Chapter 2
Evolving Pattern of Intra-industry Trade Specialization of the New Member States of the EU: The Case of the Automotive Industry

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Abstract The paper investigates the development of intra-industry trade of the new Member States with major partners between 2000 and 2007. Intra-industry trade is separated into horizontal and vertical components on the basis of differences in unit values. We have found that although inter-industry trade still accounts for almost 50% of the trade of the countries that joined the EU in 2004, its share has been declining to the benefit of intra-industry trade (except for Malta). Intra-industry trade accelerated in the post-accession period and in 2007 Slovenia and the Czech Republic recorded the highest shares. Intra-industry trade of the new Member States has been dominated by the vertical component, usually low-quality goods. However, in almost all new Member States, the share of high-quality vertical intra-industry trade, as well as the horizontal component increased. Thus, the pattern of trade specialization in the new Member States has improved. Growing shares of intra-industry trade, particularly the horizontal component, reflect increasing similarities between new and old Member States and a favourable convergence process between the two groups of countries. In the automotive sector, intra-industry trade is generally larger than in total trade, meaning deeper specialization. This phenomenon can be largely attributed to the high volume of foreign direct investment in the sector.

2.1 Introduction

Statistics reveal high growth of foreign trade of the new EU Member States in recent years, including the post-accession period.[1] In this paper we want to see whether the impressive quantitative changes of new Member States' trade are

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[1]The average exports of the EU-10 countries in the period 2000–2003 developed at 15.2% per year while in the after-accession period (2004–2007) at 19.4%. The respective average rates of growth of exports from the EU-15 amounted to 5.7 and 7.8%, respectively.

F. Keereman and I. Szekely (eds.), *Five Years of an Enlarged EU*,
DOI 10.1007/978-3-642-12516-4_2, © Springer-Verlag Berlin Heidelberg 2010

associated with changes in the pattern of trade specialization of those countries. The objective of the paper is to address the issue of accession effects on changes in intra-industry trade (IIT, called also two-way trade) which shows the extent to which bilateral imports and exports are matched within sectors.

Apart from total intra-industry trade changes of new Member States of the EU, we present indices of IIT developments in the automotive sector and try to identify the interrelations between IIT and FDI flows.

The main reason behind the interest in intra-industry trade is that closer analysis of changes of this type of trade allows for an insight into the changing patterns of specialization and scope of benefits from foreign trade. Increasing IIT implies structural convergence of economies. The higher the IIT, the more similar and higher developed are the trading partners. This, in turn, is an important consideration for the convergence process of the new Member States vis-à-vis the EU-15 countries.

The main research hypothesis is that two-way trade has been an important engine of trade growth of the new Member States with their trading partners, reflecting their catching up with the EU-15 countries.

Theory and empirical research on international trade show that an important part of intra-industry trade flows is driven by foreign direct investment as fragmentation of production and trade specialization proceeds – in particular, in more sophisticated industries – inside activities of transnational corporations. As new Member States have attracted relatively much FDI (in terms of their shares in total investments in the industries, shares in jobs, etc.) we ask whether those foreign investments stimulated intra-industry trade growth of those countries (taking as an example the automotive industry). In that section of the study we test the hypothesis that FDI has positively impacted trade changes in the automotive sector, due to increase of intra-industry trade.

The analysis is structured as follows. After the introduction, the Sects. 2.2 and 2.3 inform on data sources, coverage of the study and methodology. Sections 2.4 and 2.5 briefly summarize the theoretical framework of IIT and review the literature. In the main Sect. 2.6, the results of various types of IIT indices are discussed. Sect. 2.7 focuses on interrelations between IIT and FDI in five Central European countries. Finally, concluding remarks are provided.

2.2 Data Sources and the Coverage of the Analysis

The study is based on EUROSTAT data (COMEXT trade data, SITC Rev. 3), at five-digit level.

The analysis focuses on the ten new Member States that joined the EU on 1 May 2004. Bulgaria and Romania were also included, but they were treated separately as they joined the EU only in 2007 and many of the accession-related effects have not been identified in those countries yet. In some cases it was necessary to underline that the analysis was valid only for new Member States originating from the Central and Eastern European countries (Cyprus and Malta have been market economies for many years and did not experience radical transformation); then the abbreviation

"CEECs" was used for "Central and Eastern European countries". The research on IIT in the automotive industry covers five countries highly penetrated by FDI flows (the Czech Republic, Hungary, Poland, Slovakia and Slovenia).

The analysis covers the period 2000–2007, i.e. four years of the accession period of the EU-10 and 4 years preceding accession.

The analysis is conducted in the nominal values (in euro). The impact of variations in the exchange rates is not taken into account, while it has to be recognised that such changes affected trade trends (see e.g. Przystupa 2006).

2.3 Methodology

The importance of IIT in the process of enlargement was analysed by calculating various IIT indices in the new Member States and comparing them with the pre-accession period as well as with respective indices for the old EU Member States. The impact of FDI in the automotive industry on IIT growth is assessed by examining the shares of FDI and of IIT in the car sector.

A standard Grubel–Lloyd index was calculated to obtain a measure of IIT (Box 2.1). This index is very sensitive to the level of aggregation (Finger 1975). The more products are grouped together into an "industry", i.e. the more aggregated the level of analysis, the higher the probability of overlap between exports and imports of that industry and the higher the IIT intensity, without necessarily implying trade in similar products. Therefore, the same approach was applied to all analyzed countries and sectors, thus reducing that bias. All indices were computed for each analyzed EU-12 country in its trade with major groups of trading partners (EU-15, EU-10, other and all partners) for each five-digit SITC. Later they were aggregated into total trade (all groups of SITC products) with those partners. The Grubel–Lloyd index takes a minimum value of zero when there are no products in the same class that are both imported and exported, and a maximum value of 1 (or 100%) when all trade is intra-industry.[2]

Box 2.1 Measuring Intra-industry Trade

A standard Grubel–Lloyd index (*GL*) measures IIT according to the following ratio:

$$GL = \sum_{i=1}^{n} w_i GL_i = \sum_{i=1}^{n} \frac{X_i + M_i}{\sum_{i=1}^{n} (X_i + M_i)} GL_i = \frac{\sum_{i=1}^{n} (X_i + M_i) - \sum_{i=1}^{n} |X_i - M_i|}{\sum_{i=1}^{n} (X_i + M_i)}$$

(continued)

[2]The Grubel-Lloyd index is useful for comparisons across products and over time, but it can overstate the size of IIT trade and can mask different levels of IIT within a given group of products. (see: *European Competitiveness Report 2004*. Commission Staff Working Document SEC(2004) 1397. European Commission. Brussels. 2004, p. 91).

where GL_i is the intra-industry trade index for commodity class i (5-digit SITC level); w_i: share of trade in product i in the total trade; X_i (M_i): exports (imports) of product i from (to) a given country or group of countries to (from) a given country of group of countries; n is the number of commodity classes (industries). Source: Grubel and Lloyd (1975).

