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Industrial and trade dynamics in the Baltic Sea region – the last two waves of European Union enlargement from a historic perspective*Marek Tiits, marek@ibs.ee***Contents**

1. Executive summary	2
2. Economic crisis in the early 1990s and rapid recovery thereafter	3
3. Trade dynamics and changes in international specialisation	4
3.1. Export growth and trade linkages	4
3.2. International trade specialisation of the Baltic Sea region.....	9
3.3. Foreign direct investments	12
3.4. Productivity, labour costs and employment.....	16
4. Uneven quality of industrial development	18
4.1. Increasing regional imbalances	18
4.2. The Nordic countries.....	20
4.3. The three Baltic States and Poland	22
5. Conclusions and the directions for future research.....	24
6. Appendices.....	26

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1. Executive summary

The aim of this paper is to review the dynamics of economic development in the Baltic Sea region surrounding the last two waves of European Union enlargement, i.e. the accession of Austria, Finland and Sweden in January 1995; and the Baltic States and Poland joining the EU among 10 new member states in May 2004, assessing the quality of economic change and prospects for future development.¹

We believe that economic development is path-dependent and therefore, to understand properly the observed developments, one should study carefully both the macro-economic trends and the evolution of the specialisation patterns as characterised by the changes in the structure of industry and trade – the emergence of new higher value added industries at the expense of the gradual ceasing of mature industries.² Longer-term economic development is rarely smooth and sustained. The ever increasing competition stemming from the globalisation of trade, capital markets and technology leaves policy-makers therefore with a complex task of handling the Schumpeterian *creative destruction*.³

In the following working paper, we take the beginning of the 1990s as the starting point of our review, as it appeared to be an important turning point in time for many of the countries in the region, which denoted in many ways an end of an era and a start of a new one. It was the time that brought about the reunification of Germany and the collapse of the Soviet Union, but it was also a point in time when several Nordic countries suffered from a severe economic crisis followed by a miraculously rapid recovery. In contrast, the crisis in the former USSR endured longer and was also much deeper. The Baltic States were the first to manage to stabilise their economies, yet at the cost of the loss of previously overwhelmingly dominant Eastern markets and a large part of the inherited industrial assets. The growth resumed in Russia only after the 1998 crisis.

Even though the events were triggered by a set of fairly different events, we notice that both the public policy responses to the crisis and the outcomes of the resolution of the crises varied significantly. While the Nordic countries employed rather pro-active approaches for upgrading the existing competitive assets, the Baltic States, Poland and Russia focused predominantly on the stabilisation of the macroeconomic framework, paying relatively little attention to the actual capability of the industry to cope with rapid changes. As could be easily expected from a common-sense point of view, the above developments led to a strengthening of the industry in the Nordic countries and to the demolition of a large part of inherited, although largely uncompetitive, industries in the Baltic States as in the majority of the rest of the former Soviet block.

¹ The Baltic Sea region is defined for the purposes of this paper as the group of the following countries located around the Baltic Sea: Germany, Denmark, Sweden, Finland, Estonia, Latvia, Lithuania, Poland, and Russia. When discussing intra-regional interdependencies, some of the larger countries may be still occasionally neglected giving closer attention to a number of “core countries” which are the most dependent on the developments in the region.

² See for example: Adam Smith, *The Wealth of Nations*, London, Campbell, [1776] 1991; Alfred Marshall, *Principles of Economics*, London, Macmillan and Co, [1890] 1920; Michael E. Porter, *The Competitive Advantage of Nations*, Free Press, 1990.

³ Joseph A. Schumpeter, *Business Cycles. A Theoretical, Historical and Statistical Analysis of the Capitalist Process*, Vol I-II, Philadelphia, PA, Porcupine Press, [1939] 1989.

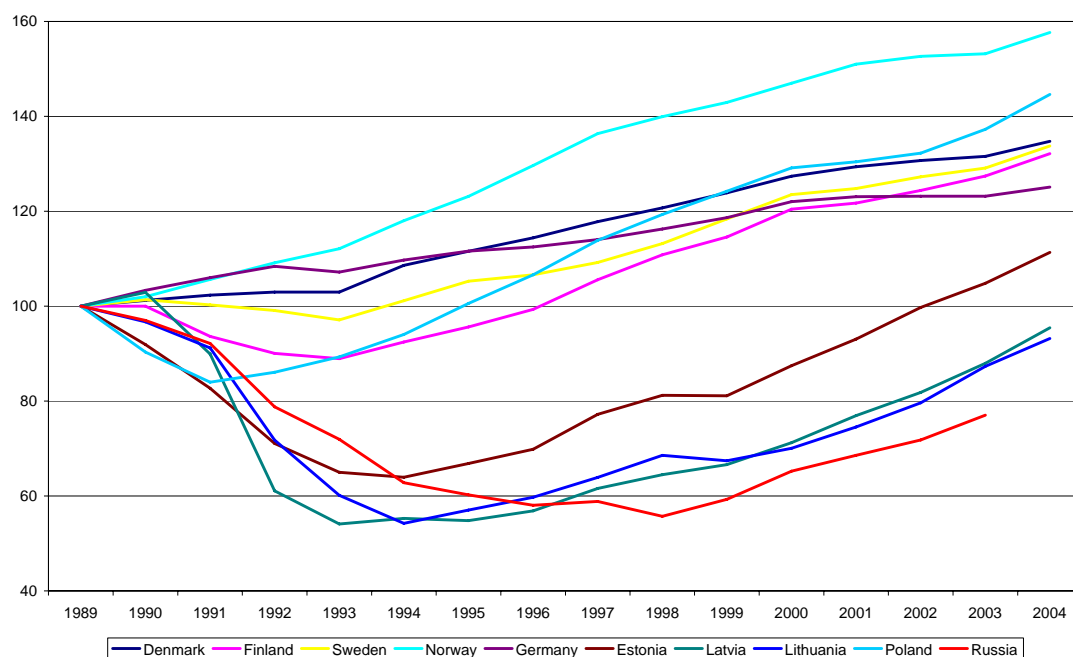
2. Economic crisis in the early 1990s and rapid recovery thereafter

The 1980s and 1990s brought about a period of much more frequent and severe financial and economic crises in the developing world, e.g. in Latin America, and elsewhere than witnessed in earlier decades. Although even in the mid-1980s, very few people would have foreseen that, in 1991 the Soviet Union dissolved.

The loss of the Eastern markets and the collapse of loan and real estate booms led Finland in 1991-1992 to the most severe economic crisis experienced in the OECD countries since WWII. The Finnish economy recovered exceptionally rapidly, and Finland became one of the most competitive economies worldwide by the end of the decade. In the early 1990s, more or less at the same time with Finland, also Sweden experienced a financial crisis which led her economy into recession for a few years.⁴

Yet, the crisis in Finland or Sweden was fairly mild, as compared to the post-Soviet transitional crisis experienced in Central and Eastern Europe and the former Soviet Union. Inasmuch as one can trust the estimates of the GDP of the Soviet Union of the 1980s, the three Baltic States suffered during the early 1990s from rather severe 'transitional recession' with cumulative output declines in the region of 40-50%. (Figure 1)

Figure 1. Real gross domestic product 1989-2004, index 1989=100



Source: *Groningen Growth and Development Centre and The Conference Board, Total Economy Database*, August 2005, author's calculations.

⁴ In Finland, the real GDP dropped in three years by over 10 percent, and unemployment rose by 1994 to nearly 17 percent, starting then slowly to decline. See also: Seppä Honkapohja, Erkki Koskela, "The Economic Crisis of the 1990s in Finland," *Economic Policy*, 14, 29, 1999, 399-436; Ari Kokko, Kenji Suzuki, "The Nordic and Asian Crises – Common Causes, Different Outcomes", October 2002.

Estonia was the first to escape the hyperinflation caused by the collapse of the USSR by introducing in 1992, as part of the economic stabilisation programme, its own currency, escaping thereby the hyperinflationary *ruble zone* and setting a stable macroeconomic environment for the growth to follow. Latvia introduced its own currency in 1993, Lithuania followed in 1994.⁵

The growth resumed around 1995 and the real GDP growth has been quite remarkable since then. Since 1995, the GDP growth (in constant prices) has been much faster in most of the countries in the Baltic Sea region (with the exception of Germany) than the growth in EU-15 on average. The emerging economies in Eastern Europe, East Asia, etc have continued to grow at a relatively good pace even from the year 2000 onwards, when the growth slowed down in the majority of the developed countries. The recent growth in the Baltic Sea region has been faster than in the United States, and in 2004, the Baltic States were the fastest growing economies in the enlarged European Union.

In the following chapters, we shall review the dynamics behind the recent remarkable growth in the region and different policy responses to the crises in the early 1990s in individual countries.

3. Trade dynamics and changes in international specialisation

3.1. Export growth and trade linkages

The volume and pattern of trade have changed tremendously in the region during the past one and a half decades. Until 1991, the Baltic States were completely integrated into the economy of the Soviet Union. In the command economy environment, approximately 70% of its trade turnover went to the East. As described above, the collapse of the Soviet Union and the related economic crisis brought a rapid drop of output and the collapse of the industrial sector. The number of larger manufacturing companies decreased sharply and in each of the Baltic States only 2-3 major industrial companies survived the transition.

Although the Soviet Union was also the most important trade partner for Poland in 1990, the economic ties were incomparably weaker between these two countries: only 15% of the Polish imports came from, and 21% of the exports went to the Soviet Union. A few years later, in 1994, the trade with Russia accounted only for a minor share of the Polish trade, while Germany had become the main trade partner of Poland, accounting for about 1/3 of the Polish foreign trade portfolio, which was otherwise widely diversified.⁶ (Table 1)

⁵ In 1992, the Bank of Latvia also temporarily issued *Latvian rubles*.

The Estonian *kroon* was originally pegged to German Mark, the Latvian *lats* to a basket of major international currencies (SDR), and the Lithuanian *litas* to U.S. Dollar. For now, in preparation for the accession to the *euro-zone*, all three Baltic States have pegged their currencies to the Euro.

⁶ Source: *United Nations Comtrade Database*, November 2005.

Table 1. Trade with Russia, % share of total value⁷

	1992		1996		2000		2004	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Estonia	:	:	16%	14%	7%	14%	6%	10%
Latvia	:	:	23%	20%	4%	12%	7%	9%
Lithuania	:	:	24%	26%	7%	27%	9%	23%
Poland	5%	9%	7%	7%	3%	9%	4%	7%
Finland	4%	7%	6%	7%	4%	9%	9%	13%

Source: *UN Comtrade Database*, February 2006.

For Scandinavia, the trade with the Soviet Union was only of inferior importance in 1990. While for Finland, which had the closest ties with the USSR among the Nordic countries, the eastern market was one of the four main export outlets besides Sweden, the Federal Republic of Germany and the United Kingdom, each accounting for 10-15% of the total of Finnish exports. For Sweden, Denmark and Germany, the USSR was not even among the top five trade partners. Equally, the above countries accounted for less than 20% of the foreign trade of the Soviet Union.

