

8 October 2006

Intra-Industry trade in the Baltic Sea region*Marek Tiits, marek@ibs.ee**Juhan Jüriado, jjyriado@ibs.ee***Contents**

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This paper has been prepared in the framework of the projects “Industrial restructuring in the NIS: experience and lessons from the EU new member states - INDEUNIS” and “Creative Destruction Management in the Baltic Sea Region”, which have been both co-funded by the European Commission.

1. Executive summary

The purpose of this paper is to analyse economic integration in the Baltic Sea Region as it has emerged from mid-1990s. More importantly, we seek to assess the quality of integration as conferred by the development of intra-industry trade between the two groups of countries in the Baltic Sea region: Finland, Sweden, Denmark and Germany at the Western coast, and Estonia, Latvia, Lithuania and Poland at the Eastern coast of the Baltic Sea.

The change of several variations of the Gruber Lloyd index over the last decade indicates an increase in intra-industry trade between the above two groups of countries, but the increase is not huge. The analysis of intra-industry trade within the top 25 commodity groups reveals a remarkable increase of the share of intra-industry trade from the East to the West in a number of modern industries, such as metal and machinery, and automobile production, production of electrical equipment and telecom equipment, etc. The share of intra-industry trade has remained, at the same time, largely unaltered in traditional resource- and/or labour-intensive industries, such as wood processing and furniture or textiles and apparel production.

The analysis of the change in the quality of the traded goods reveals, however, that the economic intergration in the Baltic Sea Region has so far not led to a vast increase of the competitiveness of industry at the relatively less developed Eastern coast of the Baltic Sea. The equalisation of market prices has predominantly taken place in the trade of raw materials, whereas the Eastern countries continue to trade with deficit in the majority of manufactured goods where the equalisation of unit prices has actually taken place.

The above seems to support the results of our previous research, in which we have concluded that the economies of the Baltic States and Poland continue to act as lower value-added parts of the cross-border clusters in the Baltic Sea Region. Consequently, if catching up in living standards with the northern and western neighbours is envisioned, much more systematic investment into education and technology is needed in the Baltic States and Poland.

2. Introduction

A closer integration of the Baltic countries and Poland with the Western Baltic Sea countries commenced after the collapse of the Soviet Union (USSR) and the restoration of independence of the Baltic States in the early 1990s, and extended further with free trade agreements in the mid-1990s. A further step was taken in 1995, when Poland and the Baltic States (1999-2000) became members of the World Trade Organisation (WTO).

The industrial and trade specialisation of the Baltic Sea states is a result of a long-run development in Europe after World War II, whereby the Nordic countries and (Western) Germany developed as parts of the western economic system, while the Baltic States and Poland became integral parts of the 'Soviet economic system'. Given the autarky of the Soviet economic system, the trade was fairly limited between the states on the Western and Eastern coasts of the Baltic Sea until the early 1990s. The collapse of the Soviet Union opened new opportunities for strengthening the economic ties between the countries at the Western and Eastern coast of the Baltic Sea. Furthermore, the continued economic crisis in the former USSR forced the Baltic States to diversify their export outlets away from the eastern markets and look for new more stable markets in Scandinavia and Western Europe. The rapid increase of (predominantly market- and/or resource-seeking) foreign direct investments from the Nordic countries and Germany to the Baltic States and Poland contributed to further trade integration in the Baltic Sea region. Hence, one can conclude that the economies of the individual countries around the Baltic Sea have become very closely integrated over the last 10-15 years.¹

In 2004, intra-regional trade in the Baltic Sea Region trade covered 66.1% of the Estonian total import and 68.7% of export with the world, and about half of the Latvian and Lithuanian foreign trade.² The foreign trade portfolio of the Nordic countries, Finland, Sweden and Denmark, is much more internationally dispersed. In the case of Germany, the trade within the BSR is of least importance among the countries around the Baltic Sea, accounting only for 10.2 % of imports and 9.7% of exports. (Table 5 in appendix)

In the following, we will analyse the division of labour between the two groups of countries as characterised by the development of intra-industry trade. Denmark, Finland, Germany and Sweden jointly constitute the group called Western Baltic Sea Region (W-BSR) in this paper. The other group, which we call Eastern Baltic Sea Region (E-BSR), consists of Estonia, Latvia, Lithuania and Poland.

¹ For a more detailed account, see: Marek Tiits, *Industrial and trade dynamics in the Baltic Sea region – the last two waves of European Union enlargement in historic perspective*, Institute of Baltic Studies, Working Paper 1/2006 for FP6 INDEUNIS project, February 2006.

² The share of intra-regional trade in the Baltic Sea region would account for an even bigger share if imports and re-exports of Russian oil, gas, and raw materials were taken into account. The role of Russian oil transit and processing is especially prominent in Lithuania, where it accounts roughly for 20-25% of commodity trade according to UN Comtrade data.

3. Methodology and data

3.1. Intra-industry trade

Classical approaches to international trade and specialisation, such as David Ricardo's theory on relative comparative advantage³ assume that different economies possess competitive advantages in different activities, and individual regions or countries should thereby specialise in the areas of their relative strength, while importing goods which can be produced more efficiently in other economies.

It appears, however, that in real life virtually all modern economies at the same time both import and export in significant amounts in certain commodity groups. The variable quality of the goods produced in different parts of the world and the internationalisation of production together with the (re)location of parts of productive activities are just a few rationales for the emergence of the phenomenon of *intra-industry trade* described above.

Since the 1970s, the Grubel Lloyd index GL_i has become the most widely used measure of the share of intra-industry trade in overall trade. The Grubel Lloyd index is calculated:⁴

$$GL_i = 1 - |X_i - M_i| / (X_i + M_i) ,$$

where X_i is the export in a certain line of goods and M_i import in the same commodity group. In the following, GL_{iv} denotes the Gruber Lloyd index calculated by monetary value of trade and whereas GL_{ia} is calculated based on the amount of traded goods.

Additionally, the average Gruber Lloyd index is defined:

$$\text{Average } GL_i = \sum GL_{ij} / n_j ,$$

where GL_{ij} is the GL_i index of commodity j and n_j is the number of commodity groups.

The value of the GL_i index can vary between 0 and 1, whereas the former denotes zero intra-industry trade and the latter corresponds to the situation where all trade is intra-industry trade. One should also note that trade imbalance between trading partners leads to downward deviation of the value of the GL index, i.e. the theoretical maximum value 1, which corresponds to hundred-percent intra-industry trade remains unachievable. As a correction of the downward bias of the index value described above, sometimes modified versions of intra-industry trade indices are used. Yet, as we are only interested in this paper in the change of intra-industry trade in time, and will not attempt to compare the value of the Gruber Lloyd index between different groups of trading partners, we stick with the original Grubel Lloyd GL_i index for the purposes of the current analysis.⁵

³ David Ricardo, *The Principles of Political Economy and Taxation*, London: John Murray, 1817.

⁴ Herbert G. Grubel & Peter J. Lloyd, *Intra-Industry Trade: The Theory and Measurement of International Trade in Differentiated Products*, New York: Wiley, 1975.

⁵ See for example: Antonio Aquino, "Intra-industry trade and intra-industry specialisation as current sources of international trade in manufacturers", *Weltwirtschaftliches Archiv*, 114, 1978, 275-295.

Additionally, in order to analyse the quality of the traded goods, a distinction between *horizontal intra-industry trade* (HIIT) and *vertical intra-industry trade* (VIIT) is introduced. In doing so, an assumption is made that the differences of unit prices of the products in a specific commodity group indicate the differences in quality of the products; i.e., the higher the unit price, the higher the standard of the product is assumed to be. Hence, horizontal intra-industry trade indicates trade of goods of similar quality, while vertical intra-industry trade points to a notable difference in the quality of the traded goods.

Intra-industry trade is considered to be of horizontal nature, if

$$1 - \alpha \leq UVX_{ikj} / UVM_{ikj} \leq 1 + \alpha ,$$

where UV is the unit price of exported (X) or imported (M) product (j) belonging to a line of goods (i) by trading partner (k). In line with earlier studies on intra-industry trade, in this paper, trade is considered to be of horizontal nature if the difference of export and import unit prices (α) in a specific commodity group is no more than 15%.⁶

Horizontal IIT is evident in the case of two-way trade of products of similar quality, but different attributes. If the standard of exported and imported products is almost the same and the consumer chooses by other criteria, e.g. color, taste, etc., HIIT is driven predominantly by economies of scale and product differentiation. Thus, a high share of HIIT indicates a similar level of technological development between trading partners, while a large share of VIIT in trade is an indication of trade between economies which possess grossly different competitive advantages.

When bilateral trade is opened up between two countries (or two groups of countries) in different stages of development, intra-industry trade will be predominantly of vertical nature in initial stages, but the share of horizontal intra-industry trade will increase if the backward country (or group of countries) manages to catch up and the industrial specialisation of the trading parties will become more similar.

3.2. Sources and representativeness of the statistical data

For intra-industry trade analysis, trade data at the SITC⁷ three-digit disaggregation level is used, and intra-industry trade indicators for three years (1996, 2000 and 2004) have been calculated. Due to availability constraints, the trade data reported by Denmark, Finland, Germany and Sweden has been used as the basis of the analysis for all countries. Unless indicated otherwise, the data derived from the Eurostat *Comext database* in March 2006 has been used.⁸

The analysis of the share of intra-regional trade in the Baltic Sea Region demonstrates that the exports to W-BSR account for 1/3 to 1/2 of the total commodity exports of the

⁶ Occasionally, in some papers also a 25% margin is used for distinguishing between VIIT and HIIT, but in this paper, we stick to the widely used 15% threshold.

