other words: FDI must be considered as one way to finance fixed capital formation among others, including bank credits or portfolio investment, too (Graham 1995, Döhrn 1996a).

Therefore, FDI will not necessarily lead to fixed investment. Nevertheless, for economies in transformation it may be an attractive way for funding it. From a balance of payments point of

Chart 2-1



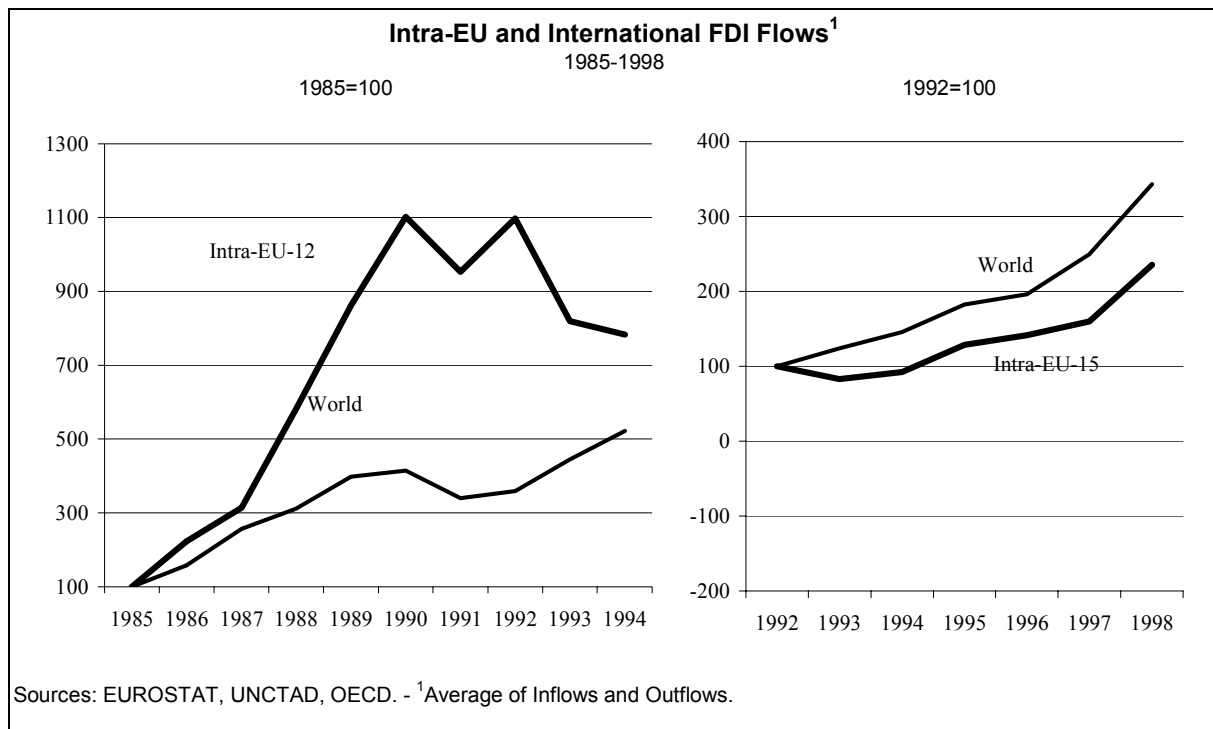
view, inward FDI means an import of capital, on which no fixed interest payment is expected, as the investor bears parts of the entrepreneurial risk. There are more reasons why FDI can be seen as an advantageous way to import capital⁶:

- In fact, a good deal of FDI is linked to “greenfield” investment and, thus, creates production capacities and workplaces.
- Foreign investors know about the opportunities of their products in the market, which reduces information costs and the risk of failures.
- FDI enterprises have access to the distribution channels of multinational companies and, thus, face lower barriers to enter new markets.
- An import of technology and knowledge is linked to the investment, creating spillovers to the economy as a whole (Blomström/Sjöholm 1999).
- Finally, foreign investment is also linked to an ‘import’ of tacit knowledge and governance that might make foreign owned companies more successful and generate spillovers, too.

Also from the perspective of the investor, FDI offers some advantages. As the investor takes

⁶ For a more detailed discussion see Knell and Radosevic (2000), Bellak (1998: 3), Döhrn and von Westerhagen (2000).

Chart 2-2



control and even often entrepreneurial leadership of the company abroad, it may be argued that the use of the capital might be more efficient, if not less risky, than investments of domestic companies funded by international capital.

As a conclusion, one has to differentiate between two channels through which FDI impacts on cohesion: In quantitative dimension by building capital stocks and creating production capacities, and in a qualitative manner by improving the technological standard of the capital stock, the skills of the workforce and bringing in organisational knowledge that improves the utilisation of existing capital.

2.2. The Role of FDI in European Integration

Between the members of the EU, flows of FDI are significant, and they have grown considerably. In a world wide context, FDI experienced an unprecedented surge not before the middle of the 1980s, showing that the integration of the world economy through FDI started far later than through trade. In the EU, too, FDI was not the engine of integration, but more a latecomer. However, in the 1980s intra-EU FDI flows climbed markedly faster than world total (chart 2-2). Partly this can be explained by the Single Market Programme that boosted cross-border organisation of production and thus encouraged FDI, too. Nevertheless, the development shown is partly also due to increasing investments in the financial sector, especially the forming of holding companies and other financial institutions, particularly in Belgium, the Netherlands, and Ireland (Döhrn 1994). Investment in these sectors is stimulated by tax preferences granted at some locations and associated with large capital flows as a rule, but it shows little impact on economic activities, incomes and thus on cohesion.

In the 1990s, intra-EU FDI is lagging behind international developments. This must not necessarily be interpreted as diminishing forces of integration through this channel. Again, the impact of FDI on the real economy has to be taken into account, that might – as already pointed out – differ from the capital flows. Furthermore, the factors influencing FDI must be considered: GDP – a main determinant of FDI - grew slower in the EU than it did in the world as a whole; many countries, noticeably in Eastern Europe but also in Asia (e.g. China and India), opened their markets to foreign investors in that period. Finally, figures are strongly influenced by mergers and acquisitions. A relatively small number of ‘mega mergers’ leaves its trace even on a world scale.

Therefore, one should analyse the impact of FDI on cohesion by a set of indicators that mirrors the economic activities of multinational companies instead of measuring capital flows. Despite all steps OECD and EUROSTAT took in this direction (OECD 1999, Hatzichronoglou 2000), the information available is still very patchy. Many countries were not able to produce any data at all up to now, and data cover a relatively short period only. Hence, analysis still depends on data that are not appropriate. Nevertheless, various estimates suggest that EU membership has a positive influence on FDI: using flow as well as stock data for 1991 in a gravity model context, Döhrn (1996b) found that EU members tend to invest more abroad as well as they seem to attract more foreign investment. Van Aarle (1996), confirms this result using 1980-1994 time series. He also finds a positive impact of the Single Market programme on FDI. However, it should also be noted that companies from outside the EU strengthened their FDI in the Union, in reaction to possible trade diversion. This idea is supported as well for the formative years (Yannopoulos 1990) as well as for the completion of the Single Market (Aristotelous and Fountas 1996).