Sweden and Finland recovered from the financial crises fairly rapidly and have shown since then quite fast growth of GDP and exports. Germany witnessed drawbacks related to the unification with the former GDR, but has recorded steady growth since then. Denmark remained all together intact from external shocks in the early 1990s.

Similarly, also Poland overcame the transitional crisis fairly rapidly. The growth in the Baltic States picked up again slightly later. However, the average annual growth of the foreign trade of the Baltic States and Poland between 1995 and 2004 was two to three times faster than the growth of exports of the rest of the countries in the region. (Table 2)

⁷ Although Eurostat data demonstrates that practically all countries in the Baltic Sea region have increased their exports to Russia between 1999 and 2004, Russia still remains more important as a source of imported raw materials than an export outlet.

Table 2. Foreign trade in the Baltic Sea region

Imports, billions of ECU/EUR

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Average growth 1995-2004
Denmark	25.49	26.82	26.83	26.74	30.85	35.12	35.67	39.59	41.81	42.93	49.33	50.60	53.22	50.77	54.77	5.2%
Germany	268.36	314.00	315.61	292.58	320.62	354.64	361.57	393.05	420.55	444.78	538.33	542.79	518.49	534.49	576.35	5.7%
Estonia	:	:	:	:	:	1.95	2.54	3.91	4.27	3.22	4.62	4.80	5.08	5.73	6.75	17.0%
Latvia	:	:	:	:	1.04	1.39	1.83	2.40	2.85	2.77	3.47	3.91	4.28	4.63	5.65	17.4%
Lithuania	:	:	:	:	2.18	2.79	3.59	4.98	5.17	4.35	5.68	6.69	7.96	8.53	9.87	16.2%
Poland	:	:	12.26	16.08	18.13	22.21	29.25	37.31	41.97	43.05	53.08	56.03	58.48	60.35	71.69	14.4%
Finland	21.29	17.58	16.31	15.40	19.64	22.53	24.75	27.87	29.40	30.13	37.29	36.44	36.19	37.58	41.36	7.2%
Sweden	42.85	40.18	38.42	36.42	43.52	49.72	52.71	57.84	61.01	64.35	78.91	70.57	70.81	73.85	80.06	5.8%

Note: Germany including ex-GDR from 1991.

Source: Eurostat, September 2005.

Total exports, billions of ECU/EUR.

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Average growth 1995-2004
Denmark	27.93	29.46	31.23	32.24	35.60	38.92	40.49	43.45	43.72	47.19	55.54	57.73	60.80	58.80	61.88	5.4%
Germany	312.44	323.75	331.29	324.59	358.91	400.20	413.19	452.27	485.02	509.98	597.46	638.28	651.26	664.39	733.39	7.1%
Estonia	:	:	:	:	:	1.41	1.64	2.59	2.89	2.26	3.44	3.70	3.64	4.00	4.79	16.9%
Latvia	:	:	:	:	0.83	1.00	1.14	1.47	1.62	1.62	2.02	2.23	2.42	2.56	3.19	14.2%
Lithuania	:	:	:	:	1.71	2.07	2.64	3.41	3.31	2.58	3.85	4.78	5.54	6.16	7.45	17.0%
Poland	:	:	10.16	12.08	14.49	17.50	19.25	22.71	25.18	25.67	34.37	40.19	43.50	47.53	60.18	15.1%
Finland	21.00	18.57	18.45	20.07	25.02	30.96	32.39	36.57	39.03	39.64	49.92	48.28	47.74	47.00	49.46	5.7%
Sweden	45.10	44.51	43.15	42.58	51.53	61.50	66.88	72.98	75.61	79.65	94.34	84.46	86.19	90.26	98.69	5.7%

Note: Germany including ex-GDR from 1991.

Source: Eurostat, September 2005.

While the exports of the Baltic States' trade were virtually completely oriented to the eastern markets until the collapse of the Soviet Union, drastic changes have taken place in their trade orientation over the decade. The Baltic Sea region has become a closely integrated cross-border economic region, where intra-regional trade constitutes an important part of the trade of the individual countries. (Table 3)

Table 3. 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: *COMEXT Database*, Eurostat, September 2005.

However, the trade balances of the Baltic States, and to a lesser extent also of Poland, are still strongly in deficit 15 years after the start of transition despite the generally favourable developments. (Table 18 in appendices)

A closer look at the relative trade balance of individual countries reveals radically different trade specialisation patterns along the North-Western and South-Eastern coastlines of the Baltic Sea. While the Nordic countries and Germany specialise predominantly in exports of manufactured goods, the Baltic States and Poland record positive relative trade balances mainly in agricultural products and/or raw materials. (Table 4)

Table 4. Relative trade balance, 1999-2004 ⁸

	STC	Denmark		Germany		Finland		Sweden		Estonia		Latvia		Lithuania		Poland	
		1999	2004	1999	2004	1999	2004	1999	2004	1999	2004	1999	2004	1999	2004	1999	2004
Food, drinks and tobacco	0&1	0.32	0.28	-0.21	-0.11	-0.43	-0.42	-0.37	-0.31	-0.35	-0.24	-0.52	-0.36	-0.21	0.04	-0.09	0.14
Raw materials	2&4	0.06	0.10	-0.33	-0.28	0.16	-0.04	0.37	0.30	0.43	0.26	0.66	0.49	-0.05	0.02	-0.29	-0.26
Mineral fuels, lubricants and related materials	3	0.06	0.26	-0.67	-0.59	-0.45	-0.41	-0.35	-0.33	-0.62	-0.38	-0.71	-0.62	-0.25	0.01	-0.41	-0.34
Chemicals and related products, n.e.s.	5	0.08	0.14	0.19	0.20	-0.14	-0.33	0.05	0.12	-0.52	-0.43	-0.57	-0.54	-0.33	-0.30	-0.59	-0.44
Machinery and transport equipment	7	-0.08	-0.07	0.21	0.26	0.13	0.12	0.16	0.15	-0.34	-0.27	-0.77	-0.67	-0.47	-0.32	-0.36	-0.09
Other manufactured products	6&8	-0.03	-0.03	0.00	0.09	0.39	0.33	0.13	0.13	-0.04	-0.05	-0.08	-0.10	-0.11	-0.08	-0.04	0.05
Total of all products		0.05	0.06	0.07	0.12	0.14	0.09	0.11	0.10	-0.18	-0.17	-0.26	-0.28	-0.26	-0.14	-0.25	-0.09

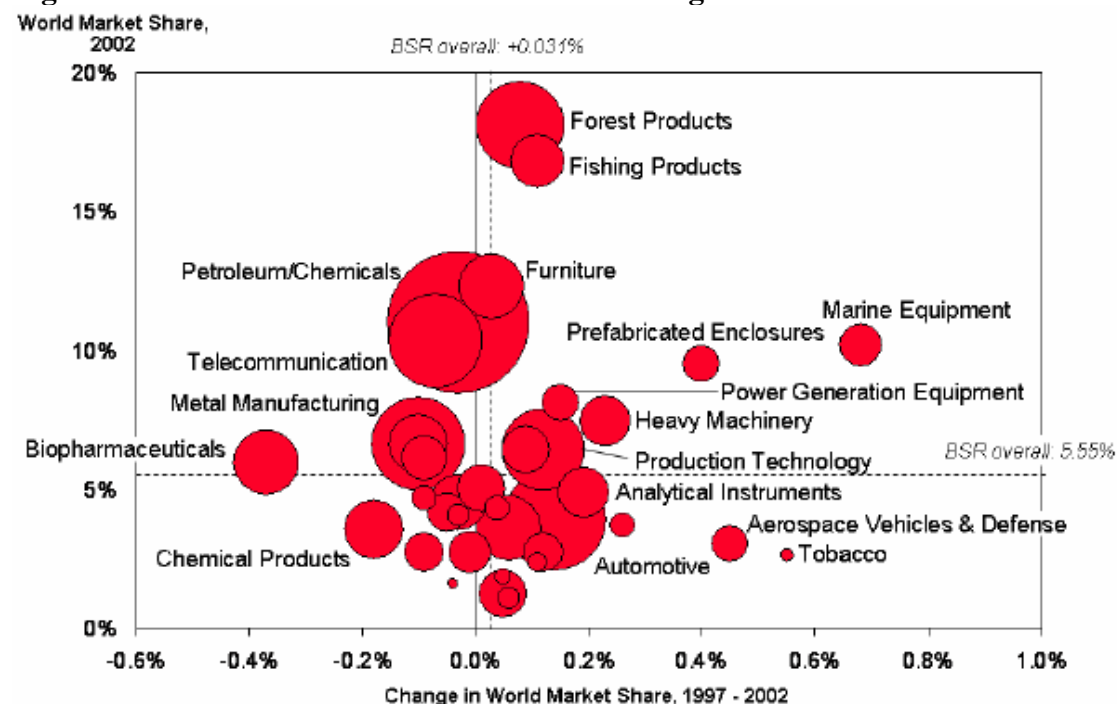
Source: Eurostat, September 2005, author's calculations.

⁸ The relative trade balance (RTB) for a product i is defined as follows: $RTB_i = (X_i - M_i) / (X_i + M_i)$, where X = value of exports and M = value of imports.

3.2. International trade specialisation of the Baltic Sea region

The main export articles of the Baltic Sea region consist of petrochemicals, telecommunication equipment, automotive and transport equipment, metal manufacturing, forest products, and various production technologies, etc.⁹ (Figure 2)

Figure 2. World market share of the Baltic Sea region



Note: The above data includes Norway and Iceland.

Source: Christian Ketels, Örjan Sölvell *et al*, *State of the Region Report 2005: Competitiveness and Cooperation in Baltic Sea region*, Baltic Development Forum 2005, 43.

Sweden is the largest exporter in the region. Its export specialisation, relative to the region's average, consists predominantly of aerospace engines, biopharmaceuticals, automotive, and forest products. Finland is strong in forest products, telecommunication and marine equipment. The Danish strengths are in food products, biopharmaceuticals, power generation (wind energy) and footwear. The German main strengths lie in automotive, aerospace and information and communication technologies. Poland specialises in the manufacture of transport equipment and parts thereof (diesel engines), wood and furniture; also coal is an important export article.¹⁰

Iceland has an advantage in fishing products, and power-intensive activities such as the production of aluminium. Norway is strong in petrochemicals, fishing products and marine equipment.