⁷ System of International Trade in Commodities.

⁸ Eurostat Comext database, <http://fd.comext.eurostat.cec.eu.int/xtweb/>

Baltic States and Poland to the world, while the E-BSR market is statistically an even less significant part for the Nordic and German total exports. (Table 1)

Table 1. Trade in the Baltic Sea region

	Export share 1999		Export share 2004		Import share 2004	
	W-BSR	E-BSR	W-BSR	E-BSR	W-BSR	E-BSR
Denmark	34.7%	2.7%	34.0%	2.4%	36.8%	2.9%
Estonia	59.2%	12.4%	49.7%	13.4%	44.2%	12.4%
Finland	25.8%	5.9%	24.0%	5.7%	35.7%	3.8%
Germany	5.1%	2.7%	4.7%	3.0%	4.5%	3.0%
Latvia	35.4%	14.0%	30.1%	20.8%	29.6%	24.8%
Lithuania	29.3%	19.2%	21.0%	20.1%	27.3%	14.8%
Poland	42.6%	2.7%	36.4%	2.6%	34.1%	1.0%
Sweden	21.3%	2.7%	21.9%	2.9%	33.1%	4.2%

Source: Authors' calculations; *COMEXT Database*, Eurostat, September 2005.

Accordingly, one should interpret the conclusions presented in the following sections of this paper cautiously, keeping in mind that the aim of this paper is to analyse the effects of economic integration between W-BSR and E-BSR, and the following conclusions cannot be readily extended to trade relations within W-BSR and E-BSR nor to the trade of the Baltic Sea Region with the rest of the world.

4. Intra-industry trade between W-BSR and E-BSR

As one might have expected, the change of the Gruber Lloyd index over the last decade indicates an increase in intra-industry trade between W-BSR and E-BSR. At first sight, the GL_{iv} index (in Euro) seems to indicate a very high share of intra-industry trade in the trade between W-BSR and E-BSR throughout the period under observation. Strikingly, however, the value of the GL_{iv} index departs remarkably from the GL_{ia} index calculated on the basis of the amount of goods (in 100 kg), and from the average GL_{iv} and GL_{ia} indices. (Table 2)

Table 2. Gruber Lloyd index 1996-2004

	1996	2000	2004
GL_i by the value of goods	0.82	0.88	0.90
GL_i by the amount of goods	0.35	0.40	0.42
Average GL_i by the value of goods	0.39	0.45	0.47
Average GL_i by the amount of goods	0.44	0.47	0.48

Source: Authors' calculations.

We believe, that the twofold difference of the GL_{iv} and GL_{ia} indices can be explained by the high variability of prices by different groups of commodities and radically different export structures of W-BSR and E-BSR. For instance, in 1996, the total value of exports from W-BSR to E-BSR was about 1.4 times higher than the value of the opposite trade flow. Yet, at the same time, the amount of W-BSR exports to E-BSR was nearly 5 times smaller than the imports from E-BSR, in kilogram terms.

Table 3. Value of exports, 1996-2004

	1996		2000		2004	
	in MEUR	in 100 kg	in MEUR	in 100 kg	in MEUR	in 100 kg
E-BSR to W-BSR	8726	357480988	17271	422093339	22196	533416496
W-BSR to E-BSR	12535	75862901	21835	104340582	27273	140514955

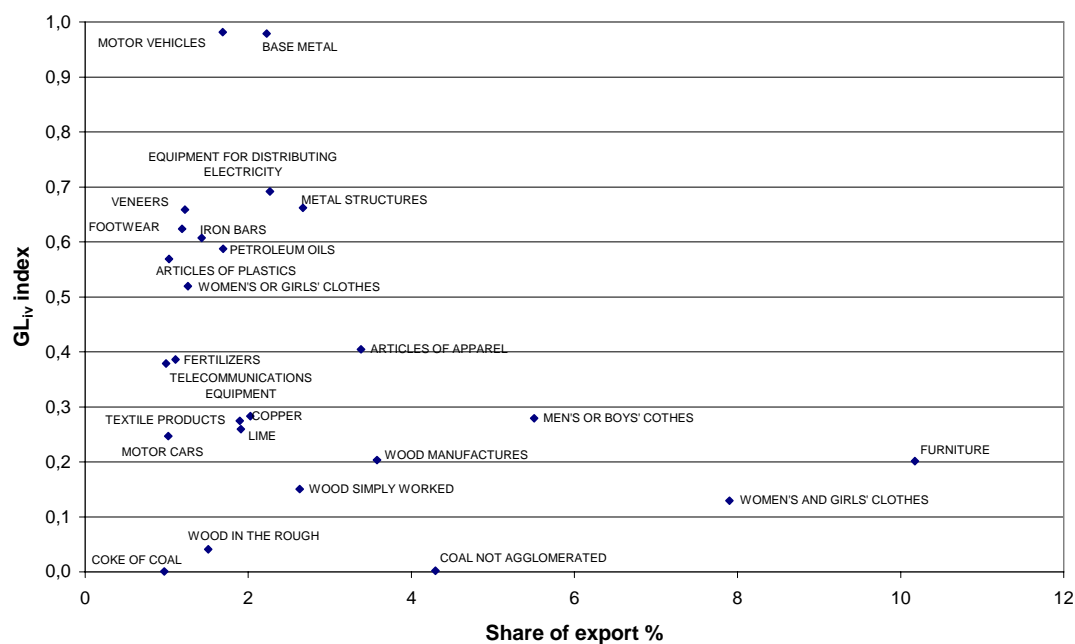
Source: Authors' calculations; *COMEXT Database*, Eurostat 2006.

The variance of the average GL_{iv} and GL_{ia} indices calculated by specific groups of commodities as compared to the simple Gruber Lloyd GL_{ia} index is almost negligible. Understanding that the GL_{iv} index, unlike the average GL_{iv} , also takes into account the relative share of every line of goods in overall trade seems to hint that intra-industry trade between W-BSR and E-BSR includes a limited number of relatively 'weightless', but high-value commodities with a very high share of intra-industry trade.

To check this hypothesis, we look in the following at the importance of intra-industry trade for individual commodity groups. For obvious reasons, it is not possible to describe in great detail the developments in all 228 lines of goods in the SITC classification. However, we notice that the trade between W-BSR and E-BSR is fairly concentrated and we can improve our understanding considerably by analysing the developments in top commodity groups in terms of trade value in Euro. In 1996, the first 25 of the 228 categories of goods (SITC classification at 3-digit level) accounted for 66% of E-BSR export to W-BSR and 49% of W-BSR export to E-BSR. For 2004, we observe only minor changes in the concentration of trade, as the first 25 commodity groups accounted still for 62% of E-BST export to W-BSR, and 50% of W-BSR exports to E-BSR. (See tables 6 to 8 in the appendices)

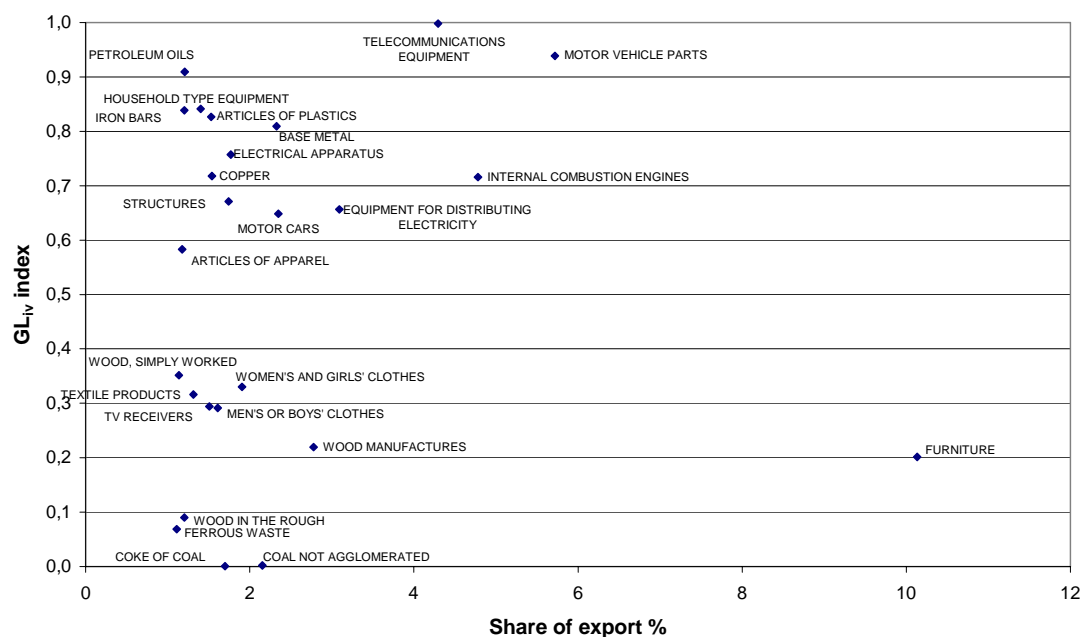
The analysis of intra-industry trade within the top 25 commodity groups reveals a remarkable increase of the share of intra-industry trade from E-BSR to W-BSR in a number of modern industries, such as metal and machinery, and automobile production, production of electrical equipment and telecom equipment, etc. (Figure 1 and Figure 2)

Figure 1. Share of intra-industry trade in E-BSR exports to W-BSR, top 25 categories by the value of traded goods, 1996



Source: Authors' calculations.

Figure 2. Share of intra-industry trade in E-BSR exports to W-BSR, top 25 categories by the value of traded goods, 2004



Source: Authors' calculations.