2.3. The Role of FDI in the ACs


2.3.1. General Developments in FDI

What has been said above for foreign trade between the EU and the ACs, especially those in Eastern Europe, is even more true in the case of FDI: actually almost no investment had been made in the former CMEA countries by investors from the EU before 1990. In this year, annual FDI to the ACs totalled 1.4 bn \$, about two thirds being directed into the Mediterranean region, whereas flows to the Central European Countries were very small. One exception is Hungary, where economic reforms started earliest. However, shortly after the fall of the iron curtain, the economies in transition took measures to attract foreign investors, and they have been quite successful in doing so. Since 1990, flows to the Central European countries increased significantly, being 28 times higher in 1999 than in 1990 (Table 2-1).

Table 2-1

Foreign Direct Investment Flows to the Applicant Countries 1990 – 1999; US\$ mill										
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Bulgaria	4	56	42	55	105	90	109	505	537	770
Czech Republic ¹	173	583	988	568	862	2568	1435	1286	2738	5091
Poland	89	291	678	1715	1875	3659	4498	4908	6365	7270
Hungary	311	1462	1479	2339	1145	4519	1982	2079	2037	1951
Romania	-18	40	77	94	340	419	263	1215	2031	961
Slovak Republic ²	-	-	85	199	203	183	280	174	562	354
Slovenia	-	-	111	113	128	176	185	321	165	83
Central Europe	555	2376	3418	5028	4554	11523	8644	9983	13899	15711
Estonia	-	-	82	162	214	201	150	266	581	305
Latvia	-	-	29	45	214	180	382	521	357	366
Lithuania	-	-	27	30	31	73	152	355	926	486
Baltic	-	-	138	237	459	454	684	1142	1863	1158
Cyprus	127	82	107	83	75	82	50	68	56	65
Malta	46	77	40	56	152	182	325	165	273	811
Turkey	684	810	844	636	608	885	722	805	940	783
Mediterranean	856	969	991	776	835	1150	1097	1038	1269	1660
Total	1415	3401	4588	6097	5953	13217	10534	12668	17568	19299

Source: IMF and National Sources. - ¹Without FDI-relations between the Czech and the Slovak Republic 1990 and 1991 CSFR; 1992 estimate. - ²1992 estimate.



However, flows are highly concentrated on a small number of countries. Initially it was Hungary that accounted for 37 % of total inflows of the ACs between 1991 and 1993; later on Poland became the most important host country in absolute terms, receiving 38 % of total inflows on 1999.


The data reported in Table 2-1 are inflows taken from the Balance of Payments of the ACs. These do not necessarily correspond with outflows reported in the statistics of the investor's countries, as the methods to collect FDI data differ between the individual countries. In the face of the differences usually found, the figures on outward FDI from the EU countries fit quite well into the picture presented and therefore allow some statements about the importance of the EU and its individual members as investors.

Compared to total inflows given in Table 2-1, the results presented in Table 2-2 suggest that more than half of total FDI in the ACs came from EU investors. Among the EU, Germany accounts for half of the investments, followed by the Netherlands, France, and Austria. Differentiating according to recipient countries, Germany belongs to the main investors in all of them, but also regional factors become evident. In Slovenia, neighbouring Austria is the most important investor country, as well as it is Finland in the Baltic States. In Romania, France is the most important source of FDI.

Table 2-2

Foreign Direct Investment from the EU in the Applicant Countries										
1995-1997 annual averages, ECU mill.										
	Baltic States	Czech Republic	Hungary	Poland	Bulgaria	Romania	Slovakia	Slovenia	Turkey	Total ¹
Austria	1.2	90.1	203.3	110.2	6.1	23.9	49.4	47.2	8.6	540.0
Belgium/ Luxembourg	0.0	39.3	121.6	41.0	27.5	5.3	8.2	0.4	6.2	249.4
Denmark	0.0	0.0	0.0	0.1	n.a.	n.a.	n.a.	0	n.a.	0.2
Finland	43.5	1.3	14.0	20.4	n.a.	n.a.	n.a.	n.a.	-5.2	74.0
France	2.3	104.8	271.1	261.0	1.8	71.4	11.1	8.2	63.6	795.3
Germany	27.6	671.2	691.8	984.8	18.9	48.1	108.1	19.4	158.8	2729.0
Greece	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Italy	3.1	10.7	38.6	12.2	0.7	9.3	5.6	7.7	12.9	100.8
Netherlands	5.2	301.2	237.8	342.0	n.a.	24.1	28.0	12.6	72.1	1023.1
Portugal	n.a.	-0.1	0.3	4.9	0.4	n.a.	n.a.	n.a.	0.2	5.6
Spain	0.0	12.2	4.5	2.6	8.0	0.8	0.4	1.5	6.1	36.2
Sweden	22.1	78.4	8.9	51.9	1.4	4.9	40.2	0.8	2.1	210.7
United Kingdom	29.8	104.3	22.6	37.3	8.4	3.8	3.7	4.2	n.a.	214.3
Total ¹	135.1	1413.5	1614.6	1868.5	73.2	191.8	254.8	102.0	325.3	5978.6

Source: OECD. – ¹Sum of countries listed.



In accordance with the information on flows, the largest FDI stocks have been accumulated in Poland, Hungary, and the Czech Republic (Table 2-3)⁷. In relation to the size of population, the smaller countries, namely Malta, Cyprus, and Estonia attracted significant investment, too, whereas Poland still is markedly lagging behind, taking into account the size of its economy. Turkey, Romania, and Bulgaria, on the other side, have been not very attractive to foreign investors up to now. However, it should be kept in mind that even in ACs with high FDI per capita the ratio is still significantly lower than in all EU countries.

2.3.2. The Contribution of FDI to Capital Formation


As already mentioned, FDI does not necessarily lead to fixed investment but represents one way to finance it. Accordingly, the relation of FDI to Gross Fixed Capital Formation (GFCF) should not be interpreted as the share which foreign investors contributed to building capital stocks but it must be understood as an indicator of how important foreign investors are in financing fixed investment. However, even bearing in mind this caveat the ratio is difficult to

⁷ Data in FDI stocks do not necessarily correspond with information given on flows. Stocks statistics, as a rule, are derived from different sources than data on flows, sometimes using different definitions, which is especially true for the economies in transition in Eastern Europe. Therefore, accumulating flow figures does not necessarily lead to results comparable to the data available on stocks, let alone the question how to account for exchange rate movements in these calculations (Döhrn und von Westerhagen 2000).