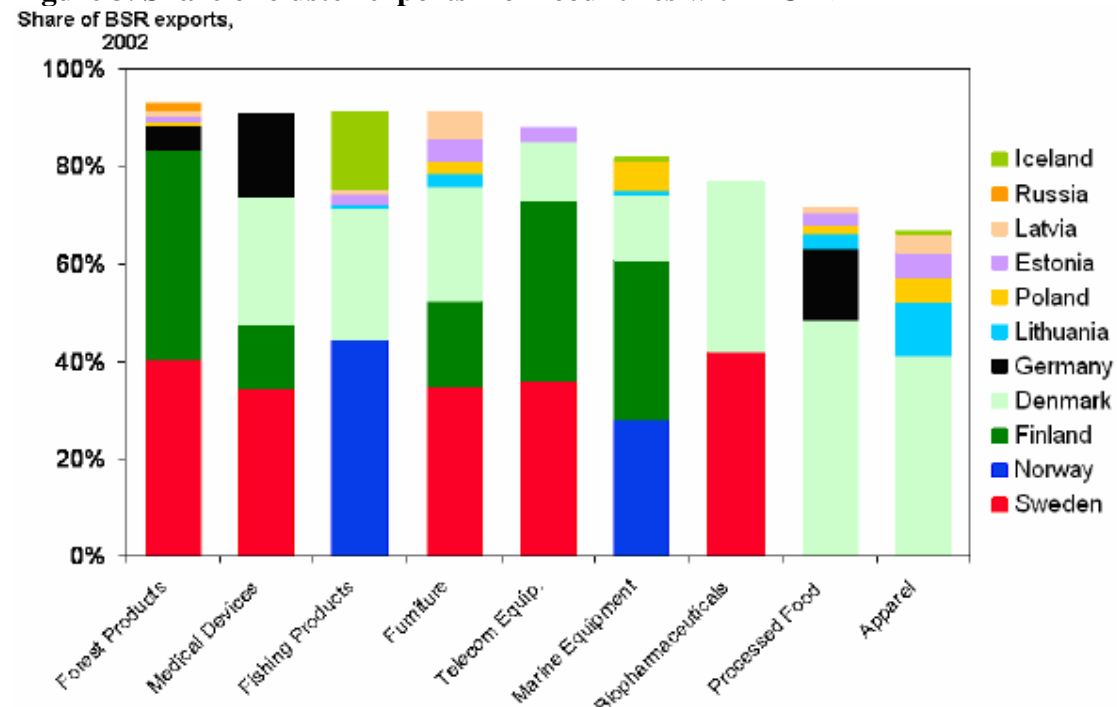
⁹ Please note slightly different definition of the region: the data behind this assessment includes also Norway and Iceland.

¹⁰ Christian Ketels, Örjan Sölvell *et al*, *State of the Region Report 2005: Competitiveness and Cooperation in Baltic Sea Region*, Baltic Development Forum 2005, 44; Marek Tiits, Rainer Kattel, Tarmo Kalvet, *Made in Estonia*, Tartu, Institute of Baltic Studies, 2005, 79.

The North-Western region of Russia is one of the most industrially developed among the Russian regions. Its specialisation includes energy production, wood processing, metal and machinery manufacturing (energy technology, marine transport equipment), food processing, ICT and electronics manufacturing.¹¹ The transit of oil from energy-rich Russia is also an important part of the exports of the Baltic States. The Lithuanian strength besides manufacturing Russian oil lies in transport (railway carriages) and marine equipment. Latvia's strengths are in wood and furniture, food and textiles. Estonia's main manufacturing specialisations are in telecommunication equipment and electronics; wood processing, furniture and printing.¹²

The similarities in the economic specialisation of the individual (mostly small) countries and the patterns of intra-regional trade alone suggest the existence of close cross-border economic clusters in the Baltic Sea region. In fact, the strong international competitive position of the region is frequently based on a number of the countries which have all revealed a comparative advantage in specific product groups. (Figure 3)

Figure 3. Share of cluster exports from countries with RCA > 1



Source: Christian Ketels, Örjan Sölvell *et al*, *State of the Region Report 2005: Competitiveness and Cooperation in Baltic Sea region*, Baltic Development Forum 2005, 44.

¹¹ Grigory Dudarev *et al*, *Advantage NorthWest Russia: The New Growth Centre of Europe?*, Helsinki, SITRA, 2004; Grigory Dudarev, Hannu Hernesniemi, Pavel Filippov, *Emerging Clusters of the Northern Dimension: Competitive Analysis of the Northwest Russia*, Helsinki, ELTA, 2002.

¹² *Ibid.*; For earlier synthetic work clusters in the Nordic and Baltic countries, please see also: *Nordisk Cluster Mapping*, Oxford Research, January 2002; Hannu Hernesniemi *et al*, *Finnish Key Clusters and their Projected Future*, Helsinki, ETLA, 2001; Sakari Luukkainen, *Industrial Clusters in the Finnish Economy*, VTT, <http://www.vtt.fi/ttr/pdf/clusters3.pdf>; Örjan Sölvell *et al*, *Advantage Sweden*, Hampshire and London, Macmillan Press, 1993; Hans Tson Söderström *et al*, *Kluster.se - Sverige i den nya ekonomiska geografin*, Ekonomirådets rapport 2001, Stockholm, SNS Förlag, 2001; Torger Reve, Erik W. Jakobsen, *Et verdiskapende Norge*, Norge, Universitetsforlaget, 2001; *Kompetenceklynger i dansk erhvervsliv*, Erhvervsfremme Styrelsen, 2001.

The composition of specific cross-border clusters by individual countries varies from case to case, but as a general pattern, Sweden, Finland, and Denmark hold key co-ordinating positions in such clusters, while the Baltic States and Poland have largely assumed the role of a low-end subcontractors over the last decade.¹³

Given the resource richness of the huge neighbour alone, Russia has always played a special role in the region. In 1990, petroleum, petroleum products, natural and manufactured gas accounted for 62% of the Finnish, Swedish, Danish and German combined imports from the USSR, while the key export articles (20% of all exports) to the Soviet Union consisted of machinery, transport equipment, and articles of pulp and paper.¹⁴ While the prolonged crisis in Russia led to the collapse of the light and machinery industries, the trade pattern between Russia and other countries in the Baltic Sea region remained largely unchanged for a decade, except for the increased importance of the exports of electronics to Russia.¹⁵ (Table 5)

Table 5. Russian trade in the Baltic Sea region

Exports from Russia				Imports to Russia			
	1996	2000	2004		1996	2000	2004
27 Mineral fuels, oil	61%	68%	68%	84 Machines	21%	6%	15%
72 Iron and steel	4%	3%	6%	85 Electronics	5%	3%	10%
44 Wood	3%	3%	5%	87 Vehicles	2%	1%	6%
29 Organic chemicals	3%	3%	4%	48 Paper	2%	1%	3%
74 Copper	2%	0%	2%	30 Pharmacy	2%	1%	3%
31 Fertilisers	1%	1%	2%	39 Plastics	2%	1%	3%
75 Nickel	1%	0%	1%	90 Optical equip.	4%	2%	3%
76 Aluminium	1%	3%	1%	33 Oils & resinoids	1%	1%	2%
84 Machines	2%	4%	1%	73 Iron, steel prod.	1%	1%	2%
Total 9 groups	77%	86%	90%	Total 9 groups	59%	63%	65%

Source: *UN Comtrade Database*, February 2006.

Yet, when assessing the potential for future cross-national co-operation in the region, one should not limit the potential of Russia with its natural resources alone. The North-Western region of Russia is one of the most industrially developed among the Russian regions. It accounts for 9% of Russia's GDP, and almost 10% of its industrial production. The region is also rich in human capital, and it is only a matter of time when the city of St. Petersburg will restore its full glory as the global metropolis. Given the favourable location of the St. Petersburg region, the number of universities and research institutes located there, the region is clearly one of the most attractive in Russia for foreign direct investments.

¹³ Evidence from Estonia suggests that the value added of Estonian exports to Finland and Sweden amounts to roughly half of that of the exports to other countries. See: Ülo Kaasik, *Eesti eksporditoodete lisandväärtus* [Value Added of Estonian Export Production], Working Papers of the Bank of Estonia, 3, 2003.

¹⁴ *United Nations Comtrade Database*, November 2005.

¹⁵ Gerardo Bracho C, Julio López G, "The Economic Collapse of Russia", November 2005.

3.3. Foreign direct investments

In spite of the rapid growth of the volume of foreign direct investments attracted by developing countries (on average USD 37 billion 1989-1991 versus USD 223 billion 1999-2001), these flows are extremely concentrated. In recent years, the 10 countries that have attracted the most investments have received 80%, and the 25 countries that have attracted most investments have received 90% of the entire foreign investment flows through 1999-2001.¹⁶ More recently, the upswing in FDI flows to developing countries has been mainly related to the rise of greenfield investments notably in Asia. China and India alone accounted for roughly ½ of all new greenfield (and expansion) in developing countries in 2004.¹⁷

In addition to many rapidly developing Asian countries (e.g. South Korea, Taiwan, Singapore, China, Malaysia, Thailand, India), this applies first and foremost to the border regions of Europe (e.g. Ireland, Central and Eastern European Countries, Russia), Brazil, Mexico and Argentina in Latin America and a few other places around the globe.^{18 19}

The Baltic Sea region has been in a relatively favourable position in terms of its ability to attract inward foreign direct investments. (Table 17, page 30) Somewhat similarly to what happened in the late 1990s in Ireland, also Sweden and Denmark experienced a huge influx of foreign direct investments during the peak time of the ICT investment boom in 1999-2000. (Table 6)

In fact, Sweden as one of the main metropolises and business hubs in the Baltic Sea region attracts ½ of all inward investment into the 'smaller Baltic Sea region' (without Germany and Russia), then further distributing the investments to the smaller neighbouring countries, such as Finland, the Baltic States, but also Denmark. The Estonian case is in this context especially remarkable, as the investments originating from other countries in the Baltic Sea region account for 77% of Estonia's inward FDI position. The Swedish investments account for approximately ½ of Estonia's inward FDI position, but there is no data on the entrance of Swedish companies to Estonia via Finnish subsidiaries.²⁰ (Table 7)

These developments could be attributed in part to the rapid privatisation of formerly state-owned industries, in part to the relative geographic closeness to Sweden and Finland, as investor countries. (Figure 4)

¹⁶ Sanjaya Lall, "Linking FDI and Technology Development for Capacity Building and Strategic Competitiveness," *Transnational Corporations*, 11, 3, December 2002, 39-88, 70-71.