The above developments are fully understandable, as the indigenous medium- and high-tech industries in E-BSR have faced mounting global market pressures throughout the 1990s, while very little domestic resources have been available for adjustment to the changing environment. The modern industry in E-BSR has therefore come to be dominated by foreign investment enterprises (FIE), which are increasingly

re-locating (less cost competitive) parts of their production activities to E-BSR. The FIE tend to import the majority of their production inputs, except workforce and a limited number of other locally available basic inputs, and (re)export half-finished or final goods. Hence the rapid increase of the share of IIT in these industries.⁹

In contrast to the above, one could also notice that the share of intra-industry trade has remained largely unaltered in traditional resource- and/or labour-intensive industries, such as wood processing and furniture or textiles and apparel production, where the competitive advantages of E-BSR are based on local natural resources (e.g. coal or forest) or relatively lower labour costs.

5. Horizontal intra-industry trade between W-BSR and E-BSR

Finally, we assess the variance of the quality of traded goods between W-BSR and E-BSR. We assume that the comparable quality (expressed by similar unit prices) of the traded goods in a commodity group is an indication of a comparable competitive position of the industries of the respective trade partners, while a major disparity of unit prices hints that the less competitive party has to rely on advantages other than quality, such as lower input costs or speedier delivery.¹⁰

In 1996, horizontal intra-industry trade (HIIT) was evident only in 12 of the 228 commodity groups, whereas vertical intra-industry trade (VIIT) was evident in 206 commodity groups, and data was not available for the remaining 10 commodity groups. In terms of the total trade volume, the above 12 groups with HIIT contributed only 3% of W-BSR export to E-BSR and 9% of E-BSR export to W-BSR. The above 12 commodity groups included most notably raw materials (aluminium, petrol oil and zinc, which are not produced in the Baltic States or Poland), textiles and non-alcoholic beverages, while road motor vehicles emerged as the only medium-high technology group with HIIT. In 2000, already 12% of W-BSR exports to E-BSR and 18% of the E-BSR exports to W-BSR was HIIT, which was evident in 29 commodity groups. For 2004, intra-industry trade was of horizontal nature already in 33 commodity groups amounting for 27% of W-BSR exports to E-BSR and 20% of the trade between W-BSR and E-BSR. (Table 12 in appendices)

A closer analysis of the volumes of trade by individual commodity groups reveals that the structure of HIIT between W-BSR and E-BSR has changed rather radically between 1996 and 2004. In 1996, export of men's and women's clothes from E-BSR to W-BSR generated more than 90% of HIIT. For 2004, however, the trade of textiles and clothes demonstrated no more HIIT, whereas the trade of parts and accessories of motor vehicles and the production of electrical equipment accounted for one half of the total HIIT flow from E-BSR to W-BSR. Remarkably, the import and export unit prices continue to differ significantly in east-west trade of telecom equipment, although it is virtually 100% intra-industry trade. The E-BSR and W-BSR quality standards have not converged either in the production of furniture, which continually holds the largest share (10%) in E-BSR commodity exports to W-BSR. (Table 12)

⁹ Marek Tiits *et al*, *Made in Estonia*, Institute of Baltic Studies, Tartu 2005, <http://www.ibs.ee/MiE/>.

¹⁰ *Ibid.*

Furthermore, the analysis of trade balances in commodity groups with HIIT reveals that although the market prices have reached similar levels in a number of commodity groups, these commodity groups account only for a minority share of trade between W-BSR and E-BSR. (*Ibid.*)

6. Summary and conclusions

The economic integration in the Baltic Sea Region, which has taken place over the last one and a half decades has led to fairly close economic integration in the Baltic Sea Region. Yet, the integration has so far mostly taken place in the form of consolidation of markets and capital as demonstrated by the remarkable volumes of foreign direct investment flows, etc. Yet, the stocks of foreign direct investments into industry are still much lower in the Baltic States and Poland *in per capita* terms than the respective investments into most of the Central European countries. However, the achievements in integration of innovation and production systems have so far been much more modest.¹¹

Earlier research has demonstrated that FDI flows from more developed to less developed countries tend to be associated predominantly with vertical intra-industry trade in initial phases, as technologically more developed countries can add lower production costs to their advantage gained by technological knowledge. Our analysis confirms the the share of horizontal intra-industry trade in the total trade between W-BSR and E-BSR remains modest, and is associated with very limited product groups such as parts of motor vehicles and electrical equipment.¹²

Thus, economic intergration in the Baltic Sea Region has so far not led to a vast increase of the competitiveness of E-BSR industry. The equalisation of market prices has predominantly taken place in the trade of raw materials, whereas E-BSR continues to trade with W-BSR with deficit in the majority of manufactured goods where the equalisation of unit prices has actually taken place. The above seems to support the results of our previous research, in which we have concluded that the economies of the Baltic States and Poland continue to act as lower value-added parts of the cross-border clusters in the Baltic Sea Region.

Consequently, if catching up in living standards with the northern and western neighbours is envisioned, much more systematic investment into education and technology is needed in the Baltic States and Poland.

¹¹ For instance, 77% of inward FDI to Estonia originates from other countries in the Baltic Sea region. See: Marek Tiits, *Industrial and trade dynamics in the Baltic Sea region – the last two waves of European Union enlargement in historic prospective*, Institute of Baltic Studies, Working Paper 1/2006, February 2006.

¹² Marek Tiits, *Technology-intensive Foreign Investments and Economic Development Strategy in a Small Country*, Institute of Baltic Studies, Working Paper 1/2005, October 2005; Chonira Aturupane, “Determinants of Intra-Industry Trade between East and West Europe”, Centre for Economic Policy Research, Discussion Papers 1721, October 1997, 4.

7. Appendices

Table 4. Trade volumes of individual countries by trading partners, 2004, bEUR.

Import										
	DE	EE	FI	DE	LV	LT	PL	SE	RU	World
Denmark	:	0.16	1.17	11.72	0.17	0.28	0.97	7.27	0.57	54.77
Estonia	0.16	:	1.35	0.84	0.27	0.35	0.22	0.63	0.64	6.75
Finland	2.14	1.04	:	6.69	0.10	0.06	0.39	5.93	5.31	41.36
Germany	9.78	0.40	5.81	:	0.37	0.69	15.76	10.11	15.81	576.35
Latvia	0.17	0.40	0.36	0.79	:	0.69	0.31	0.35	0.50	5.65
Lithuania	0.36	0.32	0.33	1.67	0.38	:	0.76	0.33	2.29	9.87
Poland	1.20	0.08	0.97	20.24	0.25	0.42	:	2.02	5.09	71.69
Sweden	7.03	0.62	4.88	14.57	0.34	0.41	1.96	:	1.96	80.06

Export										
	DE	EE	FI	DE	LV	LT	PL	SE	RU	World
Denmark	:	0.15	1.79	11.30	0.16	0.24	0.94	7.95	0.78	61.88
Estonia	0.16	:	1.10	0.40	0.38	0.21	0.05	0.73	0.27	4.79
Finland	1.09	1.40	:	5.28	0.34	0.27	0.83	5.49	4.39	49.46
Germany	11.29	0.77	7.44	:	0.83	1.48	18.82	15.86	14.97	733.39
Latvia	0.17	0.26	0.08	0.39	:	0.29	0.12	0.32	0.21	3.19
Lithuania	0.36	0.37	0.07	0.77	0.76	:	0.36	0.38	0.69	7.45
Poland	1.35	0.21	0.48	17.98	0.36	1.02	:	2.11	2.32	60.18
Sweden	6.30	0.54	5.40	9.92	0.31	0.29	1.71	:	1.49	98.69

Source: *COMEXT Database*, Eurostat, September 2005.

Table 5. Share of the intra-regional trade for individual countries, 2004.

Import:										
	DK	EE	FI	DE	LV	LT	PL	SE	RU	BSR9
Denmark	:	0.3%	2.1%	21.4%	0.3%	0.5%	1.8%	13.3%	1.0%	40.7%
Estonia	2.4%	:	20.0%	12.4%	4.1%	5.1%	3.2%	9.4%	9.4%	66.1%
Finland	5.2%	2.5%	:	16.2%	0.2%	0.1%	0.9%	14.3%	12.8%	52.3%
Germany	1.7%	0.1%	1.0%	:	0.1%	0.1%	2.7%	1.8%	2.7%	10.2%
Latvia	3.0%	7.0%	6.4%	14.0%	:	12.3%	5.5%	6.2%	8.8%	63.2%
Lithuania	3.6%	3.3%	3.4%	16.9%	3.9%	:	7.7%	3.4%	23.2%	65.4%
Poland	1.7%	0.1%	1.4%	28.2%	0.3%	0.6%	:	2.8%	7.1%	42.2%
Sweden	8.8%	0.8%	6.1%	18.2%	0.4%	0.5%	2.4%	:	2.4%	39.7%

Export:										
	DK	EE	FI	DE	LV	LT	PL	SE	RU	BSR9
Denmark	:	0.2%	2.9%	18.3%	0.3%	0.4%	1.5%	12.8%	1.3%	37.7%
Estonia	3.3%	:	22.9%	8.3%	8.0%	4.4%	1.0%	15.2%	5.6%	68.7%
Finland	2.2%	2.8%	:	10.7%	0.7%	0.5%	1.7%	11.1%	8.9%	38.6%
Germany	1.5%	0.1%	1.0%	:	0.1%	0.2%	2.6%	2.2%	2.0%	9.7%
Latvia	5.4%	8.0%	2.5%	12.1%	:	9.2%	3.6%	10.1%	6.4%	57.4%
Lithuania	4.8%	5.0%	0.9%	10.3%	10.2%	:	4.8%	5.1%	9.3%	50.4%
Poland	2.2%	0.4%	0.8%	29.9%	0.6%	1.7%	:	3.5%	3.9%	42.9%
Sweden	6.4%	0.6%	5.5%	10.0%	0.3%	0.3%	1.7%	:	1.5%	26.3%

Source: Authors' calculations; *COMEXT Database*, Eurostat, September 2005.