Next, IIT was separated into vertical and horizontal intra-industry trade (VIIT and HIIT). The first type of specialization involves the exchange of final goods with different qualities or an exchange of final goods and intermediate products manufactured in the same industry. Horizontal IIT is an exchange of differentiated goods with similar qualities and various other features that are important for consumers (it is motivated mainly by consumers' preference for varieties of goods, e.g. cars of similar class and price range).

Horizontal and vertical IIT of the analyzed countries was measured by using the Hine et al. (1998) methodology. According to this approach, the distinction between HIIT and VIIT is based on the assessment of product quality. To assess different qualities, unit values were used. The underlying assumption is that relative prices are likely to reflect relative qualities of goods. While this approach is commonly adopted in the literature, it has to be noted that it does not guarantee a clear distinction between trade flows (Box 2.2).

Box 2.2 The Distinction Between Vertical and Horizontal Intra-industry Trade

Typically, trade flows are defined as horizontally differentiated when the unit value ratio (UV) is inside the $\pm 15\%$ range. When relative unit values are outside this range, products are considered as vertically differentiated. In other words, HIIT takes place when unit values of exports and imports are in the range of 0.85 and 1.15.

The unit value approach is usually criticized for at least two reasons. First, it may be difficult to distinguish correctly between products as unit values of two groups of products may also differ because of the composition of the groups. Second, consumers may buy a more expensive product for reasons other than quality. In addition, the 15% threshold can be considered arbitrary.

Intra-industry trade is considered to be horizontal if the following criteria are met:

$$1 - \alpha \leqslant \frac{UV_i^x}{UV_i^m} \leqslant 1 + \alpha$$

Intra-industry trade is vertical trade when:
$\frac{UV_i^x}{UV_i^m} \leqslant 1 - \alpha$ or $\frac{UV_i^x}{UV_i^m} \geqslant 1 + \alpha$

(continued)

UV_i^x: unit value of exports for a product from industry i (5-digit level of SITC)

UV_i^m: unit value of imports for a product from industry i (5-digit level of SITC)

α :deviation of relative unit values of exports $\left(\frac{UV_i^x}{UV_i^m}\right)$; $\alpha = 15\%$.

When the unit value index is below the 0.85 threshold, it is considered to characterize low quality products (sold at a lower average price); when this index is above 1.15, it is treated as an indicator of high quality products (sold at a higher average price).

Source: Hine et al. 1998.

2.4 Theoretical Framework

Standard trade theory (based on comparative advantage) involves trade in homogeneous products. With perfect competition there is only inter-industry trade. This theory deals with various factors of international trade that are generated by the differences among countries.

For many years, more and more trade has been taking place between similar countries (mainly highly developed countries with similar patterns of economic structures). It includes often parallel export and import of products that belong to the same industry, which is intra-industry trade. Such trade cannot be explained by traditional trade theory.

The phenomenon of IIT was initially noticed in trade among the members of the EEC. The first papers covering the issue of parallel export and import of products that belonged to the same industry were presented by Verdoorn (1960) and Balassa (1966). Later research revealed IIT in relations between various other countries.

The important publication of Grubel and Lloyd on the concept and measurement of intra-industry trade in 1975 stimulated enormous interest in this type of trade specialization and was followed by many theoretical and empirical studies on IIT.

The first models of IIT basing on monopolistic competition and product differentiation (as developed by Krugman 1979, 1980, Lancaster 1980, and Helpman 1981) assumed that goods are horizontally differentiated and IIT develops in monopolistically competitive markets. On the supply side, it is driven by increasing returns to scale and on the demand side, it is driven by diverse consumer preferences. Helpman and Krugman (1985) added factor endowment differences that explain the co-existence of inter- and intra-industry trade.

The other group of theories deals with vertical IIT. The theoretical model of IIT in vertically differentiated products was developed mainly by Falvey (1981), Falvey and Kierzkowski (1987) and Flam and Helpman (1987). These studies showed the significance of differences in technology, income levels and income distribution and also the role of factor endowments as factors affecting VIIT.

The studies of Abd-el-Rahman (1991) and Greenaway et al. (1994) established a method to separate vertical from horizontal IIT and suggested that the exchange of

vertically differentiated products is the dominant form of IIT, even in trade among developed countries.

Let's stress that the theoretical literature argues that HIIT and VIIT depend on different determinants, although some of them (e.g. factor endowments) can explain both, inter-industry and intra-industry trade (Box 2.3). The role of different determinants of IIT was broadly presented, among others, by R. Loertscher and F. Wolter (1980). Apart from the IIT determinants mentioned above, other factors were also taken into account (e.g. geographical proximity, elimination of trade barriers).

Box 2.3 Inter- and Intra-industry Trade

Inter-industry trade (one-way trade) reflects different factor (labour and capital) endowments and technology. It is explained by a standard trade theory involving the exchange of homogeneous products where perfect competition exists. It is dealt with mainly by the theory of comparative advantages.

Intra-industry trade (two-way trade) usually is not based on comparative advantage, although some elements of comparative advantage may be also involved (especially, in the case of vertical IIT). To a large extent intra-industry trade is explained by factors such as economies of scale, income levels, innovations and demand for differentiated products as well as, in some cases, by comparative advantages.

From the point of view of this analysis, of crucial importance is the separation of IIT into HIIT and VIIT, as suggested by Hine et al. (1998) who also presented the methodology of such separation of IIT. It also allows to better assess the catching up process. HIIT is typical for countries with similar and highly developed patterns of economic structures. Such countries are able to produce differentiated goods, offered usually by well developed manufacturing sectors. Also, developed countries create the biggest demand for such products.

In particular, theory explains that horizontal intra-industry trade consists of exchange of varieties of goods with similar qualities and various other features that are important for consumers, and is driven mainly by economies of scale and consumers' preferences for variety (e.g. cars of a similar class and price range). Vertical IIT is an exchange of final goods with different qualities and prices (e.g. Italy exports high-quality clothing and imports low-quality clothing) or an exchange of final and intermediate goods produced in the same industry, driven mainly by different factor endowments, i.e. by comparative advantages (e.g. exchange of seats of the car for engines, thus reflecting exchange of cheap unskilled labour for highly qualified personnel).

Consequently we expect vertical IIT to be more pronounced between developing and developed economies than among developed countries. Less developed countries specialize usually in those stages of production in which they possess

comparative advantage, e.g. cheap, unskilled labour. Thus, much of IIT in those countries results from FDI and is conducted in the framework of global activities of transnational corporations. It has also been the case in the EU-12 countries. The inward foreign direct investments to those countries have increased rapidly over the recent years. As a result, we can expect IIT of those countries to have expanded.