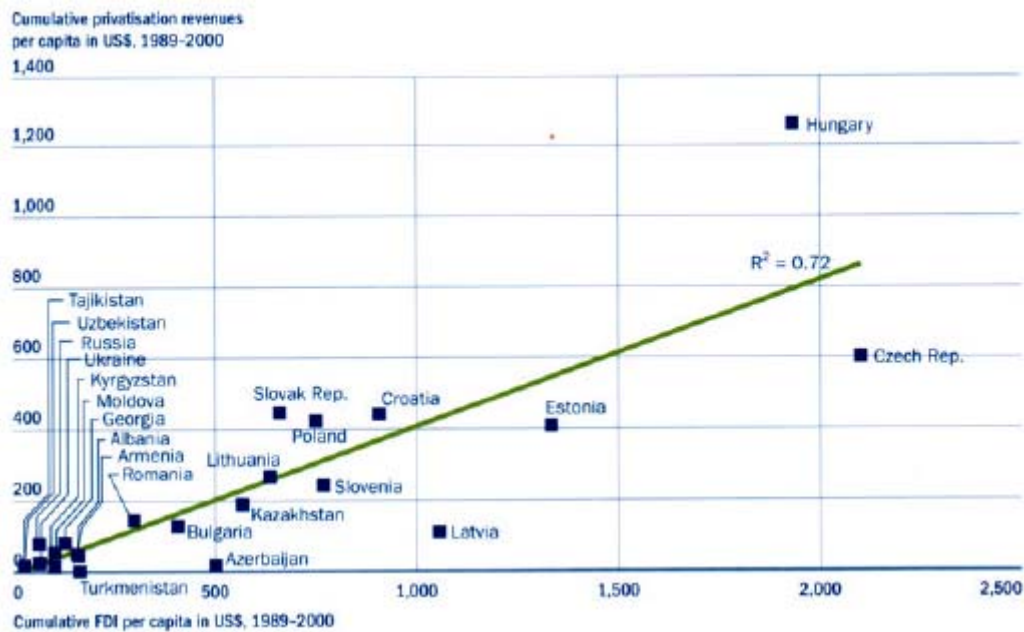
¹⁷ *World Investment Report 2005*, UNCTAD, New York and Geneva, 2005, xx.

¹⁸ For instance, Costa Rica, which is an attractive production base for Intel's microprocessor plant. See: Dieter Ernst, Linsu Kim, "Global Production Networks, Knowledge Diffusion, and Local Capability Formation," *Research Policy*, 31, 2002.

¹⁹ Contrary to earlier forecasts, the influx of foreign investments in Estonia, Latvia, Lithuania, Poland, the Czech Republic, Slovakia, Slovenia and Hungary decreased by more than double, from USD 23 billion in 2002 to USD 11 billion in 2003. See also: *World Investment Report 2004*, UNCTAD, New York and Geneva, 2004, 72. See also *Economic Survey of Europe, 2004 issue 1*, New York, United Nations Publications, 2004, 76, 83-89.

²⁰ Kari Liuhto, "A Common Baltic Sea Investment Agency Could Attract New Capital into the Region," *Baltic Rim Economies: Bimonthly review 2/2005*, Pan-European Institute, 28 April 2005.

Figure 4. FDI and privatisation revenues per capita



Source: *Transition Report 2000*, European Bank of Reconstruction and Development, London, Hyway Printing Group, 2000, 84.

While in the early 1990s, participation in privatisation was the main motivation, in the late 1990s, the enlargement of the home market, cheap labour and access to natural resources became an important impetus for inward FDI.²¹

The Nordic countries have increasingly seen the Baltic States as part of their home market since the mid-1990s, thereby steadily increasing the presence of various Scandinavian financial and industrial concerns, wholesale and retail chains, etc. As a part of this process, Estonia has become the platform for entering the Latvian and Lithuanian as well as the Russian markets for the Scandinavian foreign investment enterprises; hence, a fairly large share of Latvia and Lithuania in the outward FDI position of Estonia. In fact, two-thirds of Estonia's outward FDI position can be attributed to the investments of the financial sector dominated by Scandinavian banking groups in Latvia and Lithuania.²²

²¹ Harley Johansen, "Nordic Investments in the Former Soviet Baltic Frontier: A Survey of Firms and Selected Case Studies," *Geografiska Annaler*, Series B Human Geography, 82, 4, 2000, 207-219.

²² Urmas Varblane (ed), *Foreign Direct Investments in the Estonian Economy*, Tartu, University of Tartu Press, 2001; Marek Tiits, *Technology Intensive Foreign Investments and Economic Development Strategy in a Small Country*, eVikings: Tartu, Archimedes Foundation, 2005, manuscript. See also: Kálmán Kalotay, "Outward FDI from Central and Eastern European Countries," *Economics of Planning*, 37, 2004, 141-172.

Table 6. FDI inflow in percent of Gross Fixed Capital Formation

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Finland	2	6	10	5	5	9	49	18	37	15	32	11
Denmark	4	7	19	12	2	8	22	49	104	36	20	:
Sweden	0	12	19	36	12	28	49	140	55	31	29	3
Germany	0	0	1	2	1	3	5	12	49	7	14	:
Estonia	35	41	35	22	13	21	38	24	30	37	15	:
Latvia	19	15	39	27	41	49	21	21	22	6	11	:
Lithuania	2	5	3	5	9	16	35	20	18	18	26	:
Poland	5	13	11	15	15	15	16	18	24	15	11	:
Russia	6	3	1	3	3	7	6	12	6	5	6	10

Source: *FDI Database*, UNCTAD, October 2005.

Table 7. Intra-FDI stock in the Baltic Sea region

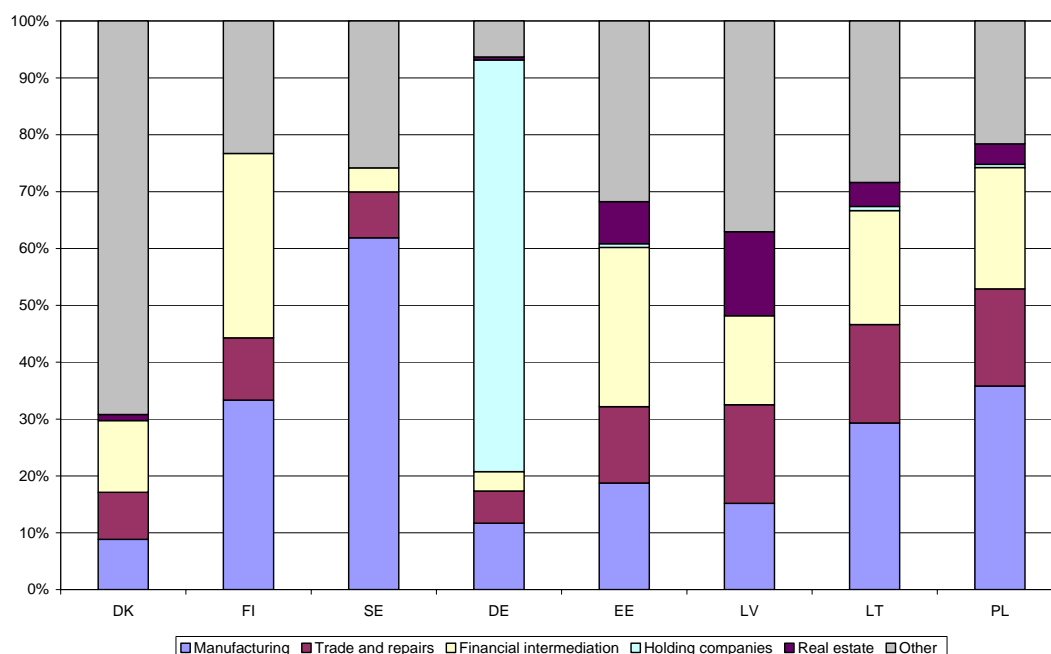
Recipient country, percentage and rank of investor country in total inward FDI stock																		
	Denmark		Estonia		Finland		Germany		Latvia		Lithuania		Poland		Russia		Sweden	
Denmark	***		2%	6	4%	5	1%	12	8%	3	15%	1	3%	9			3%	9
Estonia			***						8%	5	8%	6						
Finland	2%	8	24%	2	***		2%	10	8%	6	8%	5	1%	17			16%	3
Germany	4%	6	2%	7	5%	4	***		15%	1	11%	3	13%	4	11%	4	6%	6
Latvia			1%	13					***		2%	13						
Lithuania									1%	16	***							
Poland											1%	16	***					
Russia			2%	9	1%	11			7%	8	8%	4	1%	20	***			
Sweden	20%	2	46%	1	54%	1	2%	8	11%	2	15%	2	5%	7			***	
Total	27%		77%		64%		5%		59%		68%		21%		11%		26%	

<empty>: less than 0.5% of total inward FDI.

Source: National statistical authorities, central banks and investment agencies (DK 2003, EE 2004, FI 2003, DE 2002, LV 2004, LT 2004, PL 2004, RU 2004, SE 2003); cited in: *Baltic Rim Economies, Bimonthly review 2/2005*, 28 April 2005.

As described above, various service sectors such as financial intermediation, trade and repairs, and others hold the most prominent role in inward direct investments into Estonia and Latvia. The share of inward manufacturing FDI in Lithuania and Poland is very well comparable to the one in Finland. Denmark, Estonia and Latvia still demonstrate extremely low shares and Sweden an extremely high share of manufacturing in their inward FDI position.

Figure 5. Composition of inward FDI position, 2002 ²³



Source: *Eurostat*, November 2005, author's calculations.

In the manufacturing industry in Estonia, the following fields have received the most foreign direct investments: food and wood processing; and textile and clothing. The same relatively resource-intensive low-tech industries are also prevalent in foreign direct investments made in Latvian and Lithuanian manufacturing industries.

In Poland, besides FDI into the food processing industry, several medium technology industries such as transport equipment and chemicals also appear among the major destinations for direct investment into manufacturing. (Table 8)

While the manufacturing share in inward FDI is much higher in Finland and Sweden, chemicals, metal and mechanical product industries are the most prominent direct investment destinations.

²³ Please note that the data are not fully comparable, as no data on foreign direct investments into holding companies were available for Denmark, Finland and Sweden. No data on FDI in real estate were available for Finland and Sweden. The respective investments appear under 'Other'.