Table 6. E-BSR export to W-BSR, top 30 categories by the value of traded goods, 1996

No	Category	% share	Volume EUR	GLiv	HIIT
1	FURNITURE AND PARTS THEREOF; BEDDING, MATTRESSES, MATTRESS SUPPORTS, CUSHIONS AND SIMILAR STUFFED FURNISHINGS	10.2	887797551	0.20	.
2	WOMEN'S AND GIRLS' COATS, CAPES, JACKETS, SUITS, TROUSERS, SHORTS, SHIRTS, DRESSES AND SKIRTS, UNDERWEAR, NIGHTWEAR AND SIMILAR ARTICLES OF TEXTILE FABRICS, NOT KNITTED OR CROCHETED (OTHER THAN THOSE OF HEADING 845.2 OR 845.6)	7.9	689299977	0.13	1.11
3	MEN'S OR BOYS' COATS, JACKETS, SUITS, BLAZERS, TROUSERS, SHORTS, SHIRTS, UNDERWEAR, NIGHTWEAR AND SIMILAR ARTICLES OF TEXTILE FABRICS, NOT KNITTED OR CROCHETED (OTHER THAN THOSE OF HEADING 845.2 OR 845.6)	5.5	480524935	0.28	.
4	COAL, WHETHER OR NOT PULVERIZED, BUT NOT AGGLOMERATED	4.3	374965899	0.00	.
5	WOOD MANUFACTURES, N.E.S.	3.6	312219587	0.20	.
6	ARTICLES OF APPAREL, OF TEXTILE FABRICS, WHETHER OR NOT KNITTED OR CROCHETED, N.E.S.	3.4	295042794	0.40	.
7	STRUCTURES AND PARTS OF STRUCTURES, N.E.S., OF IRON, STEEL OR ALUMINIUM	2.7	233123594	0.66	.
8	WOOD, SIMPLY WORKED, AND RAILWAY SLEEPERS OF WOOD	2.6	229644370	0.15	.
9	EQUIPMENT FOR DISTRIBUTING ELECTRICITY, N.E.S.	2.3	197594358	0.69	.
10	MANUFACTURES OF BASE METAL, N.E.S.	2.2	194371384	0.98	.
11	COPPER	2.0	176771292	0.28	.
12	LIME, CEMENT, AND FABRICATED CONSTRUCTION MATERIALS (EXCEPT GLASS AND CLAY MATERIALS)	1.9	166648779	0.26	.
13	MADE-UP ARTICLES, WHOLLY OR CHIEFLY OF TEXTILE MATERIALS, N.E.S.	1.9	165481518	0.27	.
14	PETROLEUM OILS AND OILS OBTAINED FROM BITUMINOUS MINERALS (OTHER THAN CRUDE); PREPARATIONS, N.E.S., CONTAINING BY WEIGHT 70% OR MORE OF PETROLEUM OILS OR OF OILS OBTAINED FROM BITUMINOUS MINERALS, THESE OILS BEING THE BASIC CONSTITUENTS OF THE PREPARATIONS	1.7	147563700	0.59	.
15	MOTOR VEHICLES FOR THE TRANSPORT OF GOODS AND SPECIAL PURPOSE MOTOR VEHICLES	1.7	147126751	0.98	.
16	WOOD IN THE ROUGH OR ROUGHLY SQUARED	1.5	131732596	0.04	.
17	IRON AND STEEL BARS, RODS, ANGLES, SHAPES AND SECTIONS (INCLUDING SHEET PILING)	1.4	124510848	0.61	.
18	WOMEN'S OR GIRLS' COATS, CAPES, JACKETS, SUITS, TROUSERS, SHORTS, SHIRTS, DRESSES AND SKIRTS, UNDERWEAR, NIGHTWEAR AND SIMILAR ARTICLES OF TEXTILE FABRICS, KNITTED OR CROCHETED (OTHER THAN THOSE OF HEADING 845.2 OR 845.6)	1.3	109812129	0.52	.
19	veneers, plywood, particle board, and other wood, worked, N.E.S.	1.2	106867860	0.66	.
20	FOOTWEAR	1.2	103778141	0.62	.

21	FERTILIZERS (OTHER THAN THOSE OF GROUP 272)	1.1	96558053	0.39	.
22	SPECIAL TRANSACTIONS AND COMMODITIES NOT CLASSIFIED ACCORDING TO KIND	1.1	92100697	0.81	.
23	ARTICLES, N.E.S. OF PLASTICS	1.0	89809651	0.57	.
	MOTOR CARS AND OTHER MOTOR VEHICLES PRINCIPALLY DESIGNED FOR THE TRANSPORT OF PERSONS (OTHER THAN PUBLIC-TRANSPORT TYPE VEHICLES), INCLUDING STATION WAGONS				
24	AND RACING CARS	1.0	88966654	0.25	.
	TELECOMMUNICATIONS EQUIPMENT, N.E.S.; AND PARTS, N.E.S., AND ACCESSORIES OF				
25	APPARATUS FALLING WITHIN DIVISION 76	1.0	86735474	0.38	.
	COKE AND SEMI-COKE (INCLUDING CHAR) OF COAL, OF LIGNITE OR OF PEAT, WHETHER OR NOT				
26	AGGLOMERATED; RETORT CARBON	1.0	84641662	0.00	.
	TRAILERS AND SEMI-TRAILERS; OTHER VEHICLES, NOT MECHANICALLY PROPELLED;				
27	SPECIALLY DESIGNED AND EQUIPPED TRANSPORT CONTAINERS	0.8	70656271	0.98	.
	ELECTRICAL APPARATUS FOR MAKING AND BREAKING ELECTRICAL CIRCUITS, FOR THE PROTECTION OF ELECTRICAL CIRCUITS, OR OF MAKING CONNECTIONS TO OR IN ELECTRICAL				
28	CIRCUITS	0.8	70591317	0.44	.
29	PARTS AND ACCESSORIES OF THE MOTOR VEHICLES OF GROUPS 722, 781, 782 AND 783	0.8	67389163	0.21	.
30	NON-FERROUS BASE METAL WASTE AND SCRAP, N.E.S.	0.7	65039531	0.11	.
Sum of top 30		69.7	6087366536		

Source: Authors' calculations; *COMEXT Database*, Eurostat 2006.

Table 7. E-BSR export to W-BSR, top 30 categories by the value of traded goods, 2000

No	Category	% share	Volume EUR	GLiv	HIIT
	FURNITURE AND PARTS THEREOF; BEDDING, MATTRESSES, MATTRESS SUPPORTS, CUSHIONS				
1	AND SIMILAR STUFFED FURNISHINGS	9.7	1681399564	0.23	.
	TELECOMMUNICATIONS EQUIPMENT, N.E.S.; AND PARTS, N.E.S., AND ACCESSORIES OF				
2	APPARATUS FALLING WITHIN DIVISION 76	6.4	1101103793	0.93	.
3	INTERNAL COMBUSTION PISTON ENGINES, AND PARTS THEREOF, N.E.S.	4.6	796524472	0.68	.
	WOMEN'S AND GIRLS' COATS, CAPES, JACKETS, SUITS, TROUSERS, SHORTS, SHIRTS, DRESSES AND				
	SKIRTS, UNDERWEAR, NIGHTWEAR AND SIMILAR ARTICLES OF TEXTILE FABRICS, NOT KNITTED				
4	OR CROCHETED (OTHER THAN THOSE OF HEADING 845.2 OR 845.6)	4.1	711915891	0.18	1.15
5	WOOD MANUFACTURES, N.E.S.	3.2	556925504	0.23	.