Table 2-3

Foreign Direct Investment Stocks in the Applicant Countries								
1993-1999, US\$ mill.								
	1993	1994	1995	1996	1997	1998	1999	1998 per capita in \$
Bulgaria	-	-	-	-	-	1348	-	164
Czech Republic	3423	4547	7350	8572	9234	14375	16246	1396
Hungary	-	-	-	-	16073	18505	19191	1832
Poland	-	-	-	11463	14587	22479	-	581
Romania	216	401	418	1081	2305	4335	5296	193
Slovak Republic	-	882	1248	1974	1974	2502	-	463
Slovenia	-	-	-	-	-	1348	-	674
Estonia	-	-	-	825	1148	1822	2467	1301
Latvia	-	-	616	936	1272	1558	1885	649
Lithuania	-	262	354	700	1041	1625	2063	439
Cyprus	-	-	1613	1713	2047	2247	-	2996
Malta	-	-	973	1274	1426	1556	-	4576
Turkey	-	-	5103	5825	6630	7437	-	117

Source: IMF, UNCTAD.




interpret. Firstly, FDI may represent investment in the financial sector that does not lead to the formation of fixed capital. Up to now, however, this has not been relevant for the ACs. Secondly, the relation of FDI to GFCF tends to be large in small countries, where internal saving is necessarily low, too. The high ratios for Malta, Cyprus, and Estonia are therefore unsurprising (Table 2-4). Thirdly, a high ratio may sometimes reflect weaknesses in GFCF and not attractiveness for foreign investors. The sharp increase in 1997 in Bulgaria and Romania can surely be explained by poor GFCF in these years. Nevertheless, the figures exhibit significant differences between the countries analysed. In Malta, Estonia, Latvia, Poland, and Hungary on the one hand, the contribution of FDI to GFCF was high compared to the corresponding ratios for developed as well as developing countries, and it was quite stable over time. In Bulgaria, the Czech Republic, Romania, Slovakia, Slovenia, and – above all – Turkey, the ratio was significantly lower in most years, often lower than the average of the developed economies. Interestingly, in some of the countries with low ratios – namely in Slovakia and Slovenia – growth performance in this period of time was above the average of the ACs, despite relatively low FDI. In Slovenia this may be reflect that compared to other transforming economies the country already was more open to foreign investors before 1990. In Slovakia, growth was pushed by national policies that slowed structural change, a strategy the country now has to pay for in terms of low GDP rates.

Table 2-4

Foreign Direct Investment Inflows as a Percentage of GFCF					
1993-1997, %					
	1993	1994	1995	1996	1997
Bulgaria	2.9	7.9	4.5	8.1	44.0
Czech Republic	6.8	7.4	15.4	7.7	8.1
Hungary	32.1	13.7	52.8	20.6	20.5
Poland	12.6	12.5	18.2	17.6	17.1
Romania	2.0	0.6	5.5	3.3	18.4
Slovak Republic	4.3	6.1	4.1	3.6	2.4
Slovenia	4.7	4.4	4.4	4.4	7.5
Estonia	40.6	34.8	21.8	12.9	21.5
Latvia	-	-	26.8	41.1	48.8
Lithuania	-	-	-	-	-
Cyprus	5.6	4.9	7.0	15.0	10.6
Malta	7.8	19.1	17.8	34.0	15.0
Turkey	1.3	1.9	2.2	1.6	1.6
Memo					
Developed Countries	3.6	3.7	4.7	4.8	6.5
Developing Countries	6.4	8.0	7.3	8.4	10.3


Source: UNCTAD 1999.



To get the full picture of the contribution of FDI to capital formation, sectoral aspects also have to be taken into account. Opposite to the situation in most industrialised countries, a good deal of FDI in the ACs is still allocated in the manufacturing sector, especially in the Central European Countries in transition. Here, FDI may play quite different roles in the course of the transition process (Bellak 1998: 4, Hunya (ed.) 2000: 4). At an early stage, it may contribute to economic stabilisation by securing the survival of existing firms and modernising their capital stocks. It will concentrate on well established industries and, hence, make an important contribution to economic and political stability. By doing so, it lays the foundation of future growth, but it helps little to restructure the economies. In a second phase, investment will have a strong focus in restructuring, by concentrating on new and growing industries and filling gaps in the production portfolio.

To illustrate these phases, German FDI in Hungary might serve as a good example (table 2-5). At an early stage in transition, Other Manufacturing, i.e. food industry, textiles etc. attracted most investment, furthermore the chemical industry, all in all well established industries in Hungary. The restructuring phase in the terminology used above may have started around 1993, with large investments in the automotive sector. Since 1994, investment in banking has also gained momentum. Finally, in 1996, large acquisitions have been made in other

Table 2-5

Stocks of German Foreign Direct Investment in Hungary by Sector									
1990-1998, %									
	1990	1991	1992	1993	1994	1995	1996	1997	1998
Chemical Industry	6.4	17.0	10.1	5.5	4.1	4.2	2.5	2.9	1.6
Electronics Industry	5.6	5.3	4.2	2.7	4.3	3.0	1.9	1.6	2.1
Automotive Industry			2.0	21.2	22.5	26.8	21.4	22.0	25.8
Mechanical Engineering	4.5	5.5	4.9	3.1	1.6	1.8	1.2	1.4	1.5
Other Manufacturing	26.3	28.2	44.2	37.9	32.4	27.2	17.3	16.0	15.3
Trade	26.7	27.0	17.5	15.3	15.4	10.6	7.2	9.0	8.9
Banking				4.2	8.6	9.0	7.0	9.0	7.7
Insurance				2.4	2.4	2.2	1.8	2.1	2.0
Other	30.5	17.0	17.2	7.7	8.6	15.2	39.8	36.0	35.1
Total FDI (DM mill.)	266	489	1132	2218	2785	3464	6330	7623	9218
Source: Deutsche Bundesbank									

industries, namely the telecommunications sector and in energy distribution, shown in the table in the line “Other”.

As exhibited in table 2-6, sectoral structures of FDI in the ACs – unfortunately for many countries no information is available – show some common features, but they also exhibit national specifics. Many differences result from privatisation strategies pursued. In Hungary and Slovenia, where the energy sector has already been privatised, a good deal of the investment went to the electricity, gas and water sector, the same is true for the telecommunication sector in the Czech Republic and Hungary. Financial institutions have attracted at least 10 % of FDI in all countries except Romania, with shares in Latvia and Slovakia being clearly above average. In Lithuania, one third of FDI can be found in the trade sector, and in Latvia Transport and Communications are dominant. However, in the Czech Republic, Slovakia, and in Romania the manufacturing sector is still dominant. Interestingly, about a quarter of FDI in manufacturing – except in Slovenia – can be found in the food industry. As this sector is not very important for the external trade of the ACs, the attention given to it indicates that foreign investors aimed primarily at getting access to new markets. The importance of FDI in the trade sectors points in the same direction.

For Turkey, information on FDI by sector is available for flows only. Taking accumulated flows as a rough estimate for stocks, FDI is even more concentrated in manufacturing (52% of accumulated flows 1992-1997) and in the trade sector (24 %) than in the Central European States. Only about 4 % of FDI was in financial services. For the remaining service sectors, no detailed data are available.