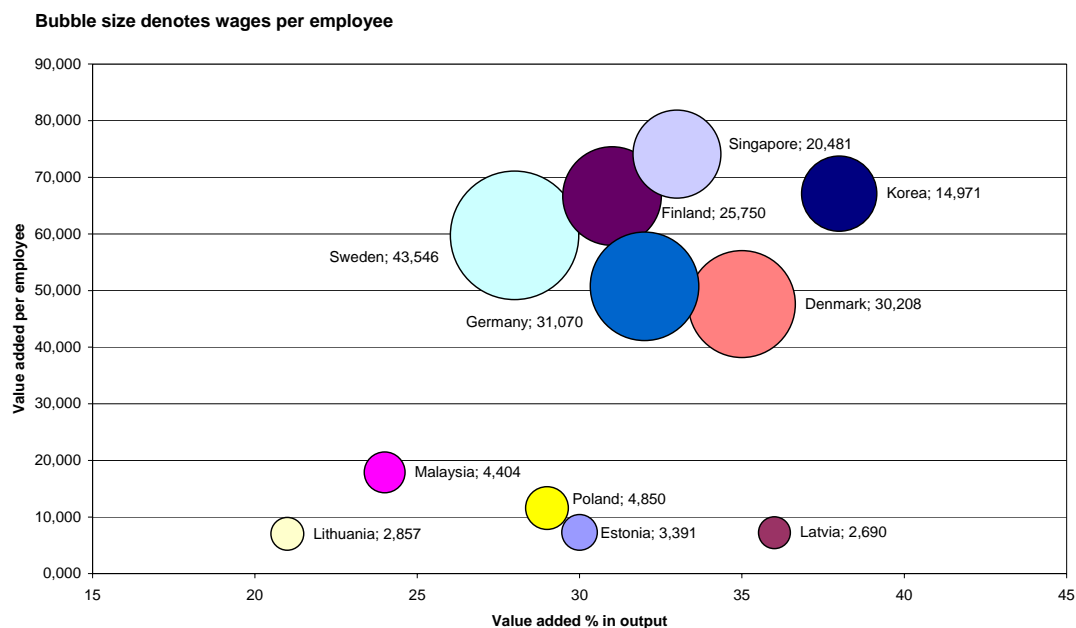
Table 8. Inward FDI position in manufacturing industry, 2002

	DK	FI	SE	DE	EE	LV	LT	PL
Food products	41%	26%	4%	3%	21%	25%	38%	22%
Textiles	0%	:	:	1%	9%	12%	11%	1%
Wood, publishing and printing	7%	:	13%	2%	21%	25%	7%	12%
Chemicals and chemical products	10%	12%	42%	23%	8%	9%	5%	12%
Metal and mechanical products	18%	22%	:	12%	5%	14%	3%	8%
Office machinery, RTV, communications	3%	8%	:	17%	4%	0%	4%	3%
Vehicles and transport equipment	1%	:	:	16%	3%	1%	4%	14%
Other manufacturing	19%	33%	40%	27%	29%	14%	28%	27%

Source: *Eurostat*, November 2005, author's calculations.

3.4. Productivity, labour costs and employment

The comparison of the wages of industrial workers and the industrial value added reveals that the wages of the industrial workers are considerably higher in the Scandinavian countries and Germany than the wages in East Asian 'tiger economies', such as Singapore or Korea. The value added per employee and value added share in output tend to be relatively lower in the European countries above than in Asia, which puts the Europeans in a less favourable competitive position. (Figure 6)

Figure 6. Industrial value added and wages in selected economies, 2001, in USD

Source: Erik S. Reinert, Rainer Kattel, "The Qualitative Shift in European Integration: Towards Permanent Wage Pressures and a 'Latin-Americanisation' of Europe?", PRAXIS Working Paper no 17/2004, <http://www.praxis.ee>.

Although the labour costs in the Baltic States and Poland are still less than 1/5 of the Western European levels, productivity tends to be equally low. Furthermore, the labour costs have more than doubled in the Baltic States and Poland in less than ten years and keep increasing very fast. (Table 9)

Table 9. Labour costs, four quarters simple average, index 2000 = 100

	1996	1997	1998	1999	2000	2001	2002	2003	2004
Denmark	85.9	89.3	92.5	96.0	100.0	104.5	108.5	112.4	115.9
Germany	91.6	93.0	94.5	96.8	100.0	102.5	104.7	107.3	108.6
Estonia	62.7	73.8	84.0	91.0	100.0	112.7	126.9	138.5	147.5
Latvia	:	84.5	92.3	97.4	100.0	107.6	116.0	127.1	141.4
Lithuania	67.3	81.2	94.4	104.5	100.0	101.2	105.4	109.5	114.5
Poland	54.7	70.5	82.7	93.9	100.0	120.1	122.7	127.0	131.3
Finland	:	:	:	:	100.0	106.7	112.1	117.0	121.7
Sweden	84.0	87.8	92.1	95.7	100.0	105.2	108.8	114.0	117.6
EU25	87.3	90.5	93.1	96.0	100.0	104.6	108.6	112.2	116.1

Source: Eurostat, September 2005.

The desire for a fast increase of labour costs is perfectly understandable in the context of relatively low initial levels, but one must not forget about global competitors, such as the second tier Asian tigers, but also Latin America and others. Thereby, cheap labour cannot be really seen as a major competitive advantage or an argument for investments into these countries.²⁴

Furthermore, the fast economic growth and increase of labour costs is also related to rather drastic changes on the labour market. The fast growth has been accompanied in the 1990s with major declines in employment and persistently high unemployment levels in the Baltic States and Poland. In Estonia, employment decreased by 30% between 1990 and 2000; in Latvia, it decreased by nearly 29% between 1990 and 2002; and in Lithuania, employment decreased by nearly 20% between 1991 and 2001.²⁵

Denmark has the lowest unemployment level in the region. Sweden experienced a period of increasing unemployment during the second half of the 1990s, but has managed by now to reduce it successfully to the 1992 level. For Finland, the 1990s were a period of drastic structural changes in the economy which brought an increase in unemployment, but it has been steadily decreasing over the last few years.

Germany has got problems with increasing unemployment similar to the Baltic States, but the situation is by far the worst in Poland with an unemployment level close to 20%. Unemployment above average among the 15-24-year-olds is a problem in all countries, but the 40% unemployment among the youth in Poland is truly drastic.²⁶ (Table 10)

²⁴ For more detailed comparative data on labour costs and productivity by the individual branches of manufacturing industry see: Jozef Konings, *Wage Costs and Industry (Re)location in the Enlarged Union*, Katholieke Universiteit Leuven for the Economic Council of Sweden, October 2004, http://europa.eu.int/comm/employment_social/employment_analysis/docs/041210_konings.pdf, 18.

²⁵ One of the transitional phenomena behind the drop in employment at the beginning of the 1990s was also the emigration of previously resident Russians, Ukrainians and others back to their home countries. See also: Alf Vanags, *The Governance of Employment and Economic Development in the Baltic States*, Preliminary background report for the conference 'Employment, economic development and local governance in Latvia', 18 January 2005, 3.

²⁶ Eurostat, September 2005.

Table 10. Employment/unemployment in the Baltic Sea region 1997-2004, percent

	1997		1998		1999		2000		2001		2002		2003		2004	
	E	UE	E	UE	E	UE	E	UE	E	UE	E	UE	E	UE	E	UE
Denmark	74.9	5.2	75.1	4.9	76.0	4.8	76.3	4.4	76.2	4.3	75.9	4.6	75.1	5.6	75.7	5.4
Germany	63.7	9.1	63.9	8.8	65.2	7.9	65.6	7.2	65.8	7.4	65.4	8.2	65.0	9.0	65.0	9.5
Estonia	:	9.6	64.6	9.2	61.5	11.3	60.4	12.5	61.0	11.8	62.0	9.5	62.9	10.2	63.0	9.2
Latvia	:	:	59.9	14.3	58.8	14.0	57.5	13.7	58.6	12.9	60.4	12.6	61.8	10.4	62.3	9.8
Lithuania	:	:	62.3	13.2	61.7	13.7	59.1	16.4	57.5	16.4	59.9	13.5	61.1	12.7	61.2	10.8
Poland	58.9	10.9	59.0	10.2	57.6	13.4	55.0	16.4	53.4	18.5	51.5	19.8	51.2	19.2	51.7	18.8
Finland	63.3	12.7	64.6	11.4	66.4	10.2	67.2	9.8	68.1	9.1	68.1	9.1	67.7	9.0	67.6	8.8
Sweden	69.5	9.9	70.3	8.2	71.7	6.7	73.0	5.6	74.0	4.9	73.6	4.9	72.9	5.6	72.1	6.3
NMS10	:	:	60.0	10.6	59.0	12.0	57.4	13.6	56.6	14.5	55.8	14.8	55.9	14.3	56.0	14.1
EU15	60.7	9.8	61.4	9.3	62.6	8.5	63.4	7.6	64.0	7.2	64.2	7.6	64.3	8.0	64.7	8.1
EU25	60.6	:	61.2	9.5	62.0	9.1	62.4	8.6	62.8	8.4	62.8	8.7	62.9	9.0	63.3	9.0

Note: E = employment rate (15 to 64 years old), UE = total unemployment rate.

Source: Eurostat, September 2005.

It appears that, although all the countries in the region have experienced quite fast economic growth from 1998 onwards, the quality of economic development has been radically different.

4. Uneven quality of industrial development

4.1. Increasing regional imbalances

The *jobless growth* accompanied by increasing social disparities is only one side of the observable uneven development. A fairly simple comparison reveals that, while the share of medium- and high-tech industries has been increasing in both the manufactured value added and the exports of the Scandinavian countries, Poland and the Baltic States have actually been losing grounds in industrial competitiveness, downgrading their economies in terms of manufactured value added towards more labour and/or resource intensive activities. (Table 11; Table 18 in appendices)

Table 11. Share of medium- and high-tech industries in industrial value added and exports of manufactures

	% in MVA			% in manufactured exports		
	1980	1990	2000	1980	1990	2000
Denmark	47.7	49.3	54.4	47.9	51.5	53.6
Finland	41.3	47.3	55.9	29.2	42.0	55.2
Sweden	55.2	56.5	66.2	54.7	58.1	65.5
Germany	60.8	66.5	63.2	65.1	68.7	72.0
Estonia	n/a	46.3	38.9	n/a	n/a	47.2
Latvia	49.7	46.3	38.9	n/a	n/a	15.0
Lithuania	n/a	46.3	38.9	n/a	n/a	30.5
Poland	49.4	47.9	38.7	63.7	49.5	46.4

Source: UNIDO Scoreboard, 2002.

The Estonian case is particularly interesting. Although nearly 1/4 of the Estonian manufactured exports come from the nominally high tech industries, such as ICT equipment and electronics, the actual value added share of these industries is fairly low, compared to more traditional industries such as wood and wood products or others. Estonia, like Hungary, Mexico or Malaysia, has been successful in attracting foreign direct investments into nominally medium- and high-tech industries, but has actually specialised in these industries in certain low-tech activities such as assembly of electronics or others. Even if these industries are highly profitable for their owners, the value added produced there is simply transferred out of the host economy.²⁷ (Table 12)

Table 12. Value added in million EUR and labour productivity in thousand EUR per person employed, 2002 or most recent year

	Manufacturing						High-tech knowledge int. services	
	Total		High technology		Medium high technology		VA	LP
	VA	LP	VA	LP	VA	LP		
Estonia	1136	9	64	7	106	11	285	24
Latvia	1635	11	:	:	140	9	491	21
Lithuania	1540	6	125	9	:	:	422	20
Poland	38673	16	2498	19	7498	16	:	:
Finland	29655	69	7034	127	5736	57	4735	57
Sweden	43364	55	6518	62	:	:	11506	54
Denmark	25495	56	3915	87	6221	55	6502	65
Germany	401497	55	43734	63	177389	62	71669	68
EU-15	1450220	52	188463	70	456113	59	355107	68

Note: VA = value added; LP = labour productivity.

Source: Source: High technology: enterprises and trade, Statistics in focus, 9/2005, Eurostat, October 2005.