	MEN'S OR BOYS' COATS, JACKETS, SUITS, BLAZERS, TROUSERS, SHORTS, SHIRTS, UNDERWEAR, NIGHTWEAR AND SIMILAR ARTICLES OF TEXTILE FABRICS, NOT KNITTED OR CROCHETED (OTHER THAN THOSE OF HEADING 845.2 OR 845.6)	3.1	528448717	0.19	0.89
6	EQUIPMENT FOR DISTRIBUTING ELECTRICITY, N.E.S.	2.7	467588614	0.73	.
7	PARTS AND ACCESSORIES OF THE MOTOR VEHICLES OF GROUPS 722, 781, 782 AND 783	2.5	433833909	0.68	.
8	MANUFACTURES OF BASE METAL, N.E.S.	2.4	408664749	0.91	.
9	COAL, WHETHER OR NOT PULVERIZED, BUT NOT AGGLOMERATED	2.3	392510868	0.00	0.99
10	STRUCTURES AND PARTS OF STRUCTURES, N.E.S., OF IRON, STEEL OR ALUMINIUM	2.2	372882031	0.68	.
11	MOTOR VEHICLES FOR THE TRANSPORT OF GOODS AND SPECIAL PURPOSE MOTOR VEHICLES	2.2	372163371	0.88	.
12	ARTICLES OF APPAREL, OF TEXTILE FABRICS, WHETHER OR NOT KNITTED OR CROCHETED, N.E.S.	2.1	370004280	0.44	0.96
13	WOOD IN THE ROUGH OR ROUGHLY SQUARED	1.9	330827405	0.03	.
14	COPPER	1.7	295158635	0.46	.
15	MADE-UP ARTICLES, WHOLLY OR CHIEFLY OF TEXTILE MATERIALS, N.E.S.	1.7	293320852	0.27	0.94
16	WOOD, SIMPLY WORKED, AND RAILWAY SLEEPERS OF WOOD	1.7	292214104	0.21	.
	PETROLEUM OILS AND OILS OBTAINED FROM BITUMINOUS MINERALS (OTHER THAN CRUDE); PREPARATIONS, N.E.S., CONTAINING BY WEIGHT 70% OR MORE OF PETROLEUM OILS OR OF OILS OBTAINED FROM BITUMINOUS MINERALS, THESE OILS BEING THE BASIC CONSTITUENTS OF THE PREPARATIONS	1.4	240867390	0.78	.
17	ARTICLES, N.E.S. OF PLASTICS	1.3	217523255	0.71	.
18	VENEERS, PLYWOOD, PARTICLE BOARD, AND OTHER WOOD, WORKED, N.E.S.	1.3	217374932	0.69	.
19	IRON AND STEEL BARS, RODS, ANGLES, SHAPES AND SECTIONS (INCLUDING SHEET PILING)	1.2	198754543	0.72	.
20	SHIPS, BOATS (INCLUDING HOVERCRAFT) AND FLOATING STRUCTURES	1.1	195309282	0.40	.
	ELECTRICAL APPARATUS FOR MAKING AND BREAKING ELECTRICAL CIRCUITS, FOR THE PROTECTION OF ELECTRICAL CIRCUITS, OR OF MAKING CONNECTIONS TO OR IN ELECTRICAL CIRCUITS	1.1	195153378	0.57	.
21	MOTOR CARS AND OTHER MOTOR VEHICLES PRINCIPALLY DESIGNED FOR THE TRANSPORT OF PERSONS (OTHER THAN PUBLIC-TRANSPORT TYPE VEHICLES), INCLUDING STATION WAGONS AND RACING CARS	1.1	191432266	0.37	0.93
22	COKE AND SEMI-COKE (INCLUDING CHAR) OF COAL, OF LIGNITE OR OF PEAT, WHETHER OR NOT AGGLOMERATED; RETORT CARBON	1.1	187991367	0.00	.
23	PAPER AND PAPERBOARD	1.0	175117667	0.37	1.13

	WOMEN'S OR GIRLS' COATS, CAPES, JACKETS, SUITS, TROUSERS, SHORTS, SHIRTS, DRESSES AND SKIRTS, UNDERWEAR, NIGHTWEAR AND SIMILAR ARTICLES OF TEXTILE FABRICS, KNITTED OR				
27	CROCHETED (OTHER THAN THOSE OF HEADING 845.2 OR 845.6)	0.9	160451839	0.44	1.01
28	ALUMINIUM	0.9	158119070	0.70	.
29	FERTILIZERS (OTHER THAN THOSE OF GROUP 272)	0.9	149577933	0.12	.
30	SPECIAL TRANSACTIONS AND COMMODITIES NOT CLASSIFIED ACCORDING TO KIND	0.9	149283989	0.59	.
Sum of top 30		68.6	11842443670		

Source: Authors' calculations; *COMEXT Database*, Eurostat 2006.

Table 8. E-BSR export to W-BSR, top 30 categories by the value of traded goods, 2004

No	Category	% share	Volume EUR	GLiv	HIIT
	FURNITURE AND PARTS THEREOF; BEDDING, MATTRESSES, MATTRESS SUPPORTS, CUSHIONS AND				
1	SIMILAR STUFFED FURNISHINGS	10.1	2249360921	0.20	.
2	PARTS AND ACCESSORIES OF THE MOTOR VEHICLES OF GROUPS 722, 781, 782 AND 783	5.7	1269770221	0.94	0.87
3	INTERNAL COMBUSTION PISTON ENGINES, AND PARTS THEREOF, N.E.S.	4.8	1060968860	0.72	.
4	TELECOMMUNICATIONS EQUIPMENT, N.E.S.; AND PARTS, N.E.S., AND ACCESSORIES OF APPARATUS FALLING WITHIN DIVISION 76	4.3	952975542	1.00	.
5	EQUIPMENT FOR DISTRIBUTING ELECTRICITY, N.E.S.	3.1	686308345	0.66	1.02
6	WOOD MANUFACTURES, N.E.S.	2.8	616288014	0.22	.
	MOTOR CARS AND OTHER MOTOR VEHICLES PRINCIPALLY DESIGNED FOR THE TRANSPORT OF PERSONS (OTHER THAN PUBLIC-TRANSPORT TYPE VEHICLES), INCLUDING STATION WAGONS AND				
7	RACING CARS	2.3	520929175	0.65	0.92
8	MANUFACTURES OF BASE METAL, N.E.S.	2.3	516498630	0.81	.
9	COAL, WHETHER OR NOT PULVERIZED, BUT NOT AGGLOMERATED	2.2	478493621	0.00	.
10	CONFIDENTIAL TRANSACTIONS	2.1	456915709	0.97	.
	WOMEN'S AND GIRLS' COATS, CAPES, JACKETS, SUITS, TROUSERS, SHORTS, SHIRTS, DRESSES AND SKIRTS, UNDERWEAR, NIGHTWEAR AND SIMILAR ARTICLES OF TEXTILE FABRICS, NOT KNITTED				
11	OR CROCHETED (OTHER THAN THOSE OF HEADING 845.2 OR 845.6)	1.9	422966794	0.33	.
	ELECTRICAL APPARATUS FOR MAKING AND BREAKING ELECTRICAL CIRCUITS, FOR THE PROTECTION OF ELECTRICAL CIRCUITS, OR OF MAKING CONNECTIONS TO OR IN ELECTRICAL				
12	CIRCUITS	1.8	392651026	0.76	1.01
13	STRUCTURES AND PARTS OF STRUCTURES, N.E.S., OF IRON, STEEL OR ALUMINIUM	1.7	386461276	0.67	.

COKE AND SEMI-COKE (INCLUDING CHAR) OF COAL, OF LIGNITE OR OF PEAT, WHETHER OR NOT 14 AGGLOMERATED; RETORT CARBON	1.7	376566860	0.00	1.01
MEN'S OR BOYS' COATS, JACKETS, SUITS, BLAZERS, TROUSERS, SHORTS, SHIRTS, UNDERWEAR, NIGHTWEAR AND SIMILAR ARTICLES OF TEXTILE FABRICS, NOT KNITTED OR CROCHETED (
15 OTHER THAN THOSE OF HEADING 845.2 OR 845.6)	1.6	357820122	0.29	
16 COPPER	1.5	341580737	0.72	
17 ARTICLES, N.E.S. OF PLASTICS	1.5	339405144	0.83	
TELEVISION RECEIVERS (INCLUDING VIDEO MONITORS AND VIDEO PROJECTORS), WHETHER OR NOT COMBINED, IN THE SAME HOUSING, WITH RADIO-BROADCAST RECEIVERS OR SOUND OR				
18 VIDEO RECORDING OR REPRODUCING APPARATUS	1.5	334665847	0.29	
19 HOUSEHOLD TYPE, ELECTRICAL AND NON-ELECTRICAL EQUIPMENT, N.E.S.	1.4	310768071	0.84	
20 MADE-UP ARTICLES, WHOLLY OR CHIEFLY OF TEXTILE MATERIALS, N.E.S.	1.3	291958218	0.32	
PETROLEUM OILS AND OILS OBTAINED FROM BITUMINOUS MINERALS (OTHER THAN CRUDE); PREPARATIONS, N.E.S., CONTAINING BY WEIGHT 70% OR MORE OF PETROLEUM OILS OR OF OILS OBTAINED FROM BITUMINOUS MINERALS, THESE OILS BEING THE BASIC CONSTITUENTS OF THE				
21 PREPARATIONS	1.2	267867875	0.91	
22 WOOD IN THE ROUGH OR ROUGHLY SQUARED	1.2	267287405	0.09	
23 IRON AND STEEL BARS, RODS, ANGLES, SHAPES AND SECTIONS (INCLUDING SHEET PILING)	1.2	266894195	0.84	
24 ARTICLES OF APPAREL, OF TEXTILE FABRICS, WHETHER OR NOT KNITTED OR CROCHETED, N.E.S.	1.2	261467961	0.58	
25 WOOD, SIMPLY WORKED, AND RAILWAY SLEEPERS OF WOOD	1.1	252609509	0.35	0.86
26 FERROUS WASTE AND SCRAP; REMELTING INGOTS OF IRON OR STEEL	1.1	246307649	0.07	
27 PAPER AND PAPERBOARD	1.0	224541248	0.35	1.11
28 PAPER AND PAPERBOARD, CUT TO SIZE OR SHAPE, AND ARTICLES OF PAPER OR PAPERBOARD	1.0	218083463	0.95	
29 VENEERS, PLYWOOD, PARTICLE BOARD, AND OTHER WOOD, WORKED, N.E.S.	0.9	190761071	0.90	
INGOTS AND OTHER PRIMARY FORMS, OF IRON OR STEEL; SEMI-FINISHED PRODUCTS OF IRON OR				
30 STEEL	0.8	184481308	0.08	
Sum of top 30	66.4	14743654817		

Source: Authors' calculations; *COMEXT Database*, Eurostat 2006.