Table 2-6
Foreign Direct Investment in Applicant Countries by Sector
 1997, per cent

	Czech Republic	Hungary	Latvia	Lithuania	Poland	Romania	Slovakia	Slovenia
Agriculture & Fishing	0.1	0.9	0.2	0.7	0.2	2.0	n.a.	n.a.
Mining & Quarrying	0.9	1.1	0.2	2.5	0.3	4.0	n.a.	n.a.
Manufacturing	55.5	39.1	22.8	41.2	38.7	53.0	47.5	30.0
Food products	9.7	10.3	4.1	16.1	9.5	14.0	n.a.	2.0
Textiles and wood activities	6.0	4.3	3.4	11.1	5.0	4.0	n.a.	7.0
Petroleum, chemical, rubber and plastic products	7.3	8.3	8.9	3.9	6.7	5.0	n.a.	6.0
Metal and mechanical products	5.6	4.9	3.0	0.7	3.3	15.0	n.a.	5.0
Office machinery, computers, radio, TV, and communication equ.	0.6	4.4	0.6	n.a.	1.0	3.0	n.a.	n.a.
Vehicles and other transport equ.	8.7	3.7	0.1	3.1	5.9	3.0	n.a.	n.a.
Electricity, Gas, Water	4.3	13.7	1.6	n.a.	0.0	n.a.	n.a.	14.0
Construction	2.0	2.5	0.3	0.4	1.2	1.0	3.1	n.a.
Trade and Repairs	12.1	12.9	13.2	32.5	11.7	16.0	18.0	11.0
Hotels and Restaurants	0.8	2.5	1.5	2.4	0.2	4.0	1.4	n.a.
Transport and Communication	9.4	7.7	33.8	11.2	1.7	4.0	2.1	n.a.
Financial activities	11.3	10.5	20.1	5.4	12.3	5.0	25.5	17.0
Real estate and business activities	3.4	8.3	2.0	1.7	2.8	4.0	1.9	13.0
Other Services	0.0	0.8	1.1	1.0	0.2	1.0	0.5	n.a.
Not classified	0.1	0.0	3.2	1.1	30.6	6.0	n.a.	15.0

Source: OECD 2000, UNCTAD 1998, Hunya 2000a; national sources. - 1996

Summarising the results so far, the contribution of FDI to GFCF was significant in most ACs. Capital stocks and production capacities would have been smaller without investment from abroad, and, hence, the potential GDP would have been lower. All in all, via its impact on GFCF, FDI contributed to income convergence between the EU and the ACs. But there are also exceptions to that rule. Turkey attracted little FDI, particularly in view of the fact that foreign investors are ‘demand oriented’ as a rule, i.e. they invest in markets with a potentially high demand for their products, and Turkey has the largest economy among the ACs measured by the number of consumers.

The positive, growth enhancing effect of FDI is partly offset by sectoral factors. Especially in the initial stage of transformation of the Central European and Baltic States to a market economy, many investors aimed at getting access to the new markets. Therefore, large investments had been made in retail trade and in consumer goods sectors such as food and beverages, not always leading to the formation of new capital, but often aiming to use existing distribution channels.

2.3.3. The impact of FDI on skills and technology

However, some secondary effects have to be taken into consideration, too. As pointed out above, FDI may play an important role in closing the technology gap between the ACs and the EU if it is associated with a transfer of skills and technology. Whereas technology flows are analysed in quite a number of studies – we will come to them later – flows of skills are often neglected in the analyses of the role of multinational enterprises in development. One exception is the 1999 World Investment Report, where a summary can be found of the discussion of how FDI might influence skills in the recipient countries (UNCTAD 1999: 257-287). It shows that the interaction of FDI and skills is rather complex. Investors might be interested in undertaking some form of training, “at the minimum to ensure that technologies in use are deployed efficiently” (Ibid: 273). They also might influence suppliers, industry associations or governments to take measures to improve the training of the workforce. But the role of multinational enterprises differs by industry and production technology applied. If wages rise over time, some multinational enterprises might take measures to improve skills to gain a higher productivity. However, if cheap labour is the only factor determining investment, the company will relocate instead (Ibid: 274). Furthermore, improving skills might not only result from FDI but it may also be a precondition to attract it.

Anyhow, empirical material on this subject is restricted to some case studies from developing countries and anecdotal evidence. Hence, it is difficult to assess what impact FDI had and will have on skills in the ACs.

Concerning the role of FDI in technology transfer, more empirical work is available. Examined from the investor’s perspective, FDI enterprises are indeed likely to contribute to technology transfer. They tend to be more R&D intensive than other enterprises. This idea has rich empirical support. Molle and Morsink (1991) on a macroeconomic level, Barrell and Pain (1997) in an intersectoral comparison, and Wagner and Schnabel (1994), Balestra and Negassi (1992) and Döhrn (2000) using microeconomic data have found that high R&D expenditure

stimulates investment abroad. Clearly, R&D-intensive firms seek opportunities to utilise their research output in a broader market, and they are as a rule economically strong enough to bear the risks of foreign investments. From the perspective of the recipient country, foreign investors represent the “leading edges” of companies offering the chance to get access to advanced technology.

To be more specific, technology spillovers to local industries can be realised through various channels:

1. The direct transfer of technology by the multinational enterprises (MNE) will take place especially when the affiliate of the MNE is integrated into the local value added chain and creates links to local firms outside of the corporate group, e.g. as supplier or customer of intermediate goods (Rodriguez-Clare 1996). However, the scale of a possible transfer of technology through this channel can only be estimated roughly. Some studies of the relation between companies do exist, but they do not explicitly consider transfers of technology. At least, some fragmentary findings on an interchange by vertical interlacing between MNE's and their local affiliates are reported by Lall (1980).
2. The diffusion of know how through migration of employees from the MNE to local companies: following Saggi (1999), no empirical studies have been undertaken to analyse the connections between job rotation and productivity of local companies in detail, most probably because it turns out to be too difficult to follow the individual careers of employees and to determine their impact on productivity growth. Occasionally a study records a slightly increased fluctuation of employees from affiliates of MNE's towards local firms, e.g. the work by Konings (1999) who did empirical research in Bulgaria, Romania and Poland. Nevertheless, these findings can only give anecdotal evidence and cannot trace a causal connection.
3. Local companies may imitate the technology applied by affiliates of MNEs. In this case, a positive impact of FDI independently from the establishment of further business connections can be expected a priori. The technology is imitated by local agents just by introducing it into the local markets. However, the impact is difficult to assess. Following Saggi (1999) a prerequisite for empirical research is a survey of industry level data, as the influences on local market structures are to be examined. Such surveys do not exist up to now. But the focus of recent work has moved to looking at the productivity of local companies.

Studies on the technology transfer linked to FDI have a long tradition– a survey of literature can be found in Navaretti/Tarr (2000) and Saggi (1999). First analyses compared inter-industry differences in productivity with the importance of FDI in these sectors as measured by shares of employment or the value added in foreign owned companies (e.g. Caves 1974, Globermann 1979).