The emergence of individual high tech islands in the middle of relatively backward rural areas is by no means unique to Estonia either. Over the last decade or two, one can observe developments like this in many parts of the world from the United States or Europe to China or Latin America. Increasing disparities in regional GDP are unfortunately not alien to the Baltic Sea region either. (Table 13)

²⁷ Marek Tiits *et al*, *Competitiveness and Future Outlooks of the Estonian Economy*, Tallinn, State Chancellery of the Republic of Estonia, 2002; Tarmo Kalvet, "The Estonian ICT Manufacturing and Software Industry: Current State and Future Outlook", EUR 21193 EN, Institute for Prospective Technological Studies - Directorate General Joint Research Centre, European Commission, Sevilla 2004.

Table 13. Change in regional disparity of GDP per capita 1995-2002

Country or area (no of regions)		Standard deviation of GDP per capita		Absolute change (units)	Relative change (%)	Disparity at onset	Tendency
		1995	2002				
Sweden	(21)	7.9	11.9	4.0	50.7	Small	Increasing
Denmark	(12)	12.8	14.3	1.5	11.8	Small	Increasing
Lithuania	(10)	13.4	24.1	10.7	80.0	Small	Increasing
Poland	(16)	15.1	20.2	5.1	34.1	Small	Increasing
Norway	(18)	15.2	16.2	1.1	7.0	Small	Increasing
Finland	(20)	16.6	19.6	3.0	18.2	Small	Increasing
Russian BSR	(7)	29.0	14.8	-14.3	-49.1	Large	Decreasing
Latvia	(5)	29.3	39.2	9.9	34.0	Large	Increasing
Estonia	(5)	34.3	38.9	4.6	13.5	Large	Increasing
German BSR	(7)	39.2	43.3	4.1	10.5	Large	Increasing
Baltic Sea region	(121)	16.8	22.4	3.6	18.9	Average	Increasing

Note: The data for Norway and Russian BSR are for 1995-2000.

Source: Baltic RIM economies, 31 October 2005.

In trying to understand the reasons of diverging developments of individual regions or countries it is very instructive to analyse the public policy responses to the various developmental challenges in their historic context.

4.2. The Nordic countries

The immensely successful uptake of the opportunities offered by the information and communication technology (ICT) revolution in Finland (and Sweden) owes both to the strong dedication of the Finnish public policy for the development of strong competitive industries and to a strong element of good luck. Although hit hard in the beginning of the 1990s by the double crisis of the loss of the eastern markets and the bust of the domestic real estate and stock market bubbles, the Finnish government stuck to the previous policy strategy for diversification from natural resource intensive industries towards more knowledge intensive ones, such as electronics and ICT. It was realised that the existing industrial specialisation would not allow for a further increase of living standards, and therefore, there is an imminent need to move towards new high-tech and thereby also higher value added activities. This policy strategy remained largely in force even during the deepest crisis: while widespread budget cuts took place elsewhere, the government still increased public investments into R&D, and supported structural change in the economic specialisation of the regions through education and other means.

The largest Finnish industrial conglomerate Nokia was hit severely by the crisis. Nokia was trying desperately to sell off various loss-making branches such as the production of microcomputers, etc. Even the mobile telephone business was offered for sale together with the microcomputer business to Swedish Ericsson. Ericsson evaluated the offer carefully, but finally declined the deal ... Yet, the following years

were hugely successful for Nokia and Finland in mobile telecommunications.²⁸
(Table 14)

Table 14. Production and export shares of major clusters in the Finnish economy

	1980	1990	2000
Information and communications technology			
share of manufacturing	4.6%	7.6%	29.4%
share of exports	4%	12%	30%
Forest products			
share of manufacturing	25.3%	23.8%	21.0%
share of exports	45%	39%	29%
Metals			
share of manufacturing	8.5%	10.6%	10.1%
share of exports	25%	31%	24%

Source: International Monetary Fund, cited in Blomström *opt cit*, 10.

The Swedish industrial specialisation portfolio is more diversified, although it has also been a major player in ICT manufacturing in the 1990s. As is typical of the post-war understanding on the importance of capital accumulation in industry for economic development, the Swedish industrial policy (incl. R&D subsidies to industry, government procurement, etc) deliberately favoured capital accumulation in large companies and consolidation of industries in the 1970s-1980s.

Yet, Sweden failed to adjust in the post oil crisis situation of the 1980s. Both the public policy stance and the prevalent corporatist practice were interested in preserving the existing *status quo* and did not favour any major changes, however needed for increasing the competitiveness of the Swedish economy. This in turn has led to the increasing outward FDI by Swedish multinationals, and the lack of highly qualified workforce at home. Also a series of ‘offensive devaluations’ of the national currency was officiated to sustain the external balance of the economy and to preserve the cost competitiveness of the dominant industrial conglomerates.²⁹

All in all, Sweden has enjoyed only limited success in exiting the old dominant industries in favour of entering new, more knowledge-intensive industries, but the public policy is strongly there to try to cater for the needs of the multinational corporations based in Sweden. Denmark is a completely different case, as the Danish economy is dominated by relatively small companies specialising in various traditional areas. The typical public policy response in this situation has been to still support various diversification strategies, either based on broad grassroots-level technological learning, attractive design or something else.

²⁸ Christopher Langdon, David Mannes, *Digerati, Glitterati: High-Tech Heroes*, John Wiley & Sons, 2001, chapter with Jorma Ollila; Petri Rouvinen, Pekka Ylä-Anttila, “Little Finland’s Transformation to a Wireless Giant”, 94, Chapter 5 in S. Dutta, B. Lanvin, F. Paua (ed), *The Global Information Technology Report 2003-2004*, New York, Oxford University Press 2003, 87-108; Sakari Luukkainen, “Industrial Clusters in the Finnish Economy”, in *Innovative Clusters: Drivers of National Innovation Systems*, Paris, OECD, 2001.

²⁹ Magnus Blomström, Ari Kokko, Frederik Sjöholm, *Growth and Innovation Policies for a Knowledge Economy: Experiences from Finland, Sweden, and Singapore*, Stockholm School of Economics, Working Paper 156, October 2002.

In spite of all the differences, each of the Scandinavian countries has been actively enforcing a move towards new and/or an upgrade of the existing traditional industry in its own way.

4.3. The three Baltic States and Poland

Although Finland and the Baltic States of Estonia, Latvia and Lithuania were among the most industrialised parts of Tsarist Russia, they inherited, when becoming independent at the end of the second decade of the 20th century, a relatively uncompetitive industry. In this respect, the Baltic States found themselves once more in a similar situation after the restoration of independence in the early 1990s.³⁰

For the Baltic States, the effects of the collapse of the Soviet Union were not limited to the introduction of their own currencies, but required a rather drastic transformation from the former state-controlled economy to the democratic market economy with all the related complications. While the rest of the ex-USSR economies were still shrinking and unstable, the Baltic States, which had had fairly specialised functions in the Soviet economic system, had lost their main export outlets.

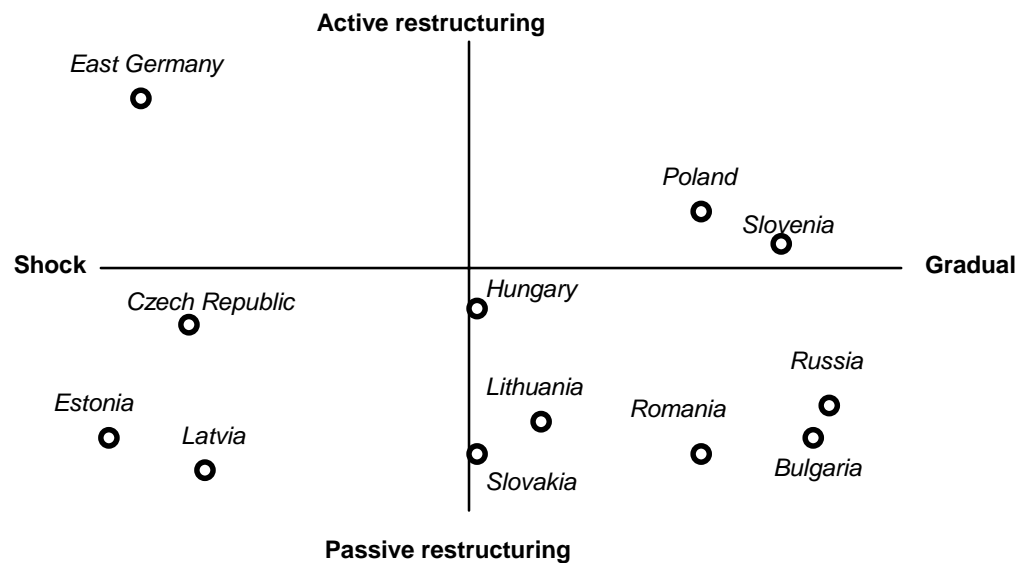
The shift to the Western markets could not take place swiftly either, as the industry needed major investment, and the development of new market niches and the reorientation to the Western markets also needed time. Yet, time was not available to the Baltic States, as for most of Central and Eastern Europe, to cope with these major economic and political changes.

The Estonian and Latvian policy strategies for reintegration into the world economy largely resorted to *shock therapy*. As the industry inherited was considered to be mostly uncompetitive, rapid privatisation to foreign strategic investors (Figure 4, page 13) was frequently seen as the most feasible approach for both generating foreign exchange revenues needed rather badly, bringing in new organisational practices and technologies, and at the same time also ensuring access to the Western or Nordic markets.

The Lithuanian approach to the renovation and privatisation of industry was much more gradualist but still relatively passive, while Russia tried to delay the adjustment with still no support for adjustment. In fact, Poland and Slovenia were the only countries in CEE, which attempted to combine the gradual approach with active support for the restructuring of industrial R&D from the government. (Figure 7)

³⁰ For a more detailed account of the developments in Estonia in the 1920s-1930s, see for example: Anu Mai Kõll, Jaak Valge, *Economic Nationalism and Industrial Growth: State and Industry in Estonia – 1934-1939*, Acta Universitatis Stockholmiensis, Studia Baltica Stockholmiensia, Almqvist & Wiksell, 1998.

Figure 7. Reconstruction of industrial research and development activities in Central and Eastern Europe



Source: Slavo Radosevic, *Restructuring and reintegration of Science and Technology Systems in Economies in Transition*, 1996.

As described earlier in the literature, a rapid liberalisation of markets without time and support for restructuring leads first of all to wiping out the most knowledge- and technology-intensive industries of the relatively less competitive economy. The *Vanek Reinert effect* maintains basically that unequal economic integration on completely free market terms leads to a gradual deindustrialisation of the relatively weaker economy.³¹

This is to an extent, what has also been demonstrated in the 1990s in the Baltic States and Russia. The move away from the plan towards the market was expected to shift Russia's productive structure away from heavy industry and production goods towards consumer goods and light goods.³² The outcome of the actual transition was quite the opposite – the more technology- and knowledge-intensive industries were wiped out first.³³

Much of the restructuring has already accrued in the Baltic States and Poland through the Europe Agreements, demolishing virtually all trade barriers in the region (except with Russia), and the accession process itself. Therefore, the direct gains resulting from the EU enlargement in May 2004 could have only been quite modest.