Table 9. W-BSR export to E-BSR, top 30 categories by the value of traded goods, 1996

No	Category	% share	Volume EUR	GLiv	HIIT
	MOTOR CARS AND OTHER MOTOR VEHICLES PRINCIPALLY DESIGNED FOR THE TRANSPORT OF PERSONS (OTHER THAN PUBLIC-TRANSPORT TYPE VEHICLES), INCLUDING STATION WAGONS AND RACING CARS	5.0	632635534	0.25	.
1					
2	PARTS AND ACCESSORIES OF THE MOTOR VEHICLES OF GROUPS 722, 781, 782 AND 783	4.5	569206748	0.21	.
	FABRICS, WOVEN, OF MAN-MADE TEXTILE MATERIALS (NOT INCLUDING NARROW OR SPECIAL FABRICS)	3.3	414809383	0.06	.
3					
4	PAPER AND PAPERBOARD	3.2	398116903	0.17	.
	TELECOMMUNICATIONS EQUIPMENT, N.E.S.; AND PARTS, N.E.S., AND ACCESSORIES OF APPARATUS FALLING WITHIN DIVISION 76	3.0	371217274	0.38	.
5					
	PETROLEUM OILS AND OILS OBTAINED FROM BITUMINOUS MINERALS (OTHER THAN CRUDE); PREPARATIONS, N.E.S., CONTAINING BY WEIGHT 70% OR MORE OF PETROLEUM OILS OR OF OILS OBTAINED FROM BITUMINOUS MINERALS, THESE OILS BEING THE BASIC CONSTITUENTS OF THE PREPARATIONS	2.8	354882656	0.59	.
6					
	OTHER MACHINERY AND EQUIPMENT SPECIALIZED FOR PARTICULAR INDUSTRIES, AND PARTS THEREOF, N.E.S.	2.2	278760880	0.28	.
7					
8	COTTON FABRICS, WOVEN (NOT INCLUDING NARROW OR SPECIAL FABRICS)	2.0	254774742	0.22	.
	ELECTRICAL APPARATUS FOR MAKING AND BREAKING ELECTRICAL CIRCUITS, FOR THE PROTECTION OF ELECTRICAL CIRCUITS, OR OF MAKING CONNECTIONS TO OR IN ELECTRICAL CIRCUITS	2.0	251296012	0.44	.
9					
10	ARTICLES, N.E.S. OF PLASTICS	1.8	225906586	0.57	.
11	HEATING AND COOLING EQUIPMENT AND PARTS THEREOF, N.E.S.	1.7	210350587	0.16	.
12	MANUFACTURES OF BASE METAL, N.E.S.	1.6	202807021	0.98	.
13	PIGMENTS, PAINTS, VARNISHES AND RELATED MATERIALS	1.5	184749275	0.06	.
14	MEDICAMENTS (INCLUDING VETERINARY MEDICAMENTS)	1.4	179599205	0.02	.
15	SPECIAL YARNS, SPECIAL TEXTILE FABRICS AND RELATED PRODUCTS	1.3	168794891	0.13	.
16	PLATES, SHEETS, FILM, FOIL AND STRIP, OF PLASTICS	1.3	165896298	0.11	.
17	MEASURING, CHECKING, ANALYSING AND CONTROLLING INSTRUMENTS AND APPARATUS, N.E.S.	1.3	164164413	0.27	.
	OTHER NON-ELECTRICAL MACHINERY, TOOLS AND MECHANICAL APPARATUS, AND PARTS THEREOF, N.E.S.	1.3	162219144	0.12	.
18					
19	MOTOR VEHICLES FOR THE TRANSPORT OF GOODS AND SPECIAL PURPOSE MOTOR VEHICLES	1.2	152702420	0.98	.
20	PAPER AND PAPERBOARD, CUT TO SIZE OR SHAPE, AND ARTICLES OF PAPER OR PAPERBOARD	1.2	151803485	0.44	.
21	ELECTRICAL MACHINERY AND APPARATUS, N.E.S.	1.2	146551563	0.48	.

	PUMPS (OTHER THAN PUMPS FOR LIQUIDS), AIR OR OTHER GAS COMPRESSORS AND FANS; VENTILATING OR RECYCLING HOODS INCORPORATING A FAN, WHETHER OR NOT FITTED WITH				
22	FILTERS; CENTRIFUGES; FILTERING OR PURIFYING APPARATUS; AND PARTS THEREOF	1.1	141899419	0.25	.
23	SECRET COUNTRIES BY COUNTRIES	1.1	135268419	0.31	.
24	AGRICULTURAL MACHINERY (EXCLUDING TRACTORS) AND PARTS THEREOF	1.1	134735402	0.32	.
	AUTOMATIC DATA PROCESSING MACHINES AND UNITS THEREOF; MAGNETIC OR OPTICAL READERS, MACHINES FOR TRANSCRIBING DATA ONTO DATA MEDIA IN CODED FORM AND				
25	MACHINES FOR PROCESSING SUCH DATA, N.E.S.	1.1	134626497	0.10	.
26	OTHER TEXTILE FABRICS, WOVEN	1.1	133145611	0.18	.
	KNITTED OR CROCHETED FABRICS (INCLUDING TUBULAR KNIT FABRICS, N.E.S., PILE FABRICS AND OPEN-WORK FABRICS), N.E.S.	1.0	130972253	0.07	0.93
28	MECHANICAL HANDLING EQUIPMENT, AND PARTS THEREOF, N.E.S.	1.0	121607321	0.46	.
29	MISCELLANEOUS CHEMICAL PRODUCTS, N.E.S.	1.0	121400246	0.09	.
30	OTHER PLASTICS, IN PRIMARY FORMS	1.0	120270325	0.20	.
Sum of top 30		54.4	6815170513		

Source: Authors' calculations; *COMEXT Database*, Eurostat 2006.

Table 10. W-BSR export to E-BSR, top 30 categories by the value of traded goods, 2000

No	Category	% share	Volume EUR	GLiv	HIIT
1	TELECOMMUNICATIONS EQUIPMENT, N.E.S.; AND PARTS, N.E.S., AND ACCESSORIES OF APPARATUS FALLING WITHIN DIVISION 76	5.79	1263631243	0.93	.
2	MOTOR CARS AND OTHER MOTOR VEHICLES PRINCIPALLY DESIGNED FOR THE TRANSPORT OF PERSONS (OTHER THAN PUBLIC-TRANSPORT TYPE VEHICLES), INCLUDING STATION WAGONS AND RACING CARS	3.87	844098000	0.37	0.93
3	PARTS AND ACCESSORIES OF THE MOTOR VEHICLES OF GROUPS 722, 781, 782 AND 783	3.85	840178279	0.68	.
4	PAPER AND PAPERBOARD	3.48	758871149	0.37	1.13
5	ELECTRICAL APPARATUS FOR MAKING AND BREAKING ELECTRICAL CIRCUITS, FOR THE PROTECTION OF ELECTRICAL CIRCUITS, OR OF MAKING CONNECTIONS TO OR IN ELECTRICAL CIRCUITS	2.27	495336848	0.57	.
6	MANUFACTURES OF BASE METAL, N.E.S.	2.23	488006137	0.91	.
7	OTHER MACHINERY AND EQUIPMENT SPECIALIZED FOR PARTICULAR INDUSTRIES, AND PARTS THEREOF, N.E.S.	2.06	449925114	0.33	.
8	ELECTRICAL MACHINERY AND APPARATUS, N.E.S.	2.02	440190722	0.39	.

9	FABRICS, WOVEN, OF MAN-MADE TEXTILE MATERIALS (NOT INCLUDING NARROW OR SPECIAL FABRICS)	1.93	420445614	0.11	.
10	INTERNAL COMBUSTION PISTON ENGINES, AND PARTS THEREOF, N.E.S.	1.87	407607155	0.68	.
11	ARTICLES, N.E.S. OF PLASTICS	1.82	396879519	0.71	.
12	PETROLEUM OILS AND OILS OBTAINED FROM BITUMINOUS MINERALS (OTHER THAN CRUDE); PREPARATIONS, N.E.S., CONTAINING BY WEIGHT 70% OR MORE OF PETROLEUM OILS OR OF OILS OBTAINED FROM BITUMINOUS MINERALS, THESE OILS BEING THE BASIC CONSTITUENTS OF THE PREPARATIONS	1.72	375381657	0.78	.
13	THERMIONIC, COLD CATHODE OR PHOTO-CATHODE VALVES AND TUBES(E.G., VACUUM OR VAPOUR OR GAS-FILLED VALVES AND TUBES, MERCURY ARC RECTIFYING VALVES AND TUBES, CATHODE-RAY TUBES, TELEVISION CAMERA TUBES); DIODES, TRANSISTORS AND SIMILAR SEMI-CONDUCTOR DEVICES; PHOTOSENSITIVE SEMI-CONDUCTOR DEVICES; LIGHT EMITTING DIODES; MOUNTED PIEZO-ELECTRIC CRYSTALS; ELECTRONIC INTEGRATED CIRCUITS AND MICROASSEMBLIES; AND PARTS THEREOF	1.71	374456497	0.11	.
14	PIGMENTS, PAINTS, VARNISHES AND RELATED MATERIALS	1.69	370041384	0.07	.
15	MEDICAMENTS (INCLUDING VETERINARY MEDICAMENTS)	1.58	346066046	0.01	.
16	AUTOMATIC DATA PROCESSING MACHINES AND UNITS THEREOF; MAGNETIC OR OPTICAL READERS, MACHINES FOR TRANSCRIBING DATA ONTO DATA MEDIA IN CODED FORM AND MACHINES FOR PROCESSING SUCH DATA, N.E.S.	1.57	343209611	0.08	.
17	PLATES, SHEETS, FILM, FOIL AND STRIP, OF PLASTICS	1.47	320097038	0.18	.
18	PUMPS FOR LIQUIDS, WHETHER OR NOT FITTED WITH A MEASURING DEVICE; LIQUID ELEVATORS: PARTS FOR SUCH PUMPS AND LIQUID ELEVATORS	1.45	315898771	0.10	.
19	ALUMINIUM	1.36	296166381	0.70	.
20	MOTOR VEHICLES FOR THE TRANSPORT OF GOODS AND SPECIAL PURPOSE MOTOR VEHICLES	1.33	291436258	0.88	.
21	COTTON FABRICS, WOVEN (NOT INCLUDING NARROW OR SPECIAL FABRICS)	1.29	281058473	0.17	.
22	MEASURING, CHECKING, ANALYSING AND CONTROLLING INSTRUMENTS AND APPARATUS, N.E.S.	1.23	269154818	0.40	.
23	EQUIPMENT FOR DISTRIBUTING ELECTRICITY, N.E.S.	1.22	267036434	0.73	.
24	HEATING AND COOLING EQUIPMENT AND PARTS THEREOF, N.E.S.	1.20	262809141	0.38	.
25	SPECIAL YARNS, SPECIAL TEXTILE FABRICS AND RELATED PRODUCTS	1.16	253513578	0.18	.
26	MECHANICAL HANDLING EQUIPMENT, AND PARTS THEREOF, N.E.S.	1.07	234229039	0.57	.
27	PUMPS (OTHER THAN PUMPS FOR LIQUIDS), AIR OR OTHER GAS COMPRESSORS AND FANS; VENTILATING OR RECYCLING HOODS INCORPORATING A FAN, WHETHER OR NOT FITTED WITH FILTERS; CENTRIFUGES; FILTERING OR PURIFYING APPARATUS; AND PARTS THEREOF	1.06	232080187	0.28	.
28	PAPER AND PAPERBOARD, CUT TO SIZE OR SHAPE, AND ARTICLES OF PAPER OR PAPERBOARD	1.06	231846026	0.61	.