With regard to HIIT, theoretical models suggest that the more similar countries are in terms of their factor endowments and incomes, the higher the share of this type of trade. Thus, we should expect HIIT to be higher between developed countries than less developed countries. As HIIT is usually correlated with economic similarities, increasing HIIT implies structural convergence of economies. For the new Member States, which are catching up countries and trying to reduce their economic distance vis-à-vis highly developed countries, one may expect increasing IIT (in particular HIIT) and a decreasing inter-industry type of specialization.

Let us stress, that increasing role of both types of IIT in total trade should be assessed explicitly positively as IIT allows for more trade benefits than inter-industry trade. The reason is that with IIT, producers concentrate on a limited number of products which leads to an increase in output because of savings on fixed costs. IIT also stimulates innovations because producing a greater variety and number of goods reduces the costs of knowledge accumulation (Ruffin 1999).

Another important positive aspect of IIT as compared to inter-industry trade is that it is less disruptive than inter-industry trade as the adjustments in production to ongoing competition and reallocation of resources take place within the same industry. This aspect of IIT is important for all countries, but in particular for catching up economies which face more adjustment challenges than highly developed countries. In other words, increasing IIT reduces adjustment costs.

2.5 Review of the Literature

Numerous studies have been conducted since the beginning of transformation of the CEECs to analyse changes and determinants of IIT. The focus has been usually on CEECs' trade with the EU Members States because the EU is the main trading partner, but other factors played also a role like the economic weight of the EU, geographical proximity, deep liberalization and integration of the CEECs with the EU and EU accession.

Before transformation started, the share of IIT was very low and horizontal IIT was almost non-existent (di Simone 2007). The rapid growth of IIT between the CEECs and the EU was observed already in the early years of transition. Gacs (1994) noted that the share of IIT in Hungarian trade with the EU, measured according to NACE 3-digit level, increased from 40% in 1980 to 47% in 1988 and jumped to 53% in 1992. According to Kaminski (2001), the share of IIT increased between 1993 and 1998 for all CEECs except Bulgaria, Lithuania and Latvia. The largest increase in the value of the Grubel–Lloyd index in that period

was registered in Estonia, followed by Slovakia, the Czech Republic, Romania and Poland.

Around the middle of the 1990s, an increasing number of authors have found that an important part of the dynamic development of trade between the CEECs and the EU was IIT, predominantly of the vertical type. A statistically significant positive association between horizontal intra-industry trade, foreign direct investment, product differentiation and industry concentration was detected (Aturupane et al. 1999) as well as a significant negative relationship for economies of scale and labour intensity.

Fidrmuc et al. (1997) showed that a reduction of trade barriers among CEECs and the EU resulted in increased IIT indices. They observed, however, that "the increase of intra-industry trade is not uniform, but reflects different patterns of integration and progress of industrial restructuring". The authors found that "Hungary and Slovenia showed the largest growth of intra-industry trade that became very similar to intra-industry trade within the European Union". However, "the Czech Republic had the highest share of intra-industry trade reaching 68% in the trade with the five selected EU-countries[3]."

The relative importance of vertical and horizontal IIT was analyzed by Aturupane et al. (1999) who concluded that "the magnitude of IIT is relatively high in bilateral trade between the CEECs and the EU. Levels of total IIT are comparable to those observed for countries such as Canada, Israel, Korea or Portugal. Most of the IIT is vertical in nature . . . . Horizontal IIT has been static over the 1990–1995 period for the majority of countries. However, for some countries such as the Czech Republic and Slovenia it has been growing rapidly and has attained levels that exceed those reported for countries such as Greece, Finland and Israel". Similar conclusions have been reached by Ferto and Soos (2006).

Quite recently, details of HIIT and VIIT between the former Central European Free Trade Agreement countries and the EU were analyzed by Černoša (2007). He concentrated on production pattern (IIT specialization) of the Czech Republic, Hungary, Poland, Slovakia and Slovenia in foreign trade with EU Member States in 1995–2001 (across countries and twenty manufacturing activities: divisions 17–36 of the ISIC). This analysis revealed "the predominance of IIT specialization of the majority of the chosen manufacturing activities in the production of lower quality products". It also found, however, "a few activities in each of the five observed former Central European Free Trade Agreement countries, which, by contrast, showed predominant specialization in the production of higher quality products".

A study on Poland's IIT by Czarny and Śledziewska (2008) concluded that "in 2000–2006, the structure of Poland's trade with the EU-15 improved. The share of vertical IIT in which Poland exported high-quality products grew consistently. . . . Poland is no longer just a supplier of non-processed or low-quality goods and intermediates. It increasingly exports high-quality and technologically advanced

[3]Austria, the Netherlands, Germany, Italy and Sweden.

products. This change is a result of modernization in the Polish economy thanks to an inflow of FDI, free trade and adjustments to EU standards after Poland's entry to the single market".

Many studies concentrated on the role of FDI in trade changes. Kaminski (2001) found that countries which received relatively big inflows of FDI in the 1990s experienced also an expansion of IIT. For an earlier period, a similar conclusion was presented by Aturupane et al. (1999): "After controlling for country-specific factors, we find a positive and significant relationship between FDI and product differentiation and both vertical and horizontal IIT". Contrary to the majority of the studies, a very low interrelationship between FDI and IIT was found in Polish foreign trade by A. Cieślik (2008): "It was found that although the activity of multinational firms is positively related to the volume of bilateral trade between Poland and EU-15 countries, at the same time these firms do not seem to contribute to the development of the intra-industry-trade".

2.6 Results for the New Member States

2.6.1 Changes in the Intensity of Total Intra-industry Trade in the New Member States

Although inter-industry trade (exchange of goods coming from different industries) still accounts for almost 50% (on average) for the EU-10 group of countries, its share has been declining in all those countries (except for Malta) in recent years and, the other side of the same coin, intra-industry trade became more important. For the whole EU-10 group, the IIT share in their total trade increased from 42% in 2000 to 51% in 2007 (Table 2.1).

In 2007, in most recently acceded countries, the IIT share ranged from about 41% (Slovakia) to 58% (Slovenia and the Czech Republic). In Malta and Cyprus the IIT shares were much lower: 16–17%, lower even than in Bulgaria (32%) and Romania (33%). In general, countries with relatively high IIT shares in 2000 did not progress much. Starting from low levels, the biggest increases took place in the Baltic countries with a doubling of the IIT share in Latvia, in the period studied. In Malta, a large fall was recorded.