³¹ Reinert has described this as the 'winner-killing effect' and Jaroslav Vanek has called it 'the herbicide effect of international trade' and 'destructive trade'. Erik S. Reinert (ed), *Globalisation, Economic Development and Inequality: An Alternative Perspective*, Cheltenham, Edward Elgar, 2004.

³² See for example Gorbachev's interventions in the XIXth Conference (1988) (page 14) and XXVIII Congress (1990) (page 12) of the CPSU.

³³ A large part of the nominally high-tech ICT and electronics manufacturing in Estonia is in fact classical cheap labour based *maquila industry*. See: Marek Tiits et al, *Made in Estonia*, Tartu, IBS, 2006.

Shallow integration (chiefly markets, much less production) into the European economic system, and the closing down of unprofitable enterprises have led to one-time productivity gains and rapid economic growth in the Baltic States. Although industrial output began to increase again in the mid-90s, this has been taking place largely by the increase of labour-intensive and resource-based industries, while high-tech industry has continued to lose grounds. Thus, the industry has become less competitive, while the booming finance, insurance and real estate (FIRE) sectors together with mushrooming domestic consumption funded largely by portfolio inflows and foreign borrowing make the sustainability of the current growth pattern fairly dubious.³⁴

Although we observe the emergence of a closely integrated economic system in the Baltic Sea region, the Nordic countries and Germany specialise in “good trade” while the Baltic States and Poland have been increasingly specialising in “bad trade”, not conducive for a sustained longer-term increase of living standards.³⁵

5. Conclusions and the directions for future research

Each period of economic difficulties or even a milder crisis offers a window of opportunities for strategy/policy change. Those who are well-prepared in advance, have the highest chances to succeed in reforms, while failure to manage the change properly can easily lead to *destructive destruction*, as opposed to Schumpeterian *creative destruction*, i.e. wiping out the earlier competitive advantages of a country or region, leaving the citizens with next to nothing.

There are three main lines of action that have to be taken into account when designing a broadly-oriented socio-economic development strategy, namely:

- Policies affecting the pressure for change (competition policy, trade policy and the stance of general economic policy);
- Policies affecting the ability to innovate and absorb change (human resource development and innovation policy);
- Policies designed to take care of losers in the game of change (social and regional policies with redistribution objectives). (Table 15)

³⁴ See also: Johannes Stephan, *Evolving Structural Patterns in the Enlarging European Division of Labour: Sectoral and Branch Specialisation and the Potentials for Closing the Productivity Gap*, Halle, Institut für Wirtschaftsforschung Halle – IWH, 5/2003; Alfred Watkins, Natalia Agapitova, *Creating 21st Century National Innovation System for a 21st Century Latvian Economy*, Policy Research Working Paper 2357, World Bank, 2004.

³⁵ Fully compatibly with modern theories on the importance of ‘knowledge based economy’, exporting natural resources constituted in the orthodoxy of English economic policy “bad trade” until long after Adam Smith and David Ricardo. See: Charles King, *The British Merchant or Commerce Preserv’d*, London, John Darby, 1721.

Table 15. Policy packages affecting the pressure for change and the ability to cope with it in a globalising world



Adopted from: Bengt-Åke Lundvall, Susana Borrás, *The Globalising Learning Economy: Implications for Innovation Policy*, Report to the European Commission based on contributions from seven projects under the TSER programme, December 1997, chapter 11.

Until very recently, the policy discourse in the Baltic States and Poland, as well as several other CEE countries, have concentrated on the first line of action, i.e. increasing competitive pressures for the inducement of change, while giving much less attention to the other lines of action, which would actually ensure the ability to cope with the change without mounting huge social and regional disparities.

Yet, increasing public subsidies alone are clearly not enough either. The earlier experience of the EU regional policy shows vividly that massive structural aid does not necessarily lead to higher sustained growth.

Integration between economically divergent countries can easily lead to a flow of industrial production from rich to poor and a reverse flow of labour, proving thus a form of *lose-lose integration*, by which neither side benefits in an increase of living standards. But emerging industrial production linkages and corresponding FDI flows between firms in the region may also lead to positive complementary effects in both countries as well. For this to happen, high degrees of vertical specialisation within industries between neighbouring countries in the Baltic Sea region need to offset by creating in each of the countries certain complementary technological and other strengths which would allow for the increase of industrial competitiveness against global competition.

The future research to follow within the INDEUNIS project will therefore analyse more closely the division of labour within the cross-boarder clusters in the region and specific public policies in place in individual countries, which aim at strengthening these clusters.

6. Appendices

Table 16. Main economic indicators

a) Estonia

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP per capita, current prices, mEUR	2873.7	3659.8	4364.3	4954.7	5226.4	5939.8	6676.1	7472.2	8138.1	9043.1
GDP real growth	4.5	4.4	11.1	4.4	0.3	7.9	6.5	7.2	6.7	7.8
GDP % of EU25 average, PPS per inhabitant	35	37	40	41	41	43	44	46	49	51
Household and private consumption, % of GDP	55.7	59.3	58.3	58.5	57.9	56.9	57.2	58.4	58.1	56.0
General government consumption, % of GDP	27.4	25.4	22.7	21.8	22.4	20.2	19.3	19.2	19.4	19.0
Gross capital formation, % of GDP	26.6	27	30.4	30.3	24.9	27.8	29.2	31.8	32	31.2
External balance – goods, % of GDP	-17.7	-22	-22.8	-20.2	-14.8	-14.1	-13.2	-15.4	-16.9	-17.5
External balance – services, % of GDP	10.1	11	11.9	10.3	10.2	10.5	9.8	8.3	9.3	9.9
Current account, mEUR	-122	-314	-498	-429	-277	-325	-376	-760	-1059	-1196
Current account, % of GDP	-4.2	-8.6	-11.4	-8.7	-5.3	-5.5	-5.6	-10.2	-13.0	-13.2
Central government debt, % of GDP	:	:	6.4	5.6	6.0	4.7	4.7	5.8	6.0	5.5

b) Latvia

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP per capita, current prices, mEUR	3741.8	4397.0	5403.2	5911.4	6752.3	8379.3	9227.4	9792.4	9860.8	11023.8
GDP real growth	-0.9	3.8	8.3	4.7	3.3	6.9	8.0	6.4	7.2	8.3
GDP % of EU25 average, PPS per inhabitant	30	31	33	34	34	35	37	39	41	43
Household and private consumption, % of GDP	63.5	68.5	67.4	64.9	63.5	63.0	62.9	62.7	62.9	62.8
General government consumption, % of GDP	24.4	21.6	20.8	23.5	22.7	21.0	20.6	21.1	21.6	20.1
Gross capital formation, % of GDP	14.3	17.4	19.5	24.1	23.3	23.6	26.6	26.3	28.3	33.1
External balance – goods, % of GDP	-11.9	-14.3	-13.9	-17.0	-14.2	-13.6	-16.2	-16.0	-18.1	-20.5
External balance – services, % of GDP	9.7	6.9	6.0	4.6	4.7	5.9	6.2	5.9	5.2	4.4
Current account	-22	-220	-306	-572	-600	-393	-707	-650	-809	-1371
Current account, % of GDP	-0.6	-5.0	-5.7	-9.7	-8.9	-4.7	-7.7	-6.6	-8.2	-12.4
Central government debt, % of GDP	:	:	:	9.8	12.6	12.9	15.0	14.2	14.6	14.7

c) Lithuania

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP per capita, current prices, mEUR	4886.8	6357.5	8680.9	9896	10168.5	12320.3	13504.9	14928.3	16271.1	17926.3
GDP real growth	3.3	4.7	7.0	7.3	-1.7	3.9	6.4	6.7	10.4	7.0
GDP % of EU25 average, PPS per inhabitant	34	35	37	39	37	38	40	42	45	48
Household and private consumption, % of GDP	66.8	66.6	63.0	61.7	65.5	65.2	65.1	64.5	64.9	65.3
General government consumption, % of GDP	21.9	22.3	22.8	24.3	22.2	21.6	19.8	19.3	18.5	17.8
Gross capital formation, % of GDP	22.4	20.7	24.6	25.6	22.5	19.6	20.5	21.7	22.4	23.2
External balance – goods, % of GDP	-10.9	-11.1	-11.7	-13.7	-13.0	-9.7	-9.2	-9.4	-9.2	-10.4
External balance – services, % of GDP	-0.2	1.5	1.4	2.2	2.8	3.3	3.8	3.8	3.4	4.1
Current account	-472	-569	-866	-1153	-1127	-738	-640	-772	-1116	-1442
Current account, % of GDP	-9.7	-9.0	-10.0	-11.7	-11.1	-6.0	-4.7	-5.2	-6.9	-8.0
Central government debt, % of GDP	:	:	15.2	16.5	23.0	23.8	22.9	22.4	21.4	19.6

d) Poland

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP per capita, current prices, mEUR	103948.4	121094.8	135685.5	150482.7	154354.2	180601.3	207128.2	202497.1	185226.5	195205.5
GDP real growth	2.7	6.0	6.8	4.8	4.1	4.0	1.0	1.4	3.8	5.3
GDP % of EU25 average, PPS per inhabitant	41	42	44	45	45	46	45	45	46	47
Household and private consumption, % of GDP	60.4	62.3	62.7	62.5	63.2	63.9	64.9	66.4	66.0	64.9
General government consumption, % of GDP	19.0	18.7	18.4	17.8	17.9	18.0	18.0	18.1	17.6	16.9
Gross capital formation, % of GDP	18.4	20.5	23.0	24.6	24.9	24.7	20.7	18.9	18.9	20.0
External balance – goods, % of GDP	1.6	-3.7	-6.5	-7.9	-6.8	-7.4	-4.1	-3.8	-2.7	-2.5
External balance – services, % of GDP	0.6	2.3	2.4	2.9	0.8	0.8	0.4	0.4	0.2	0.7
Current account	653	-2571	-5065	-6156	-11716	-10796	-5996	-5396	-4112	-2953
Current account, % of GDP	0.6	-2.1	-3.7	-4.1	-7.6	-6.0	-2.9	-2.7	-2.2	-1.5
Central government debt, % of GDP	:	:	44.0	39.1	40.3	36.8	36.7	41.2	45.3	43.6

e) Denmark

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP per capita, current prices, mEUR	139129.2	145323.9	150414.1	155163.3	163199.9	173597.9	179226.1	183353.6	188650.9	196291.1
GDP real growth	2.9	2.5	2.7	1.8	2.8	3.3	0.7	0.5	0.8	2.0
GDP % of EU25 average, PPS per inhabitant	125	126	126	125	127	127	126	122	123	123
Household and private consumption, % of GDP	51.2	50.7	50.6	50.7	49.4	47.7	47.3	47.8	48	48.6
General government consumption, % of GDP	25.2	25.4	25	25.6	25.7	25.1	25.7	26.4	26.4	26.6
Gross capital formation, % of GDP	19.5	19	20.8	21.5	19.8	21.2	20.4	19.9	19.5	19.7
External balance – goods, % of GDP	3.7	4.1	3.4	2.2	3.8	4.1	4.7	4.6	4.5	3.8
External balance – services, % of GDP	0.3	0.8	0.3	0	1.2	1.9	2	1.2	1.6	1.2
Current account	954	2106	813	-1729	2721	2662	5383	3676	5017	4813
Current account, % of GDP	0.7	1.4	0.5	-1.1	1.7	1.5	3.0	2.0	2.7	2.5
Central government debt, % of GDP	73.2	69.7	65.7	61.2	57.7	52.3	48.0	47.6	45.0	43.2