The analysis is not straightforward, as many additional determinants may influence the impact of FDI. It is a widespread view that the scope of influence is determined by the abilities of the economies to absorb new technologies and by the educational level of the local population. (see inter alia Borensztein et al. 1998; Olofsdotter 1998; Habuda 1999). Furthermore, the

stability of the institutional framework, which are regulation of markets, industrial property rights, infrastructure, etc. is of great importance for possible impacts (Sharp and Barz 1996, Markusen 1998, Röhm 1999). In addition, one has to keep in mind that the market entry of new companies initially increases the competition in the host country. Due to the strong position of the companies with foreign links, the position of the residual firms deteriorates, so that the net effects on indigenous firms are ambiguous in the short run, which is confirmed by many case studies, e.g. Djankow/Hoekman (1999) for the Czech Republic, Dörr/Kessel (1999) for the Czech Republic and Hungary, and Konings (1999) for Poland. Furthermore, the MNE's, whose advantageous market position is based on their technological lead, can be expected to defend this advantage. Therefore, they will prefer to prevent a technical diffusion, e.g. by paying higher wages or by sanctioning the infringement of property rights. Otherwise, Saggi (1999) argues that a company may use sanctions only in rare cases, as they bear some characteristics of public goods, when they change the public perception of property rights violations to the benefit to all competitors. The net effects of FDI therefore are only difficult to estimate.

Surveying the literature, another aspect becomes evident: Surprisingly, the static effects of FDI are analysed quite thoroughly, while the dynamic impacts, which occur in the course of time, attract much less attention. For instance, the importance of former experiences abroad, like exports, for the choice of strategies for further internationalisation is often neglected (Saggi 1999). Additionally, strategies can be adapted to changing conditions. Thus, the experience gained with the foreign investment can lead to the application of different strategies (Roberts and Tybout 1997). It should be kept in mind, too, that the costs of information procurement fall sharply for succeeding investors in the same country, as they can rely on the first mover's experiences and therefore the risk of entering new markets diminishes for late-comers. (Kinoshita and Mody 1997).

Generally speaking, empirical evidence is mixed. Bellak (2000) surveys different studies on the role of FDI in technology transfer to Austria, which is a good case, since Austria has been a "catching-up-economy" after World War II and, thus, was in a situation comparable to the ACs. Many of the studies he refers to point out that foreign-owned companies conducted more R&D in Austria than the average Austrian enterprises. At the same time, the studies underline the risks associated with a high dependency on foreign research. Another example is Aitken/Harrison (1999), who analyse the spillovers from FDI to local companies for a middle-income developing country (Venezuela). They detect a negative impact on the local economy.

Empirical work on Central and Eastern Europe is still fragmentary. Especially, the focus is on the most important countries, measured by population or GDP, with Poland and Hungary leading. For many smaller countries only indirect evidence is available. Without exception, all contributions confirm that a catch-up is on its way. All studies record a positive relationship between productivity of local companies or growth of productivity on the one hand and the share of foreign equity in the company on the other (inter alia: UNCTAD 1992 for different developing countries, Borsos-Torstila 1997 for Estonia, Djankow/Hoekman 1999 for the Czech Republic). Nevertheless, a confusion of cause and effect cannot be ruled out completely, as it is also plausible, that foreign equity interests are preferably directed to firms,

which had a relatively high productivity beforehand. By this, the impact of FDI on the development of local enterprises can easily be overestimated (Aitken and Harrison 1999). All in all, the developments in the different countries are not homogeneous, and it is still too early to measure dynamic effects or to conclude the net effects.

In this context, a theoretical simulation by Lotze (1997) is worth mentioning. In this study, possible spillover effects as a consequence of FDI, and the technology transfer connected to them, are calculated for the agricultural sector in 13 countries of Eastern Europe. The main finding is that productivity in the primary sector increased, which stimulated the transfer of resources into the secondary sector and improved the technological development of the country. Nevertheless, the impacts are relatively weak and could easily be offset by counterproductive influences. According to Lotze's interpretation, FDI alone cannot be sufficient to stimulate the economic upturn in the eastern transformation economies. Williams et al. (1997) confirm this view, giving rise to the argument that impulses from FDI are too weak to initiate a technological catch up, so that additional support is needed.

Glass and Saggi (1999) raise the point that the effectiveness of FDI for a transfer of technology also depends on the availability of alternative sources of technology, e.g. by imitation of foreign products. The better the opportunities to use these substitutes, the lower the effect of FDI in the local economy, which can be of particular importance for the eastern transformation countries. Dyker (1999) records great differences in the R&D-processes between western and eastern economies due to the different historical development. Under the central planning regime, research in the ACs had been publicly controlled and mechanisms to enforce efficiency were weak, which still hampers R&D in these countries, and gives rise to alternative sources of technology.

Some findings from three studies on the technology transfer linked to FDI are summarised in table 2-7. Hoekman and Djankov (1997) tested the correlation between export structures and FDI for five eastern countries, asking whether FDI is oriented towards sectors with a comparative advantage in external markets. Only in one case (Poland) they find the expected positive correlation. Dörr and Kessel (1999) examined on a case study basis, using two examples of very large foreign investments in Hungary and the Czech Republic, if in the wake of these foreign investments a transfer of technology could really be measured. They report some positive effects which seem to be limited to companies in the direct supply chain. Finally, Konings (1999) discussed the possible consequences for local companies resulting from technology transfer using data for Bulgaria, Poland and Romania. He found almost no positive spillovers. To sum up, immediate spillover effects are small which especially seem to hold for low income countries.

Table 2-7

Results from Empirical Studies on Technology Spillovers			
	Hoekman / Djankov (1997)	Dörr / Kessel (1999)	Konings (1999)
Bulgaria	FDI is directed towards sectors without comparative advantages to western industries	-	No spillover to local firms. Reason may be the low technology level of production, which restricts the possibilities for own R&D and limits absorption capacities.
Czech Republic	No statistical connection between FDI and composition of exports	Example: Skoda Important transfer of technology due to follow-up investments of supplying industries. Otherwise, local firms are only poorly integrated.	-
Hungary	No statistical connection between FDI and composition of exports	Example: Audi Motor-assembly: Important transfer of technology due to strong integration of the assembly plant into the corporate group. Otherwise, local firms are only poorly integrated.	-
Poland	FDI is directed towards sectors with comparative advantages	-	Local firms may even be losing. Reason might be the that Polish markets opened faster for western industries, as the level of technology in Poland is higher than in other ACs. However, absorption capacity should be high, so that spillovers may occur in the long run..
Romania	FDI is directed toward sectors without comparative advantages to western industries	-	No spillover effects for local firms. Reason may be the low technology level of production, which restricts the possibilities for own R&D and limits absorption capacities.

For the sake of completeness, some studies concentrating on a single country must be mentioned, leading to more differentiated results. Dyker/Kubelias (2000) record a conflicting influence of FDI in a macroeconomic of processing industries study in *Poland*. Regarding a technological upgrading of local industries FDI has a substitutive and therefore factor absorbing effect, while complementary effects occurred in sectors only where factor proportions and level of technology have already been comparable to the levels in western countries. Thus, FDI can correct the increasing specialisation of Polish industries on low-tech

products in favour of increasing global competitiveness. Nevertheless, they also estimate the potential of FDI for a transfer of technology to be relatively poor.