	FURNITURE AND PARTS THEREOF; BEDDING, MATTRESSES, MATTRESS SUPPORTS, CUSHIONS AND				
29	SIMILAR STUFFED FURNISHINGS	1.00	219258480	0.23	.
30	MISCELLANEOUS CHEMICAL PRODUCTS, N.E.S.	0.99	216246963	0.12	.
Sum of top 30		56.4	12305156562		

Source: Authors' calculations; *COMEXT Database*, Eurostat 2006.

Table 11. W-BSR export to E-BSR, top 30 categories by the value of traded goods, 2004

No	Category	% share	Volume EUR	GLiv	HIIT
1	PARTS AND ACCESSORIES OF THE MOTOR VEHICLES OF GROUPS 722, 781, 782 AND 783	5.3	1435316897	0.94	0.87
	MOTOR CARS AND OTHER MOTOR VEHICLES PRINCIPALLY DESIGNED FOR THE TRANSPORT OF PERSONS (OTHER THAN PUBLIC-TRANSPORT TYPE VEHICLES), INCLUDING STATION WAGONS				
2	AND RACING CARS	4.0	1086434792	0.65	0.92
3	PAPER AND PAPERBOARD	3.9	1050682826	0.35	1.11
	TELECOMMUNICATIONS EQUIPMENT, N.E.S.; AND PARTS, N.E.S., AND ACCESSORIES OF				
4	APPARATUS FALLING WITHIN DIVISION 76	3.5	956465544	1.00	.
5	MANUFACTURES OF BASE METAL, N.E.S.	2.8	759927282	0.81	.
	ELECTRICAL APPARATUS FOR MAKING AND BREAKING ELECTRICAL CIRCUITS, FOR THE PROTECTION OF ELECTRICAL CIRCUITS, OR OF MAKING CONNECTIONS TO OR IN ELECTRICAL				
6	CIRCUITS	2.4	644209529	0.76	1.01
7	INTERNAL COMBUSTION PISTON ENGINES, AND PARTS THEREOF, N.E.S.	2.2	591180316	0.72	.
	OTHER MACHINERY AND EQUIPMENT SPECIALIZED FOR PARTICULAR INDUSTRIES, AND PARTS				
8	THEREOF, N.E.S.	1.9	531123323	0.37	.
9	CONFIDENTIAL TRANSACTIONS	1.8	481844836	0.97	.
10	ARTICLES, N.E.S. OF PLASTICS	1.8	481524883	0.83	.
11	PIGMENTS, PAINTS, VARNISHES AND RELATED MATERIALS	1.7	474236224	0.09	.
12	PLATES, SHEETS, FILM, FOIL AND STRIP, OF PLASTICS	1.7	461108941	0.25	1.06
13	MEDICAMENTS (INCLUDING VETERINARY MEDICAMENTS)	1.6	438042785	0.03	.
14	MOTOR VEHICLES FOR THE TRANSPORT OF GOODS AND SPECIAL PURPOSE MOTOR VEHICLES	1.6	424873687	0.56	.
	AUTOMATIC DATA PROCESSING MACHINES AND UNITS THEREOF; MAGNETIC OR OPTICAL				
	READERS, MACHINES FOR TRANSCRIBING DATA ONTO DATA MEDIA IN CODED FORM AND				
15	MACHINES FOR PROCESSING SUCH DATA, N.E.S.	1.5	422531872	0.06	.
	PUMPS FOR LIQUIDS, WHETHER OR NOT FITTED WITH A MEASURING DEVICE; LIQUID				
16	ELEVATORS: PARTS FOR SUCH PUMPS AND LIQUID ELEVATORS	1.5	420207883	0.14	.

17	ALUMINIUM	1.4	375961915	0.60	.
18	ELECTRICAL MACHINERY AND APPARATUS, N.E.S.	1.3	367676187	0.57	.
19	ROAD MOTOR VEHICLES, N.E.S.	1.3	350890940	0.66	.
20	EQUIPMENT FOR DISTRIBUTING ELECTRICITY, N.E.S.	1.2	335298194	0.66	1.02
21	MEASURING, CHECKING, ANALYSING AND CONTROLLING INSTRUMENTS AND APPARATUS, N.E.S.	1.2	328269030	0.57	.
22	TRAILERS AND SEMI-TRAILERS; OTHER VEHICLES, NOT MECHANICALLY PROPELLED; SPECIALLY DESIGNED AND EQUIPPED TRANSPORT CONTAINERS	1.2	326944788	0.67	.
23	FLAT-ROLLED PRODUCTS OF ALLOY STEEL	1.2	326290899	0.09	1.05
	PETROLEUM OILS AND OILS OBTAINED FROM BITUMINOUS MINERALS (OTHER THAN CRUDE); PREPARATIONS, N.E.S., CONTAINING BY WEIGHT 70% OR MORE OF PETROLEUM OILS OR OF OILS OBTAINED FROM BITUMINOUS MINERALS, THESE OILS BEING THE BASIC CONSTITUENTS OF THE PREPARATIONS	1.2	321116419	0.91	.
24	PUMPS (OTHER THAN PUMPS FOR LIQUIDS), AIR OR OTHER GAS COMPRESSORS AND FANS; VENTILATING OR RECYCLING HOODS INCORPORATING A FAN, WHETHER OR NOT FITTED WITH FILTERS; CENTRIFUGES; FILTERING OR PURIFYING APPARATUS; AND PARTS THEREOF	1.2	318463222	0.29	.
25	FABRICS, WOVEN, OF MAN-MADE TEXTILE MATERIALS (NOT INCLUDING NARROW OR SPECIAL FABRICS)	1.1	309785793	0.20	1.06
26	THERMIONIC, COLD CATHODE OR PHOTO-CATHODE VALVES AND TUBES(E.G., VACUUM OR VAPOUR OR GAS-FILLED VALVES AND TUBES, MERCURY ARC RECTIFYING VALVES AND TUBES, CATHODE-RAY TUBES, TELEVISION CAMERA TUBES); DIODES, TRANSISTORS AND SIMILAR SEMI-CONDUCTOR DEVICES; PHOTOSENSITIVE SEMI-CONDUCTOR DEVICES; LIGHT EMITTING DIODES; MOUNTED PIEZO-ELECTRIC CRYSTALS; ELECTRONIC INTEGRATED CIRCUITS AND MICROASSEMBLIES; AND PARTS THEREOF	1.1	300429651	0.41	.
27	OTHER NON-ELECTRICAL MACHINERY, TOOLS AND MECHANICAL APPARATUS, AND PARTS THEREOF, N.E.S.	1.0	279771996	0.24	.
28	HEATING AND COOLING EQUIPMENT AND PARTS THEREOF, N.E.S.	1.0	279664681	0.55	.
29	FLAT-ROLLED PRODUCTS OF IRON OR NON-ALLOY STEEL, CLAD, PLATED OR COATED	1.0	271291880	0.22	.
30					
Sum of top 30		55.6	15151567215		

Source: Authors' calculations; *COMEXT Database*, Eurostat 2006.