The rapid increase of IIT trade specialization took place already in the 1990s, in the period of fast legal and real transformation-related adjustments and integration into the EU-15. At that time it was predominantly the growth of vertical IIT, driven mainly by FDI. The reason behind this development of FDI and VIIT was first of all the need of Central European companies to obtain access to know-how, capital and distribution channels. These developments allowed for successful restructuring of many industries in the CEECs. As a result of accession, FDI flows and deepening of trade specialization have continued and accelerated. In all EU-10 countries, except

Table 2.1 The importance of various types of specialization in new Member States' total trade in 2000 and 2007

% of total trade	Year	Total	Type of specialization					
			Inter-industry	Intra-industry total	Vertical intra-industry trade			HIIT
					Total	Low quality	High quality	
		(1=2+3)	(2)	(3=4+7)	(4=5+6)	(5)	(6)	(7)
Czech Republic	2000	100	49.2	50.8	38.5	27.7	10.8	12.3
	2007	100	42.8	57.2	39.8	18.8	21.0	17.4
Estonia	2000	100	66.8	33.2	26.0	17.4	8.6	7.2
	2007	100	49.6	50.4	33.2	15.5	17.7	17.2
Cyprus	2000	100	84.8	15.2	12.4	10.8	1.6	2.8
	2007	100	84.1	15.9	14.3	6.7	7.6	1.6
Latvia	2000	100	78.0	22.0	14.9	9.5	5.4	7.1
	2007	100	56.0	44.0	35.0	21.6	13.4	9.0
Lithuania	2000	100	73.3	26.7	19.3	10.7	8.6	7.4
	2007	100	54.9	45.1	28.5	17.0	11.5	16.6
Hungary	2000	100	55.9	44.1	34.1	17.2	16.9	10.0
	2007	100	48.2	51.8	37.6	19.9	17.7	14.2
Malta	2000	100	42.8	57.2	54.4	53.3	1.1	2.8
	2007	100	83.2	16.8	15.7	3.5	12.2	1.1
Poland	2000	100	60.7	39.3	31.2	19.3	11.8	8.1
	2007	100	49.1	50.9	28.1	15.7	12.4	22.8
Slovenia	2000	100	55.8	44.2	29.9	17.3	12.6	14.3
	2007	100	42.5	57.5	31.7	17.2	14.5	25.8
Slovakia	2000	100	65.9	34.1	26.5	16.8	9.7	7.6
	2007	100	59.3	40.7	31.9	12.4	19.4	8.8
EU-10	2000	100	58.1	41.9	32.3	20.4	6.9	9.6
	2007	100	49.3	50.7	33.3	16.9	9.5	17.4
Bulgaria	2000	100	73.0	27.0	21.9	15.0	7.6	5.1
	2007	100	67.7	32.3	23.5	14.1	10.6	8.8
Romania	2000	100	78.1	21.9	19.1	11.5	11.9	2.8
	2007	100	67.2	32.8	25.3	14.7	16.4	7.5

Source: Eurostat (COMEXT) Database

for Malta, IIT shares in total trade (also in trade with major groups of partners) increased after accession faster than before 2004.

Let's us notice, that despite a relatively high increase, IIT is still lower in the new Member States than in the old EU countries. The average share of IIT in EU-10 trade with the EU-15 was 44% in 2007 (in intra-EU-10 trade it amounted to 49%) while IIT among EU-15 countries amounted to 59% of trade (Table 2.2). It is also interesting to note that, in 2007, the IIT share was in several EU-10 countries higher than in some EU-15 countries. In countries as the Czech Republic, Estonia, Hungary, Poland and Slovenia the IIT share was above 50% while it was below 50% in Finland, Greece, Ireland, Luxembourg and Portugal. Thus, the share of intra-industry trade in total trade of many of the EU-10 countries is already at the level of some industrially advanced countries, such as Italy and Sweden (Table 2.3).

Table 2.2 Importance of intra-industry trade of the EU-12 countries with major trading partners in 2000 and 2007

% of trade	Year	Intra-industry trade					Intra-industry trade vertical (low quality)					Intra-industry trade vertical (high quality)					Intra-industry trade horizontal				
		World	EU-25	EU-15	EU-10	Other	World	EU-25	EU-15	EU-10	Other	World	EU-25	EU-15	EU-10	Other	World	EU-25	EU-15	EU-10	Other
Czech Republic	00	50.8	53.2	49.2	41.7	24.6	27.7	29.6	28.7	11.4	11.5	10.8	10.5	10.0	11.9	9.0	12.3	13.1	10.5	18.4	4.1
	07	57.3	58.8	52.7	55.0	34.3	18.8	29.5	27.7	21.3	9.8	21.0	14.0	11.6	13.1	16.6	17.4	15.2	13.5	20.6	7.8
Cyprus	00	15.2	13.2	12.9	3.3	10.3	10.8	9.3	9.0	1.8	6.9	1.6	1.7	1.8	1.5	1.5	2.8	2.1	2.1	0.0	1.9
	07	15.9	14.2	13.9	4.1	10.1	6.7	7.8	7.9	1.2	4.4	7.6	5.8	5.4	1.7	5.3	1.6	0.6	0.6	1.2	0.5
Estonia	00	33.2	29.5	24.1	34.4	16.9	17.4	12.6	10.2	6.7	6.4	8.6	11.6	10.2	14.5	9.5	7.2	5.2	3.8	13.2	1.0
	07	50.4	42.6	33.6	44.0	45.9	15.5	18.7	18.0	17.7	5.5	17.7	15.7	10.0	19.1	11.1	17.2	8.2	5.5	7.3	29.2
Latvia	00	22.0	18.9	9.7	31.7	19.4	9.5	9.6	6.5	10.0	8.1	5.4	4.3	2.2	15.3	6.6	7.1	5.1	1.0	6.5	4.7
	07	44.0	35.8	18.2	46.4	33.4	21.6	25.3	12.9	34.4	8.6	13.4	5.1	2.5	6.5	18.9	9.0	5.4	2.8	5.5	5.9
Lithuania	00	26.7	23.3	17.7	24.8	20.4	10.7	11.1	8.9	10.2	9.6	8.6	6.1	4.7	8.5	7.6	7.4	6.1	4.1	6.1	3.2
	07	45.1	32.5	19.4	44.5	34.1	17.0	14.3	10.9	15.2	9.0	11.5	9.4	5.2	15.4	12.2	16.6	8.8	3.3	13.9	12.9
Hungary	00	44.1	40.7	38.4	33.7	22.4	17.2	17.2	17.8	7.8	10.3	16.9	14.4	14.4	12.8	8.3	10.0	9.1	6.2	13.1	3.9
	07	51.9	49.4	45.5	47.5	37.7	19.9	21.1	20.2	17.9	16.6	17.7	17.4	12.0	18.8	14.0	14.2	10.8	13.4	10.8	7.2
Malta	00	57.1	28.2	27.6	4.6	55.4	53.3	26.7	26.1	3.7	53.6	1.1	1.1	1.1	0.0	0.5	2.8	0.4	0.4	0.9	1.3
	07	16.9	16.3	16.1	8.6	10.5	3.5	2.9	2.6	0.5	2.8	12.2	12.8	12.6	7.2	6.6	1.1	0.5	1.0	0.9	1.2
Poland	00	39.2	41.0	37.4	39.7	21.6	19.3	22.4	20.8	11.0	10.1	11.8	12.0	11.4	14.1	7.1	8.1	6.6	5.2	14.6	4.3
	07	50.8	49.9	44.9	48.8	34.8	15.7	16.7	16.2	12.1	9.9	12.4	11.7	9.9	18.4	14.2	22.8	21.4	18.8	18.3	10.7
Slovenia	00	44.2	43.2	41.4	22.3	26.4	17.3	16.7	17.5	4.0	9.5	12.6	12.0	10.7	6.1	8.4	14.3	14.6	13.3	12.2	8.4
	07	57.5	47.6	44.0	33.7	35.9	17.2	23.6	17.1	16.3	14.9	14.5	9.8	9.5	7.3	16.1	25.8	14.2	17.5	10.1	4.9
Slovakia	00	34.1	35.8	29.7	35.4	14.6	16.8	18.9	15.8	11.4	4.9	9.7	9.5	7.1	13.4	6.6	7.6	7.4	6.8	10.5	3.1
	07	40.7	42.9	35.2	48.8	17.5	12.4	14.8	15.0	20.5	5.2	19.4	20.1	14.7	20.2	9.1	8.8	8.0	5.4	8.1	3.3
EU-10	00	41.9	41.8	38.3	36.6	23.1	20.4	21.4	20.4	10.3	11.6	11.9	11.3	10.8	12.5	7.4	9.6	9.1	7.1	13.8	4.1
	07	50.8	49.4	44.0	49.0	33.4	16.9	20.9	19.4	18.6	10.9	16.4	14.0	10.9	16.3	13.9	17.4	14.5	13.7	14.1	8.5
Bulgaria	00	27.0	19.3	18.7	12.2	26.4	15.0	9.1	8.4	5.9	14.7	6.9	8.2	8.4	4.4	5.1	5.1	2.0	1.9	2.0	6.6
	07	32.3	28.5	28.3	17.6	26.9	14.1	13.7	14.6	9.6	7.4	9.5	8.0	7.7	4.9	6.9	8.8	6.8	6.1	3.1	12.6
Romania	00	21.9	20.8	20.0	14.6	13.9	11.5	11.2	9.7	8.0	7.3	7.6	7.9	7.8	3.0	3.4	2.8	1.7	2.5	3.6	3.2
	07	32.8	32.5	31.0	25.7	24.0	14.7	15.9	16.7	14.6	8.4	10.6	9.9	9.6	5.8	7.5	7.5	6.8	4.7	5.3	8.2