In a survey conducted among companies of the mechanical engineering industry in *Hungary*, Habuda (1999) records a distinctive technological catch-up in progress. It must, however, be borne in mind that, before this improvement started, a phase of large takeovers and an initial concentration of western investors on low-tech R&D and products had to be endured. Since then, the Hungarian affiliates increasingly influence their research programs and intensify their contacts to local and other foreign enterprises very much. Éltető (1999) hints at the strong increase of Hungarian high-tech exports, which is interpreted as being a result of a technology transfer by foreign investors, as this development to a large degree can be traced back to the increasing exports of single companies with foreign linkages.

Especially with regard to possible compensation of positive externalities from FDI the study of Djankow/Hoekman (1999) on companies in the *Czech Republic* is an interesting case. They evaluated 513 enterprises traded on the Prague stock exchange for the period 1992 to 1997. They differentiated between companies without any participation of foreign investors and companies with links to enterprises abroad, which could be joint ventures or the take-over of essential interests at the local company. From this survey, the authors recorded perceivable disadvantageous consequences for the companies without foreign participation. On the contrary, increased investments in new technology could be found at the local partners of joint ventures with MNU's. Djankow and Hoekman explain the negative spill overs to local firms with a lack of absorbing capacity.

Finally, Borstos-Torstila (1997) surveyed 45 companies in Estonia. Again, a clearly positive economic development of companies with foreign equity is recorded. In single cases, the R&D activities increased distinctly, with an overall level still being low nevertheless. Therefore, it remains unclear, whether FDI in Estonia resulted into spillover-effects for the local industry or not.

In reviewing the empirical research, it emerges that foreign investments have transferred significant technology to the ACs, but the effects up to now are still restricted to the recipients of foreign investment. Spillovers to the rest of the economy can be observed in rare cases only, but they need time and they largely depend on the absorption capacity in the ACs, which is especially influenced by the quality of national R&D-facilities, e.g. at universities or national laboratories, and the educational system.

2.3.4. FDI and Regional Development

Recognising the importance of FDI in the ACs, foreign investors will also have an important impact on regional cohesion. For most countries, no information on the location of foreign investment by regions is available. Detailed data are provided by Hungary, Lithuania, and Latvia, the two latter being admittedly two of the smaller countries analysed, so that regional effects are not typical for all ACs (Table 2-8). For Poland, only a regional breakdown of the

Table 2-8

Regional Distribution of FDI¹			
1997-1999, in %			
	1997	1999	Population 2000
Latvia			
Capital region	58.7	57.0	41,3
Coastal regions	23.2	27.1	17,1
Other regions	18.0	15.8	41,6
Lithuania			
Capital region	31.6	52.2	17,3
Kaunas region ²	16.6	10.6	14,6
Coastal region	17.1	10.6	8,0
Other regions	34.7	26.6	60,1
Hungary³			
Capital and Pest County	64.5	64.0	28.3
Western Transdanubia	9.0	10.0	9.8
Of which: Gyor-Region	5.3	-	4.2
Other regions	28.4	26.0	61.9


Authors' computations from national sources. - ¹Stocks at the end of the year. -
²Second largest city in Lithuania. - ³The second column relates to 1998. Figures
from OECD sources



number of FDI enterprises is available (Table 2-9). However, some interesting features of FDI appear in all four cases so that they might hold for other countries, too.

- The first finding is that FDI is biased in favour of the capitals compared to their share in population. This effect is most obvious in Hungary, where two thirds of FDI went to the Budapest region. In the other three countries considered, the bias is less pronounced but nevertheless significant.
- The second feature is that accessibility seems to play an important role. Above all in Latvia but also in Lithuania coastal regions attract more FDI in per capita terms. These districts can be reached easily on sea routes from the northern EU countries. In Poland the regions close to the German border received a good deal of FDI. In Hungary the same is true for the counties bordering Austria (Western Danubia), with a special concentration on the Gyor-Region, which is only about 100 km from Vienna. Investors locating here are close the EU Markets and are able to use the Austrian infrastructure. Accessibility also partly explains the attractiveness of the capitals, as in all countries the international airports are located there.

Table 2-8

Regional Distribution of FDI enterprises in Poland		
30 Sep. 2000, in %		
	1999	Population
Capital region	34.3	13.1
Border to Germany and coastal regions	27.9	20.5
Other regions	37.8	66.4
Of which: Border to the CIS	3.6	14.4
Author's computations from national sources.		

- Finally, the residual regions attract little FDI in per capita terms, and this is even falling over time. This even seems to hold for relatively big cities, although there is only one case in the countries listed: Kaunas (400.000 inhabitants) is the second largest city in Lithuania not far behind Vilnius (580.000 inh.).

All in all, the regional concentration of FDI in the ACs is high. Foreign investors favour capitals and regions that can be reached easily from the EU countries. Therefore regional income differences in the ACs might become larger through FDI, having a negative impact on regional cohesion.

3. Trade, FDI, and incomes in the Applicant Countries

Trade between the EU and the ACs has increased considerably since 1990, and its structure shifted towards higher value added products. Especially with respect to the countries bordering the EU, the share of IIT in total trade comes close to the values observed in intra EU trade with members located at the periphery of the Union. However, there is also much evidence that ACs' exports still consist to a large extent of labour-intensive low-tech products that will allow low incomes. Nevertheless, significant differences between the individual ACs become evident. Trade per capita as well as importance of IIT are positively correlated with income levels. Moreover, simple correlation indices show that income growth is positively correlated with per capita trade, too (table 3-1). At first glance, this suggests that trade has contributed to cohesion. But the causality is not clear: has it been the deepening division of labour in Europe that caused higher incomes or was the (relative) increase of trade and the shift towards IIT *a result* of higher income levels?

Table 3-1


Foreign Trade, FDI and Economic Growth in the Applicant Countries						
	Export	Import	Export	Import	FDI stocks \$ per capita	GDP Annual growth, %
	with EU, ECU per capita		as % of GDP			
	1999	1999	1997	1997		
Bulgaria	273	321	61,3	55,7	164	-1,9
Czech Republic	1622	1743	56,9	62,9	1396	2,1
Hungary	1714	1816	39,3	40,4	1832	3,0
Poland	450	732	25,7	30,0	581	6,0
Romania	256	277	29,5	36,6	193	0,6
Slovakia	1103	1001	60,7	71,0	463	5,9
Slovenia	2637	3377	57,1	58,3	674	4,1
Estonia	1345	1698	78,1	89,6	1301	4,1
Latvia	584	676	51,0	59,5	649	3,0
Lithuania	436	550	54,5	65,1	439	1,9
Cyprus	795	3071	47,3	52,4	2996	4,3
Malta	2444	6047	85,1	93,5	4576	5,0
Turkey	236	312	24,6	30,4	117	3,7
Correlation with GDP-Growth	0,374	0,408	0,047	0,160	0,351	-

Authors' computations.