Table 12. Commodity groups with horizontal intra-industry trade between W-BSR and E-BSR

	1996					2000					2004				
	HIIT	W-BSR export, MEUR	W-BSR export, % share	E-BSR export, MEUR	E-BSR export, % share	HIIT	W-BSR export, MEUR	W-BSR export, % share	E-BSR export, MEUR	E-BSR export, % share	HIIT	W-BSR export, MEUR	W-BSR export, % share	E-BSR export, MEUR	E-BSR export, % share
NON-ALCOHOLIC BEVERAGES, N.E.S.	1.10	12.5	0.10	1.6	0.02										
ALCOHOLIC BEVERAGES						0.91	43.6	0.20	5.3	0.03					
TOBACCO, MANUFACTURED											1.05	34.5	0.13	12.6	0.06
HIDES AND SKINS (EXCEPT FURSKINS), RAW	1.05	11.8	0.09	2.5	0.03										
NATURAL RUBBER, BALATA, GUTTA PERCHA						1.10	2.8	0.01	8.1	0.05					
WOOD, SIMPLY WORKED, RAILWAY SLEEPERS											0.86	53.9	0.20	252.6	1.14
COTTON	1.14	1.1	0.01	3.6	0.04										
ALUMINIUM ORES AND CONCENTRATES	0.96	2.7	0.02	0.0	0.00										
ORES. CONCENTRATES OF BASE METALS. N.E.S.						1.11	3.5	0.02	5.1	0.03	0.89	1.0	0.00	8.9	0.04
CRUDE ANIMAL MATERIALS. N.E.S.											0.95	41.3	0.15	46.6	0.21
NON-FERROUS BASE METAL WASTE. N.E.S.						1.08	11.7	0.05	114.0	0.66	1.05	37.8	0.14	96.2	0.43
COAL. NOT AGGLOMERATED						0.99	0.5	0.00	392.5	2.27					
COKE AND SEMI-COKE; RETORT CARBON											1.01	0.1	0.00	376.6	1.70
PETROLEUM OILS AND OILS OBTAINED FROM BITUMINOUS MINERALS. CRUDE	1.06	0.3	0.00	32.1	0.37										
LIQUEFIED PROPANE AND BUTANE						0.97	50.3	0.23	0.0	0.00					
PETROLEUM GASES AND GASEOUS															
HYDROCARBONS. N.E.S.						0.92	16.6	0.08	0.0	0.00					
HYDROCARBONS. N.E.S.. AND THEIR DERIVATIVES						0.93	57.8	0.26	7.7	0.04					
NITROGEN-FUNCTION COMPOUNDS											0.93	23.3	0.09	7.9	0.04
SYNTHETIC ORGANIC COLOURING MATTER AND COLOUR LAKES						1.00	29.0	0.13	1.0	0.01					
DYEING AND TANNING EXTRACTS. AND SYNTHETIC TANNING MATERIALS						1.09	5.6	0.03	0.0	0.00					
PERFUMERY. COSMETICS OR TOILET PREPARATIONS (EXCLUDING SOAPS)						0.94	133.8	0.61	16.4	0.10					
POLYMERS OF STYRENE. IN PRIMARY FORMS	0.99	16.1	0.13	0.1	0.00										

POLYACETALS. OTHER POLYETHERS AND EPOXIDE RESINS. IN PRIMARY FORMS; POLYCARBONATES. ALKYD RESINS AND OTHER POLYESTERS. IN PRIMARY FORMS											1.07	136.8	0.50	22.0	0.10
TUBES. PIPES AND HOSES OF PLASTICS						1.03	112.9	0.52	21.6	0.13	0.92	124.5	0.46	33.6	0.15
PLATES. SHEETS. FILM. FOIL AND STRIP. OF PLASTICS											1.06	461.1	1.69	66.1	0.30
MONOFILAMENT OF WHICH ANY CROSS-SECTIONAL DIMENSION EXCEEDS 1 MM. RODS. STICKS AND PROFILE SHAPES. OF PLASTICS						1.12	136.9	0.63	10.1	0.06	1.01	189.5	0.69	9.3	0.04
INSECTICIDES. RODENTICIDES. FUNGICIDES. HERBICIDES. ANTI-SPROUTING PRODUCTS AND PLANT-GROWTH REGULATORS. DISINFECTANTS AND SIMILAR PRODUCTS											0.91	91.3	0.33	2.3	0.01
ADDITIVES FOR MINERAL OILS AND THE LIKE; LIQUIDS FOR HYDRAULIC TRANSMISSION; ANTI-FREEZE; DE-ICING FLUIDS; LUBRICATES						0.95	41.2	0.19	0.3	0.00	1.03	45.1	0.17	2.0	0.01
ARTICLES OF RUBBER. N.E.S.											1.04	125.9	0.46	139.2	0.63
CORK MANUFACTURES						1.03	1.9	0.01	0.0	0.00					
PAPER AND PAPERBOARD						1.13	758.9	3.48	175.1	1.01	1.11	1050.7	3.85	224.5	1.01
FABRICS. WOVEN. OF MAN-MADE TEXTILE MATERIALS											1.06	309.8	1.14	34.6	0.16
KNITTED OR CROCHETED FABRICS. N.E.S.	0.93	131.0	1.04	4.7	0.05						1.15	142.8	0.52	14.6	0.07
TEXTILE MATERIALS. N.E.S.						0.94	45.2	0.21	293.3	1.70					
FLOOR COVERINGS. ETC.	0.86	13.2	0.11	2.0	0.02										
GLASSWARE						1.05	33.1	0.15	60.3	0.35					
FLAT-ROLLED PRODUCTS. OF IRON OR NON-ALLOY STEEL. NOT CLAD. PLATED OR COATED											1.04	202.3	0.74	89.9	0.41
FLAT-ROLLED PRODUCTS OF ALLOY STEEL											1.05	326.3	1.20	16.0	0.07
WIRE OF IRON OR STEEL											0.87	32.7	0.12	19.8	0.09
SILVER. PLATINUM AND OTHER METALS OF THE PLATINUM GROUP											1.00	10.1	0.04	39.1	0.18
LEAD											1.12	19.4	0.07	21.2	0.10
ZINC	1.03	0.5	0.00	16.9	0.19	1.11	1.8	0.01	35.7	0.21	0.94	19.8	0.07	18.8	0.08
AGRICULTURAL MACHINERY (EXCLUDING											1.13	188.2	0.69	83.9	0.38

TRACTORS) AND PARTS THEREOF															
TRACTORS (OTHER THAN THOSE OF HEADINGS 744.14 AND 744.15)						0.89	36.3	0.17	6.5	0.04	1.10	68.4	0.25	5.9	0.03
MACHINE-TOOLS FOR WORKING METAL. SINTERED METAL CARBIDES OR CERMETS. WITHOUT REMOVING MATERIAL											1.07	49.2	0.18	3.6	0.02
OFFICE MACHINES						1.05	42.2	0.19	1.1	0.01					
ELECTRICAL APPARATUS FOR MAKING AND BREAKING ELECTRICAL CIRCUITS. FOR THE PROTECTION OF ELECTRICAL CIRCUITS. OR OF MAKING CONNECTIONS TO OR IN ELECTRICAL CIRCUITS											1.01	644.2	2.36	392.7	1.77
EQUIPMENT FOR DISTRIBUTING ELECTRICITY. N.E.S.											1.02	335.3	1.23	686.3	3.09
ELECTRO-DIAGNOSTIC AND RADIOLOGICAL APPARATUS MEDICAL SCIENCES						1.03	62.1	0.28	3.3	0.02	1.00	52.5	0.19	9.9	0.04
MOTOR CARS AND OTHER MOTOR VEHICLES DESIGNED FOR THE TRANSPORT OF PERSONS (OTHER THAN PUBLIC-TRANSPORT TYPE VEHICLES). INCLUDING STATION WAGONS AND RACING CARS						0.93	844.1	3.87	191.4	1.11	0.92	1086.4	3.98	520.9	2.35
ROAD MOTOR VEHICLES. N.E.S.	0.95	96.2	0.77	3.4	0.04										
PARTS AND ACCESSORIES OF THE MOTOR VEHICLES OF GROUPS 722. 781. 782 AND 783											0.87	1435.3	5.26	1269.8	5.72
MOTORCYCLES AND CYCLES; INVALID CARRIAGES						1.14	37.2	0.17	68.3	0.40					
MEN'S OR BOYS' CLOTHES						0.89	55.3	0.25	528.4	3.06					
WOMEN'S AND GIRLS' COATS. CAPES. JACKETS. SUITS. TROUSERS. SHORTS. SHIRTS. DRESSES AND SKIRTS. UNDERWEAR. NIGHTWEAR AND SIMILAR ARTICLES OF TEXTILE FABRICS. NOT KNITTED OR CROCHETED (OTHER THAN THOSE OF HEADING 845.2 OR 845.6)	1.11	47.6	0.38	689.3	7.90	1.15	72.5	0.33	711.9	4.12					
MEN'S OR BOYS' COATS. CAPES. JACKETS. SUITS. BLAZERS. TROUSERS. SHORTS. SHIRTS. UNDERWEAR. NIGHTWEAR AND SIMILAR ARTICLES OF TEXTILE FABRICS. KNITTED OR CROCHETED (OTHER THAN THOSE OF HEADING	1.07	4.2	0.03	22.5	0.26										

845.2 OR 845.6)															
WOMEN'S OR GIRLS' COATS. CAPES. JACKETS. SUITS. TROUSERS. SHORTS. SHIRTS. DRESSES AND SKIRTS. UNDERWEAR. NIGHTWEAR AND SIMILAR ARTICLES OF TEXTILE FABRICS. KNITTED OR CROCHETED (OTHER THAN THOSE OF HEADING 845.2 OR 845.6)						1.01	45.6	0.21	160.5	0.93					
ARTICLES OF APPAREL. OF TEXTILE FABRICS. WHETHER OR NOT KNITTED OR CROCHETED. N.E.S.						0.96	103.3	0.47	370.0	2.14					
FOOTWEAR											0.95	94.8	0.35	93.7	0.42
PHOTOGRAPHIC EQUIPMENT. N.E.S.											0.88	22.5	0.08	2.1	0.01
OPTICAL GOODS. N.E.S.						0.98	20.0	0.09	3.7	0.02					
TOTAL	12	337.2	2.69	778.7	8.92	29	2805.6	12.85	3191.8	18.48	33	7457.1	27.34	4623.0	20.83

Source: Authors' calculations; *COMEXT Database*. Eurostat 2006.