Source: Eurostat Database

Table 2.3 Importance of intra-industry trade of EU-15 countries in their mutual trade

% of intra EU trade	2000	2001	2002	2003	2004	2005	2006	2007
Austria	55.1	54.6	56.2	56.7	60.6	59.7	59.3	58.1
Belgium	63.1	62.9	64.8	65.3	65.6	65.3	65.1	65.5
Germany	63.8	64.6	65.7	66.2	65.6	64.7	65.1	64.9
Denmark	48.0	47.8	49.9	50.1	49.3	49.5	48.6	48.2
Spain	56.8	58.4	58.6	58.6	59.2	59.3	58.4	59.4
Finland	29.1	31.3	30.1	30.3	29.9	30.6	31.0	32.6
France	69.8	70.6	68.9	69.1	68.6	66.4	66.7	66.9
United Kingdom	60.8	56.7	55.1	57.3	58.5	57.0	54.0	58.8
Greece	15.2	15.5	16.2	17.2	18.3	19.4	19.3	19.5
Ireland	39.0	42.9	41.1	33.1	31.9	34.7	34.1	32.6
Italy	50.2	50.3	50.2	50.7	50.3	50.4	51.3	51.4
Luxembourg	33.3	37.9	37.9	37.0	32.6	29.9	33.9	32.9
Netherlands	58.9	57.0	60.5	60.4	58.5	54.4	55.6	58.7
Portugal	40.0	41.7	42.6	42.7	43.5	44.0	44.9	44.6
Sweden	48.6	49.1	50.1	50.7	51.3	51.3	52.9	54.3

Source: Eurostat Database

2.6.2 *Changes in Intensity of Vertical and Horizontal Intra-industry Trade of the EU-12 Countries in Total Trade and in Trade with the EU-15*

In all EU-12 countries, intra-industry trade has been dominated by the vertical type (column 4 of Table 2.1). In order to have a better insight into the type of specialization VIIT specialization can be distinguished in low and high quality products (Box 2.2).

Over the years 2000–2007, VIIT was mainly dominated by specialization in production of low quality products (countries exported mainly low-quality products and imported high-quality ones). This was the situation in Hungary, Lithuania, Latvia, Poland and Slovenia. In some of those countries (Hungary, Latvia and Lithuania) the share of low quality VIIT even increased in 2007 as compared to 2000. Shares of low quality VIIT were higher than those of high quality VIIT in trade with all groups of countries, except for trade with non-EU countries (Table 2.2).

At the same time, the share of high quality VIIT has increased in all EU-12 countries and in some countries very much: in Cyprus, the Czech Republic, Estonia Latvia, Malta, Slovakia the intensity of this type of trade more than doubled with respect to total trade. Intensity of low quality VIIT usually also increased, but at a much slower pace. As a result, in all six countries, except Latvia, the share of high quality VIIT has become higher than the share of low quality VIIT.

Thus, over the years 2000–2007, the pattern of VIIT has improved in all EU-12 countries. Albeit low quality VIIT still dominates trade of many EU-12 countries, the share of high quality VITT has increased and the distance between both types of vertical specialization was in 2007 much lower than in 2000 (respectively 7.4 p.p. and 13.5 p.p.).

Another positive trend has been a significant rise of HIIT with its average share doubling in the EU-10 countries from 7% to almost 14% in the period 2000–2007. This improvement has resulted mainly from a significant increase of HIIT in Poland, Estonia and Slovenia. Bulgaria and Romania followed this trend, albeit from much lower initial levels. Only Cyprus and Malta recorded a decrease of the HIIT share in their total trade.

Summing up so far, while VIIT of low quality products decelerated over the years 2000–2007, vertical IIT of high quality products as well as horizontal IIT developed faster in the same period. These different rates of growth of various types of IIT reflect positive changes of trade and production specialization in the EU-10 countries, involving specialization in more advanced products. Such positive changes in the pattern of trade specialization have taken place over 2000–2007 in almost all new Member States.

Trade of the new Member States with their main trading partner, the EU-15 countries, is somewhat different. First, the intensity of high quality VIIT increased in most EU-12 countries, the exceptions being Estonia, Hungary, Poland, Slovenia and Bulgaria. The increase of this type of trade was, however, much lower than in the case of total trade of the EU-10 group (respectively by 0.1 p.p. and 2.6 p.p., Tables 2.4 and 2.1). Second, changes relating to low quality VIIT with EU-15 countries were in opposite direction in individual EU-10 countries, while in total trade of the EU-10 countries the intensity of low quality VIIT has been steadily decreasing (except for Malta).