Table 3-2

Contribution of Foreign Investment Enterprises to Economic Activity in Manufacturing					
1996/97, %					
Share in ..	Czech Republic	Hungary	Poland	Slovakia	Slovenia
Sales	31.0	66.7	30.4	21.6	19.6
Employment	18.7	42.8	-	13.0	10.1
Wages and Salaries	22.3	56.5	-	-	-
Exports	42.0	75.0	40.0	-	25.8

Source: Czech Republic and Hungary: OECD 1999, Poland: Freudenberg and Lemoine 1999: 21; Slovakia and Slovenia: Hunya 2000b: 113.

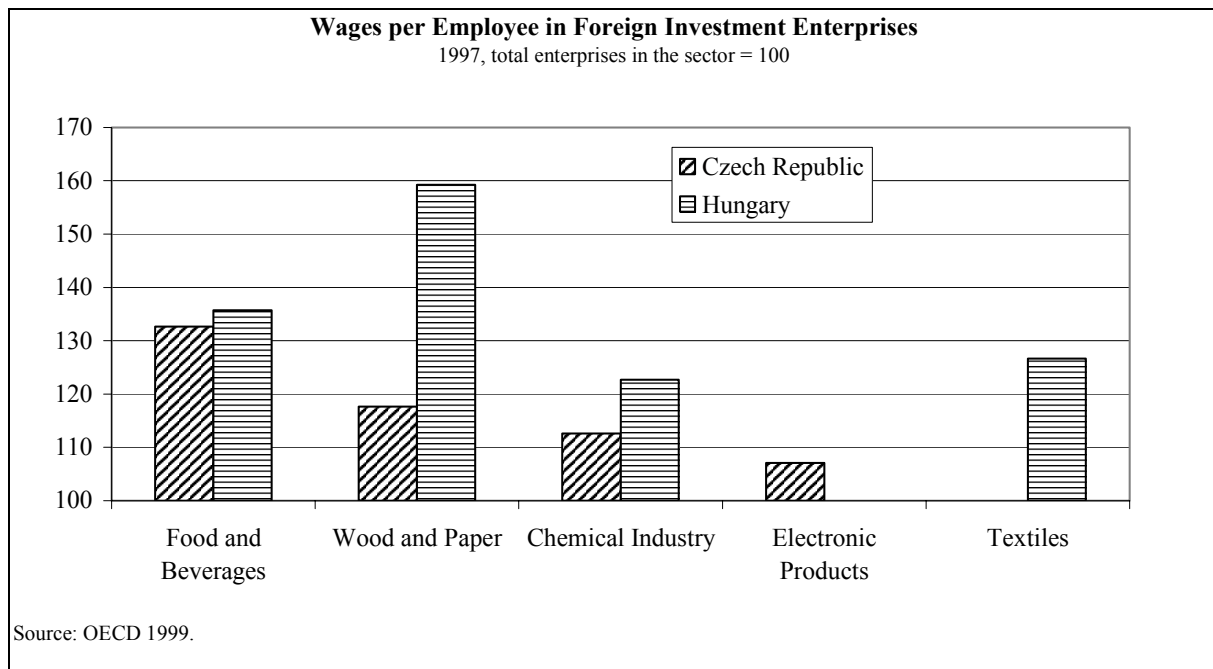


Before answering the question, the role of FDI has to be taken into account. As pointed out above, FDI grew even more strongly than trade, it contributed significantly to funding GFCF in the ACs, and it was associated with a transfer of technology and skills. Thus, FDI stocks per capita are not only correlated with levels of per capita GDP but also with growth (table 3-1), which suggests that FDI contributed to cohesion, too. Again, this link is not definite from a theoretical point of view. It may also be argued that higher income levels attracted investors, with many studies on the determinants of FDI suggesting that foreign investors are market driven to a large extent, i.e. they invest in markets promising good opportunities for sales.

To clarify whether trade and FDI generated growth in the ACs or whether they resulted from higher incomes is difficult, data limitations do not allow a definite answers. Nevertheless, information available seems to support the first argument:

- Firstly, if expansion of trade were income driven, its structure would have shifted to consumer goods. But this was not the case, as shown in section 1.3.2.
- Secondly, a good deal of exports from the ACs originates from foreign owned enterprises (table 3-2). As a rule, these companies are more active in exports than domestic ones. For Hungary, it is estimated that foreign companies account for 75 % of exports, but only 60 % of industrial production. In Poland and the Czech Republic and even more for Slovakia and Slovenia the importance of foreign firms is lower in general, but the difference between export shares and output shares is nearly the same (Freudenberg/Lemoine 1999: 21).
- Thirdly, foreign investors pay significantly higher wages than local companies, which becomes evident from the significant differences between shares in sales and employment. In principle, this could be owed to the sectoral structure, but data for the Czech Republic and Hungary indicate that wages in FIE are higher in all sectors (chart 3-1).

Chart 3-1



- Finally, foreign R&D seems to be the main source of technology in these countries. Lejour/Nahuis (2000: 23) point out that as far as R&D has contributed to growth in Eastern Europe, it came almost exclusively from international spillovers, whereas local R&D was poor. In Hungary, almost two thirds of total R&D expenditure in 1997 was made by foreign companies (OECD 1999: 121).

In the long run, however, the impact of R&D on cohesion is ambiguous: on the one hand, foreign direct investment companies may bring in best practice and may create networks that can also be employed by other companies. On the other hand, theory suggests that one of the driving forces behind FDI is the use of internalisation advantages. Therefore, it surely is in the interest of foreign investors, to keep technology and knowledge how to develop and distribute products inside in their companies, and they will show little interest in generating spillovers to the rest of the economy, i.e. their potential competitors.

As trade as well as FDI show a positive impact on income, it should also be asked to what extent the two drivers of internationalisation are substitutes or complements. In general, analyses support the idea that FDI creates trade, most prominently van Aarle (1996: 135), who conducted a causality test, but also Döhrn (1996b) and Brenton et al. (1998). Fontagné (1999), who combined analyses on firm, sectoral, and macroeconomic levels is more cautious about the conclusion, but he assumes that trade and FDI are complementary on a macroeconomic level. In the case of the ACs, this argument seems to be even more valid, as the exports from these countries have until now been driven to a large extent by foreign owned companies.

4. Impact of trade and FDI with ACs on the European Union

As a last step of the analysis, it will be asked whether the increase of trade and FDI-flows between the EU and the ACs has an impact on cohesion in the EU. Even if the deepening of integration will be beneficial for all economies affected in general, this will not necessarily generate cohesion, as the impact on some regions will be stronger than on others. A rough idea of the regional impact can be gained by a comparison of trade patterns. Trade creating effects will be strongest, when the export structure of one region fits quite well into the import needs of another. The same idea can be used to estimate trade-diverting effects: If two exporters offer the same product spectrum in international markets, it is very likely they will become competitors. Therefore, similarity between export patterns can be used as a yardstick for trade diverting effects.