With regard to HIIT, the share of this type of trade almost doubled, both in total trade of the EU-10 group (from 9.6% in 2000 to 17.4% in 2007) and in their trade with the EU-15 countries (from 7.1% in 2000 to 13.7% in 2007). This very positive upward trend of HIIT resulted mainly from the expansion in Poland, the biggest country of the analyzed group of new Member States. In Poland's trade with the EU-15 the HIIT share increased from 5.2% in 2000 to 18.8% in 2007, and in total trade, respectively from 8.1% to 22.8%. As a result, HIIT intensity in total Poland's trade has become in 2007 not much lower than the intensity of VIIT: 22.8% and 28.1%. Also in Hungary, the HIIT share in trade with the EU-15 increased impressively from 6.2% in 2000 to 13.4% in 2007 (Table 2.1 and 2.4). In several countries an opposite trend was registered: the share of HIIT has decreased over the period 2000–2007 in Cyprus, Lithuania and Slovakia in their trade with the EU-15.

Despite impressive growth of HIIT intensity and a very stable share of VIIT, the absolute level of VIIT indices was in 2007 still much higher than the level of HIIT. This observation applies both, to EU-10 countries' trade with the EU-15 and to their total trade. At the same time, the role of VIIT increased much in intra EU-10 countries' trade, while the increase of HIIT has been almost negligible (Fig. 2.1). Still, in 2007, the average index of HIIT for intra-EU-10 countries' trade was slightly higher than HIIT index in the EU-10 countries with the old EU-15 Member States'.

Thus, changes in the pattern of intra-industry specialization were of different character in the case of intra-EU-10 countries' trade and their trade with the EU-15. The increase of intra-industry trade among the EU-10 countries was mainly of

Table 2.4 The importance of various types of specialization in new Member States' trade with the EU-15 in 2000 and 2007

% of total	Year	Total trade	Type of specialization					
			Inter-industry	Intra-industry total	Vertical intra-industry trade			HIIT
					Total	Low quality	High quality	
		(1=2+3)	(2)	(3=4+7)	(4=5+6)	(5)	(6)	(7)
Czech Republic	2000	100	50.8	49.2	38.7	28.7	10.0	10.5
	2007	100	47.3	52.7	39.2	27.7	11.6	13.5
Estonia	2000	100	75.9	24.1	20.3	10.2	10.2	3.8
	2007	100	66.5	33.5	28.0	18.0	10.0	5.5
Cyprus	2000	100	87.1	12.9	10.8	9.0	1.8	2.1
	2007	100	86.1	13.9	13.3	7.9	5.4	0.6
Latvia	2000	100	90.3	9.7	8.7	6.5	2.2	1.0
	2007	100	81.7	18.3	15.5	12.9	2.5	2.8
Lithuania	2000	100	82.3	17.7	13.6	8.9	4.7	4.1
	2007	100	80.6	19.4	16.1	10.9	5.2	3.3
Hungary	2000	100	61.6	38.4	32.2	17.8	14.4	6.2
	2007	100	54.5	45.5	32.1	20.2	12.0	13.4
Malta	2000	100	72.4	27.6	27.2	26.1	1.1	0.4
	2007	100	83.9	16.1	15.1	2.6	12.6	1.0
Poland	2000	100	62.6	37.4	32.2	20.8	11.4	5.2
	2007	100	55.1	44.9	26.1	16.2	9.9	18.8
Slovenia	2000	100	58.6	41.4	28.1	17.5	10.7	13.3
	2007	100	56.0	44.0	26.5	17.1	9.5	17.5
Slovakia	2000	100	70.3	29.7	22.9	15.8	7.1	6.8
	2007	100	64.9	35.1	29.7	15.0	14.7	5.4
EU-10	2000	100	61.7	38.3	31.2	20.4	10.8	7.1
	2007	100	56.0	44.0	30.3	19.4	10.9	13.7
Bulgaria	2000	100	81.3	18.7	16.8	8.4	8.4	1.9
	2007	100	71.7	28.3	22.2	14.6	7.7	6.1
Romania	2000	100	80.0	20.0	17.5	9.7	7.8	2.5
	2007	100	69.0	31.0	26.3	16.7	9.6	4.7

Source: Eurostat (COMEXT) Database

vertical character while the levels of intra-industry trade of those countries with their major trading partners (i.e. EU-15) grew first of all in horizontally differentiated products.

As already mentioned, theoretical models suggest that horizontal specialization takes place first of all among countries with high level of incomes and similar economic patterns. As disparities between the EU-12 countries and the EU-15 are getting lower, the new Member States are becoming more similar with the old EU Members. Thus, increasing shares of HIIT with the EU-15 countries confirm the convergence process of the EU-12 vis-à-vis the EU-15 group. HIIT is a more advanced type of trade, allowing for bigger trade benefits and lower adjustment costs. The relatively fast increase of this type of specialization in EU-10 trade with the EU-15 allowed for a smooth adjustment to the internal market of the EU.

At the same time, HIIT for many EU-10 countries was higher in the analyzed period in their trade with other EU-10 countries than in trade with EU-15 partners

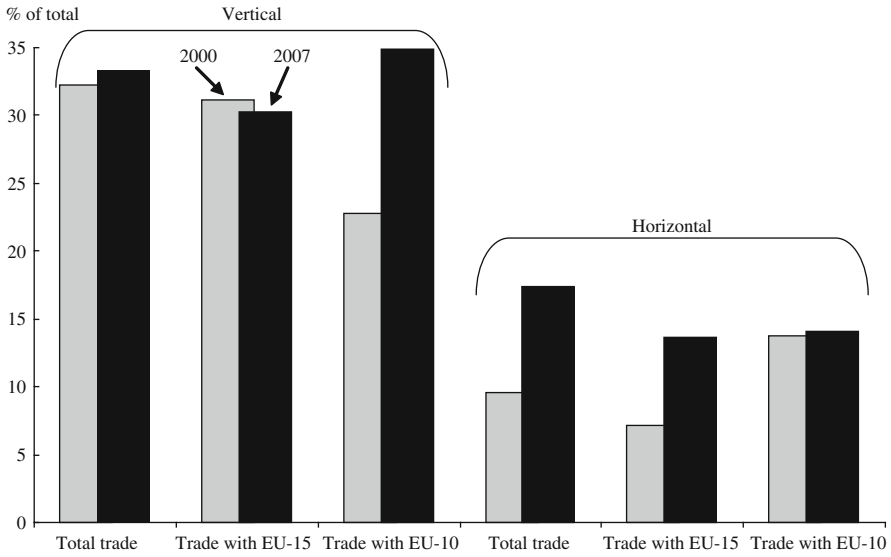

Fig. 2.1 Vertical and horizontal intra-industry trade of the EU-10 countries in 2000 and 2007 *Source*: Data of Table 2.2

(Table 2.2). This observation is also in line with the theory as the EU-10 countries – on average - are more similar between each other than as compared with the EU-15. Exceptions are Malta and Slovenia with higher HIIT shares in their trade with the EU-15 than in trade with the EU-10. One possible interpretation is that both countries are more similar with the EU-15 than with the EU-10 countries.

2.7 Intra-Industry Trade in the Automotive Industry and the Role of FDI

Intra-industry trade (in particular VIIT) in more sophisticated manufactured products is often correlated with inflows of FDI as these products rely on many components and/or processes and benefit more readily from splitting up production across countries. The EU-12 countries have been recording for many years big inflows of FDI.[4] In this context we analyze statistical data in order to identify the relationship between FDI and IIT in the automotive sector. The underlying assumption is that IIT (especially VIIT) in this sector is driven by transnational corporations. We concentrate on data for five new Member States (the Czech Republic,

[4]Taking into account that FDI flows towards the new Member States are dominated by financial services, the FDI impact on trade is lower than it might result from the size of total FDI flows. In this study we take into account only FDI in manufacturing sector.

Table 2.5 The FDI stock in the in automotive industry in 2001 and 2006

	Mio. EUR		% of total		% of				Inward FDI stock per capita (EUR, 2006)
	2001	2006	2001	2006	FDI in manufacturing		Total FDI		
					2001	2006	2001	2006	
Czech Republic	2,192.0	5,700.3	28.5	31.3	19.0	26.1	7.1	9.4	557
Hungary	2,833.1	5,683.1	36.7	31.2	24.4	29.1	9.1	9.2	563
Poland	2,421.7	5,692.1	31.4	31.2	14.7	17.8	5.2	6.1	149
Slovenia	127.6	271.2	1.6	1.5	9.5	10.8	4.3	4.0	135
Slovakia	141.3	879.0	1.8	4.8	5.9	16.3	2.2	3.0	163
Total	7,715.7	18,226.7	100	100	17.8	22.4	6.4	7.9	–

Notes: Automotive industry: Motor vehicles and other transport equipment (DM NACE, NACE 34 and 35). The importance of FDI in the automotive industry in Slovakia is underestimated because of not fully comparable definition of FDI as compared to other EU-5 countries
Source: WIIW Database

Hungary, Poland, Slovakia and Slovenia) where the automotive industry has been important in trade and in the FDI stock[5] (Table 2.5). The automotive sector has been selected as a case study for four reasons: (1) it has attracted relatively big inflows of FDI to new Member States as compared to other sectors; (2) in developed countries this sector has been one of the engines of IIT growth; (3) it is one of the mostly internationalized industries; (4) this sector can be relatively easily identified for statistical comparisons.

2.7.1 The Importance of FDI in the Automotive Industry

The automotive industry plays a very important role in Europe as an engine for employment, growth and innovation which is based on many linkages it has within the domestic and international economy. For example, this sector creates demand for inputs from other industrial sectors (steel and metal products, high-tech manufacturing etc.). It also stimulates new types of activities, thus creating new jobs and incomes (e.g. car repair services, fuel stations, car wash facilities). The high level of competition in the industry is forcing car producers to optimise costs optimization and is also a key factor of ongoing innovations, resulting in positive spillovers for the whole economies (Tirpak 2006).

Enlargement has become a very important development for many EU-15 automotive industry firms (Kaminski 2001). Assembly plants and production of cars and their components in the region have clustered, mainly through FDI, in a relatively small area spanning West Slovakia, Eastern and Central Czech Republic, Southern Poland and Northern Hungary. The automotive industry had accumulated around

[5]Automotive goods are relatively important also in industrial trade of Estonia, Lithuania and Latvia but the share of FDI in automotive sectors is here relatively low.

7.9% of the total inward FDI stock in the five countries we study and 22.4% of FDI in the manufacturing sector (Table 2.5).

The automotive sector is highly penetrated by foreign capital. Data for 2001 (the latest year available) shows that in Slovakia and Hungary 98% of total investments in this industry is foreign, while the penetration ratio is about 95% in Poland and the Czech Republic. Slovenia is the only country with a relatively significant automotive industry, but lower FDI in this sector. Also, foreign investors accounted for more than 90% of sales and export sales in the analyzed countries, except for Slovenia, where these indicators were lower (77 and 86%). In three countries, the Czech Republic, Hungary and Poland, the automotive industry ranked first in total manufacturing FDI.

2.7.2 *The Intensity of Intra-industry Trade in the Automotive Industry*

In Table 2.6 we compare the intensity of total IIT and IIT in the automotive industry with the shares of the automotive industry in industrial trade and in FDI in 2000 and 2007.

Four countries with the highest indices of IIT in total trade in 2007, i.e. Slovenia, the Czech Republic, Hungary and Poland also recorded the highest indices of IIT in automotive products (columns 1 and 4 of Table 2.6). At the same time, in three of those countries: Hungary, Poland and Slovenia, indices of IIT in the automotive sector outpaced the overall IIT indices (by more than 20 p.p.), meaning deeper specialization in automotive trade than in total trade. Intra-industry trade accounted for more than 70% of the automotive trade of those countries (Fig. 2.2). Also, in all those countries the automotive goods were important in total industrial trade and have increased over the years 2000–2007 (columns 5 and 6 of Table 2.6).

In the Czech Republic, Hungary and Slovakia, intra-industry trade in the automotive sector was mainly of vertical character. This type of trade results often from intra-firm trade and is usually evidence of transnational corporations being active. In particular, in Hungary the role of IIT, totally of vertical character in 2007, substantially increased. The Czech Republic and Poland recorded decreasing VIIT intensity over the period 2000–2007, while HIIT increased. This was notably the case in Poland (Fig. 2.2), reflecting the parallel export and import of similar cars.[6] Poland has exported in recent years many cars originating in FDI-based firms, while at the same time, importing used, but relatively new cars. The unit values of exported and imported cars are in the range of ±15% leading to relatively high HIIT shares. In addition, Poland increased its production and exports of car engines

[6]In the first half of 2008, around 94% of cars produced in Poland were exported. At the same time, almost all cars sold on the Polish market were of foreign origin, a big part of them being used cars (about 40% in 2002–2003).