From a methodological point of view, such comparisons of trade patterns are arbitrary to some extent, because their results depend largely on the level of disaggregation considered and the indicator of similarity chosen. Analyses on a relatively high level of aggregation (i.e. considering a rather small number of product categories) will tend to overestimate similarity, whereas analyses at a very low level of aggregation will underestimate it. The calculations presented below use 2-digit CN-code trade figures. To measure similarity, an index is used that considers trade patterns as an n-dimensional vector and determines the angle between two vectors in an n-dimensional room of vectors⁸. A coefficient of 1 stands for perfect correspondence of two structures, and the lower the coefficient gets, the less the two structures have in common.

The calculations are based on EUROSTAT figures for EU external trade. For the ACs, only their trade with the EU is included in the calculations, as it is still difficult to get data on trade of many of these countries at a detailed product level. It can be expected that

⁸ Formally, the angle is measured as follows. Let

$$A = |a_1 a_2 \dots a_n|$$

be the vector of the share of n products in total exports of country A and

$$B = |b_1 b_2 \dots b_n|$$


be the corresponding vector of imports of country B, then the proximity between the two vectors can be measured by:

$$\cos(A, B) = \frac{\sum_i a_i \cdot b_i}{\sqrt{\sum_i a_i^2} \cdot \sqrt{\sum_i b_i^2}}$$

Table 4-1

Similarity¹ of Trade Patterns				
1993 and 1998				
	EU Exports and ACs' Imports ("Trade creation")		EU Exports and ACs' Exports ("Trade diversion")	
	1993	1998	1993	1998
Austria	-	0,97	-	0,87
Belgium/Luxembourg	0,76	0,83	0,56	0,77
Denmark	0,76	0,81	0,55	0,73
Finland	-	0,73	-	0,67
France	0,90	0,91	0,58	0,80
Germany	0,98	0,96	0,55	0,81
Greece	0,31	0,41	0,69	0,58
Ireland	0,79	0,75	0,43	0,59
Italy	0,94	0,94	0,64	0,83
Netherlands	0,81	0,92	0,61	0,78
Portugal	0,54	0,72	0,83	0,85
Spain	0,82	0,80	0,55	0,75
Sweden	-	0,94	-	0,84
United Kingdom	0,94	0,97	0,58	0,82
Total	0,98	0,98	0,63	0,86

Source: Authors' calculations - ¹For methodology see text.



the power of the calculations will not be hampered too much by this procedure since the EU is, as shown above, by far the main trading partner. In addition, there are no hints that the ACs' exports to non-EU regions differ very much in their sectoral composition from those observed in the EU.


Concerning trade creation, calculations show in general that structures of exports as well as of imports have come closer in most EU countries (Table 4-1). However, significant differences remain: the export spectrum of Austria, Germany, Sweden, Italy, and the Netherlands seems to fit very well into the import needs of the ACs. The coefficient for the UK is surprisingly high, too, bearing in mind the low growth of trade mentioned. Obviously, the UK was not able to increase its exports at a higher rate than other EU members, despite an export structure that should have been quite favourable to do so.

Less favourable for exploiting the trade creating effects are the export structures of Portugal, Spain, and Ireland, Denmark and Finland, as well as Greece, the latter showing the lowest index of correspondence by far. It can be expected that enlargement will benefit these countries less than others in the EU.

Table 4-2

Classification of EU-Members according to Trade Creation and Trade Diversion 1998			
		Trade Diversion	
		Above Average ¹	Below Average ¹
Trade Creation	Above Average ¹	Austria United Kingdom Germany Italy Sweden France	Netherlands
	Below Average ¹	Portugal	Belgium/Luxembourg Denmark Spain Ireland Finland Greece

Authors' computations based on Table 4-1. ¹Median of the countries listed.



At the same time, regional patterns of trade diverting effects differ from the pattern of trade creation. In some countries, a high potential trade creation and trade diversion seem to go hand in hand. This is especially the case in Austria and Sweden, and to a lower extent in Germany, Italy and the UK. The opposite seems to be true in Greece, whose trade structure is so specific that both trade creating and diverting effects can be expected to be low. As a rule, countries benefiting from trade creation are the same as those that may experience trade diverting effects (Table 4-2). One exception is Portugal, whose potential for trade creation is relatively low, but which seems to be exposed to a relatively high trade diversion effect. In future, the same may become the case for Spain, and, to a lower extent, for Ireland, where the indicators of trade creation potential declined and the trade diversion coefficient rose between 1993 and 1998.

Another factor that must be considered is trade diversion from 'old' to the potentially new member countries. The analysis of regional specialisation in chapter 1.3.1 made evident that EU members in Central and Northern Europe have closer links to the ACs than the western and southern EU countries. Anyhow, it may result in a redirection of trade flows. The most interesting cases in this context are Germany and Austria, the economies with the closest links to the ACs. In both countries, trade relations with the peripheral EU-countries (Ireland, Portugal, Spain, and Greece) grew considerably faster than total trade though slower than trade with the ACs in the 1990s. Up to now, no clear signs of trade diversion can be seen.

As for trade, the increase of FDI flows into Eastern Europe may be associated with diverting effects. Brenton et al. (1998) have coined the phrase "domino" FDI, although finding no evidence for the importance of these diverting effects (also: Guál/Martin 1995). On the other

hand, before 1990 in many cases the peripheral regions in the EU with relatively low labour costs attracted labour intensive productions, and they lost their comparative advantage after the opening of eastern Europe. However, it is plausible that FDI in the EU reacts slowly, if at all, to the deepening of integration with the ACs. Firstly, FDI decisions are made in consideration of a broad spectrum of arguments. Sectors that are sensitive to even small variations in the production cost at various locations, as a rule do not invest abroad anyway but employ other forms of the international division of labour such as subcontracting. Secondly, foreign investment enterprises are not static but they may change the way they are integrated into the multinational enterprises. Policy plays an important role by creating economic conditions that enable companies to change, e.g. by improving human capital to allow companies to upgrade their production. At least in the short run, the consequences of increasing FDI in the ACs for the EU should be small. In the long run, however, the number of locations competing for investors is increased. It cannot therefore be taken for granted that in the future the number of cases where FDI is relocated from some regions in the EU to the ACs will be as small as it is today.

Taking into account trade creation and diversion as well as geographical factors, deepening integration with the ACs, all in all, seems to benefit the Central European and the northern EU members more than the southern and western periphery. However, this regional profile depends a lot on economic developments in the southern ACs, especially in Turkey and Romania, the largest countries in terms of population. Furthermore, it must be kept in mind that the overall impact from ACs integration into the Union will be positive, and there is no indication that any EU member is hit by a negative effect in absolute terms – it is only the scale of the positive impulses which differs. The deeper integration in the EU will get, the more positive impulses in one country are disseminated to the others via indirect effects. Therefore, possible negative consequences of trade and FDI on cohesion in the Union should not be overestimated. To a large extent, shifting the focus of some EU members towards the ACs reflects “natural” factors such as proximity and accessibility. They can be influenced little by policy, anyway.

The impact on cohesion also depends much on developments in the ACs. For the southern EU members, growth in Romania, Bulgaria, and Turkey as well as the way they are integrated into the Union are decisive factors, as they have closer links to these ACs. Until now, the candidate EU members grew in a less dynamic way than those in Central and Northern Europe.

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