Table 2.6 Indices of total IIT and IIT in automotive industry as compared to the share of automotive industry in industrial trade and in FDI in 2000 and 2007

% of total trade	Total IIT	Intra-industry automotive trade			Share of automotive goods in industrial trade		Share of automotive FDI in total FDI stock (manufacturing)[a]
		HIIT	VIIT	Total IIT in automotive products	Exports	Imports	
	1	2	3	4 = 2 + 3	5	6	7
Czech Republic							
2000	50.8	8.6	47.8	56.4	16.8	8.1	19.0
2007	57.3	22.8	31.6	54.4	17.7	9.6	26.1
Hungary							
2000	44.1	12.9	36.5	49.4	9.2	8.1	24.4
2007	51.9	0.3	73.6	73.9	11.6	9.5	29.1
Poland							
2000	39.2	0.4	81.4	81.8	10.7	9.6	14.7
2007	50.8	68.2	9.3	77.5	15.0	11.2	17.8
Slovakia							
2000	34.1	5.4	33.5	38.9	23.6	14.6	5.9
2007	40.7	2.1	33.5	35.6	26.5	16.5	16.3
Slovenia							
2000	44.2	57.8	11.3	69.1	11.9	13.0	9.5
2007	57.5	67.7	12.1	79.8	19.1	18.9	10.8
EU-5							
2000	43.1	10.8	49.7	60.5	13.4	9.5	17.8
2007	51.9	32.5	30.3	62.8	16.8	11.6	22.4

[a]2001 instead of 2000 and 2006 instead of 2007
Source: Eurostat and WIIW Database

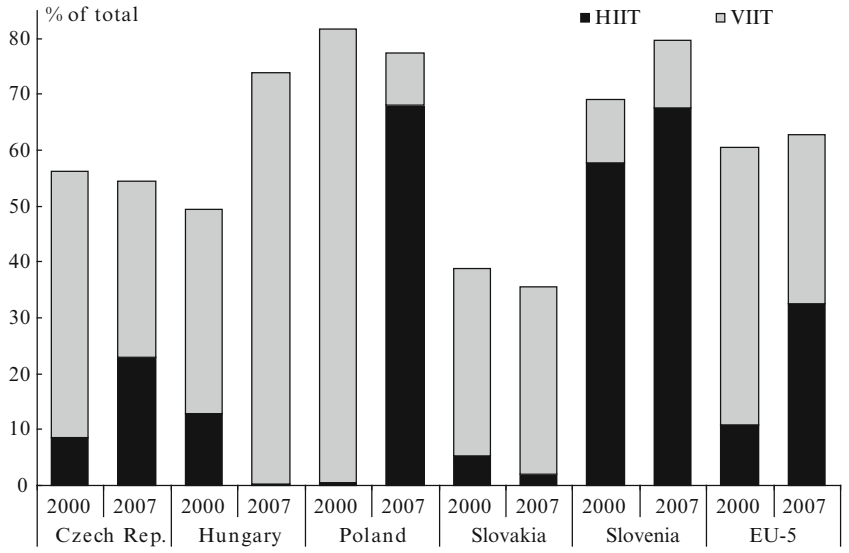

Fig. 2.2 Horizontal and vertical intra-industry trade in the automotive industry in some new Member States in 2000 and 2007
Source: Data of Table 2.6

Table 2.7 Inward FDI stock in transport equipment in 2001–2006

Mio. of EUR	2001	2002	2003	2004	2005	2006	2007	2006/2001 change (in %)
Czech Republic	2192.0	2272.4	3407.6	3345.4	4740.1	5700.3	n.a.	260
Estonia	36.8	25.7	77.3	59.3	60.5	60.7	63.7	164
Latvia	2.0	3.0	1.2	7.9	12.7	15.1	19.5	735
Lithuania	42.9	43.2	70.3	75.5	84.7	93.6	97.9	218
Hungary	2833.1	3247.5	3761.7	4387.4	4855.6	5683.1	n.a.	201
Poland	2421.7	2280.3	2760.5	4465.1	4975.4	5692.1	n.a.	235
Slovenia	127.6	54.4	124.9	197.3	256.1	271.2	n.a.	212
Slovakia	141.3	149.1	156.2	314.7	563.5	879.0	n.a.	623
Bulgaria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania	n.a.	n.a.	527.0	860.0	1112.0	1406.0	n.a.	n.a.

Notes: Transport equipment: Motor vehicles and other transport equipment (DM NACE, NACE 34 and 35)
Source: WIIW Database

Table 2.8 FDI stock in transport equipment

% of total FDI stock	2001	2002	2003	2004	2005	2006	2007
Czech Republic	7.1	6.2	9.5	8.0	9.2	9.4	n.a.
Estonia	1.0	0.6	1.4	0.8	0.6	0.6	0.6
Latvia	0.1	0.1	0.0	0.2	0.3	0.3	0.3
Lithuania	1.4	1.1	1.8	1.6	1.2	1.1	1.0
Hungary	9.1	9.4	9.8	9.6	9.3	9.2	n.a.
Poland	5.2	4.9	6.0	7.0	6.5	6.0	n.a.
Slovenia	4.3	1.4	2.5	3.5	4.2	4.0	n.a.
Slovakia	2.2	1.7	1.2	2.0	2.8	3.0	n.a.
Bulgaria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania	n.a.	n.a.	5.5	5.7	5.1	4.1	n.a.

Notes: Transport equipment: Motor vehicles and other transport equipment (DM NACE, NACE 34 and 35)
Source: WIIW Database

and other parts while such products were also imported to be assembled in the country and re-exported (Tables 2.7 and 2.8).

The low and even decreasing share of intra-industry trade in Slovakia (Fig. 2.2) can be explained to a great extent by this country's specialization in importing automotive parts and components and the subsequent export of assembled cars. Such flows did not translate into higher VIIT (or total IIT) explained by the detailed SITC classification applied in this study.

Bearing in mind the limitations of the approach followed based on IIT indices which are useful for comparisons over time or across products but have deficiencies when comparing absolute levels, there are nevertheless sufficient indications pointing at a positive relationship between FDI and intra-industry trade in the automotive sector. Countries with relatively high foreign investment in the automotive sector (Hungary, the Czech Republic and Poland) record usually higher IIT in this sector than in total trade (recently, the Czech Republic was an exception). Intra-industry

trade in the automotive sector is not, as suggested by some previous studies (see overview of the literature above), mainly of vertical character. In some countries, an increase of horizontal intra-industry trade in the automotive sector has been recorded mirroring a fast catching up process and the involvement of transnational corporations.

2.8 Conclusion

Intra-industry trade, which is of greater benefit to the economy than inter-industry trade, has driven trade developments of the new Member States in recent years. Its share in total trade of the EU-10 countries increased from 42% in 2000 to 51% in 2007. The increasing role of IIT has been observed in all countries, but one (Malta). The EU-10 countries have made great strides in changing their production structures which became more similar to those of the old EU Members.

The fast development of IIT smoothened the adjustments of the EU-12 countries to the EU internal market, as resources had not to be re-allocated between industries. This is a noteworthy achievement against the background of increased competition in an uncertain and globalised environment in which new emerging markets are fighting for their place.

A new element is the relatively quickly changing pattern of specialization of a majority of the new Member States towards more horizontal intra-industry trade, usually typical for more developed countries. An increasing share of high quality vertical intra-industry trade was also identified. Moreover, this study confirms the important role of FDI for growth in intra-industry trade.

Acknowledgments The author wishes to thank Prof. Elżbieta Czarny for helpful comments. Data has been compiled by Łukasz Ambroziak and Maciej Sewerski, who produced the tables and figures.

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A Positive Sum Game
Keereman, F.; Szekely, I. (Eds.)
2010, XXIX, 256 p., Hardcover
ISBN: 978-3-642-12515-7