f) Finland

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP per capita, current prices, mEUR	100139.7	101366.3	109075.0	116643.5	120965.0	130859.0	136472.0	140853.0	143807.0	149725.0
GDP real growth	4.4	3.8	6.2	5.0	3.4	5.0	1.0	2.2	2.4	3.6
GDP % of EU25 average, PPS per inhabitant	106	106	111	114	112	114	114	114	113	114
Household and private consumption, % of GDP	51.8	52.5	50.9	49.9	50.6	50.0	50.6	51.1	52.3	51.9
General government consumption, % of GDP	22.7	23.2	22.2	21.4	21.5	20.6	20.9	21.6	22.2	22.5
Gross capital formation, % of GDP	18.0	17.0	18.9	19.9	19.4	20.5	20.4	19.3	18.8	19.4
External balance – goods, % of GDP	9.6	9.0	9.6	9.8	9.5	11.4	10.4	9.6	7.9	6.9
External balance – services, % of GDP	-2.1	-1.6	-1.6	-1.0	-1.0	-2.4	-2.2	-1.6	-1.7	-1.4
Current account	3987	3953	5909	6594	7277	9961	9679	10642	5683	5942
Current account, % of GDP	4.0	3.9	5.4	5.7	6.0	7.6	7.1	7.6	4.0	4.0
Central government debt, % of GDP	57.1	57.1	54.1	48.6	47.0	44.6	43.6	42.3	45.2	45.1

g) Germany

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP per capita, current prices, mEUR	1929422.0	1921660.5	1907246.2	1952107.0	2012000.0	2062500.0	2113160.0	2145020.0	2163400.0	2215650.0
GDP real growth	1.9	1.0	1.8	2.0	2.0	3.2	1.2	0.1	-0.2	1.6
GDP % of EU25 average, PPS per inhabitant	122	120	118	116	115	113	111	110	109	109
Household and private consumption, % of GDP	57.7	58.2	58.2	57.9	58.4	58.9	59.6	59.1	59.5	59.2
General government consumption, % of GDP	19.6	19.8	19.4	19.1	19.2	19.0	18.9	19.2	19.2	18.6
Gross capital formation, % of GDP	22.2	21.1	21.1	21.6	21.5	21.8	19.5	17.2	17.2	17.2
External balance – goods, % of GDP	2.5	2.9	3.3	3.5	3.3	3.0	4.8	6.4	6.1	7.0
External balance – services, % of GDP	-2.0	-2.0	-2.1	-2.2	-2.4	-2.7	-2.8	-1.8	-2.1	-2.0
Current account	-22776	-11149	-8402	-13573	-24001	-32676	3316	48155	45249	83966
Current account, % of GDP	-1.2	-0.6	-0.4	-0.7	-1.2	-1.6	0.2	2.2	2.1	3.8
Central government debt, % of GDP	57.0	59.8	61.0	60.9	61.2	60.2	59.6	61.2	64.8	66.4

h) Sweden

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP per capita, current prices, mEUR	189698.1	213177.1	218263.2	221162.8	235767.8	259907.0	245178.2	256840.1	267250.5	279007.7
GDP real growth	4.1	1.3	2.4	3.6	4.6	4.3	1.0	2.0	1.5	3.6
GDP % of EU25 average, PPS per inhabitant	118	117	116	114	118	119	115	114	114	116
Household and private consumption, % of GDP	48.9	49.1	49.3	49.0	48.9	49.1	48.8	48.6	48.7	48.1
General government consumption, % of GDP	27.2	27.8	27.2	27.4	27.4	26.6	27.0	27.9	28.3	27.7
Gross capital formation, % of GDP	17.2	16.6	16.2	17.2	17.5	18.5	17.7	16.7	16.2	16.1
External balance – goods, % of GDP	6.9	7.0	7.7	6.9	6.7	6.5	6.9	6.7	6.3	6.9
External balance – services, % of GDP	-0.2	-0.4	-0.5	-0.6	-0.5	-0.7	-0.4	0.0	0.4	1.1
Current account	3609	7559	9112	6181	8347	8276	10826	13714	20329	22750
Current account, % of GDP	1.9	3.5	4.2	2.8	3.5	3.2	4.4	5.3	7.6	8.2
Central government debt, % of GDP	73.7	73.5	70.6	68.1	62.7	52.8	54.3	52.4	52.0	51.1

Source: *Eurostat*, September 2005.

Table 17. Inward foreign direct investments in the Baltic Sea region, millions of US dollars

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Denmark	Inflows	1132	1553	1017	1713	5006	4181	768	2798	7724	16750	33818	11525	6630	2595
	Stock	9192	14712	14387	14618	18083	23801	22340	22268	35694	47645	73574	75438	82809	100191
	growth	33%	60%	-2%	2%	24%	32%	-6%	0%	60%	33%	54%	3%	10%	21%
Finland	Inflows	787	-247	407	866	1577	1063	1109	2114	12143	4610	8834	3732	7919	3296
	Stock	5132	4220	3689	4217	6714	8465	8797	9530	16455	18321	24272	24070	34006	46223
	growth	29%	-18%	-13%	14%	59%	26%	4%	8%	73%	11%	32%	-1%	41%	36%
Sweden	Inflows	1971	6353	-41	3846	6350	14448	5437	10968	19836	60926	23242	11910	11738	1288
	Stock	12636	18085	14057	13127	22650	31089	34784	41513	50986	73314	93970	91587	119547	151895
	growth	16%	43%	-22%	-7%	73%	37%	12%	19%	23%	44%	28%	-3%	31%	27%
Germany	Inflows	2962	4727	-2089	368	7134	12025	6573	12244	24593	56077	198276	26414	50516	27265
	Stock	111231	123992	119965	116134	139154	165914	162492	158832	206776	235259	271611	272153	297785	386514
	growth	32%	11%	-3%	-3%	20%	19%	-2%	-2%	30%	14%	15%	0%	9%	30%
Estonia	Inflows	—	—	82	162	215	202	151	267	581	305	387	542	284	891
	Stock	—	—	96	258	473	674	825	1148	1822	2467	2645	3160	4226	6511
	growth	—	—	—	169%	83%	42%	22%	39%	59%	35%	7%	19%	34%	54%
Latvia	Inflows	—	—	29	45	214	180	382	521	357	347	413	132	254	300
	Stock	—	—	176	221	436	615	936	1272	1558	1795	2084	2328	2751	3282
	growth	—	—	—	26%	97%	41%	52%	36%	22%	15%	16%	12%	18%	19%
Lithuania	Inflows	—	—	10	30	31	73	152	355	926	486	379	446	732	179
	Stock	—	—	107	137	321	352	700	1041	1625	2063	2334	2665	3981	4960
	growth	—	—	—	28%	134%	10%	99%	49%	56%	27%	13%	14%	49%	25%
Poland	Inflows	89	291	678	1715	1875	3659	4498	4908	6365	7270	9343	5714	4131	4123
	Stock	109	425	1370	2621	3789	7843	11463	14587	22461	26075	34227	41247	48320	55268
	growth	—	290%	222%	91%	45%	107%	46%	27%	54%	16%	31%	21%	17%	14%
Russian Federation	Inflows	—	—	1161	1211	690	2066	2579	4865	2761	3309	2714	2748	3461	7958
	Stock	—	—	1066	2277	2272	2420	2685	2789	2703	1077	32204	55445	72424	86772
	growth	—	—	—	114%	0%	7%	11%	4%	-3%	-60%	2890%	72%	31%	20%

Source: *FDI database*, UNCTAD, October 2005.

Table 18. Manufacturing value added structure, % share

ISIC(Rev.3) - Branch	ESTONIA		LATVIA		LITHUANIA		POLAND		GERMANY		FINLAND		SWEDEN		DENMARK	
	1993	2003	1993	2003	1993	2003	1993	2003	1993	2003	1993	2003	1993	2003	1993	2003
15 – Food and beverages	21.2	7.5	32.6	29.2	32.8	22.6	19.0	14.6	8.1	7.7	10.6	6.9	8.7	6.2	21.3	18.6
16 – Tobacco products	0.5	0.4	0.3	0.8	0.9	0.9	0.9	0.3	0.4	0.3	0.2	0.2	0.5	0.5	1.3	0.8
17 – Textiles	4.6	6.4	6.9	4.8	10.6	6.8	4.2	2.3	1.8	1.0	1.3	0.8	1.1	0.7	2.3	1.6
18 – Wearing apparel. fur	5.5	2.9	2.5	4.8	6.0	7.2	5.0	3.4	1.3	0.4	1.4	4.6	0.2	0.1	1.4	0.8
19 – Leather, leather products and footwear	1.3	0.6	2.4		1.6	0.6	1.5	0.7	0.4	0.2	0.5	0.2	0.2	0.1	0.4	0.2
20 – Wood products (excl. furniture)	2.7	9.0	5.8	18.6	3.6	8.0	3.5	3.5	1.9	1.5	5.4	4.8	4.2	3.9	2.2	2.4
21 – Paper and paper products	0.3	1.1	0.3	0.7	2.8	2.1	2.4	3.6	2.3	2.0	22.1	16.3	13.6	11.4	2.6	1.8
22 – Printing and publishing	4.5	3.8	4.8	5.4	4.2	5.0	4.4	6.0	5.9	4.7	7.0	4.7	8.0	5.5	8.2	7.5
23 – Coke, refined petroleum products. nuclear fuel	2.7	2.2		0.1	2.0	1.7	3.2	1.5	0.6	0.5	1.2	0.8	1.3	0.7	0.2	0.1
24 – Chemicals and chemical products	2.3	1.1	9.5	2.2	8.6	8.9	8.7	7.0	10.2	10.8	6.8	5.3	10.6	12.0	9.0	13.0
25 – Rubber and plastics products	0.7	2.7	0.7	1.2	0.9	2.5	4.4	8.3	4.8	4.9	3.2	2.7	2.7	1.9	4.7	4.4
26 – Non-metallic mineral products	3.9	2.7	3.9	2.8	5.5	4.1	5.9	5.7	4.7	3.4	3.0	2.5	2.7	1.9	3.9	4.1
27 – Basic metals	2.9	5.0	1.6	5.8	0.6	0.6	6.5	3.2	4.5	4.3	6.4	5.2	6.5	6.8	1.8	1.3
28 – Fabricated metal products	1.9	4.2	1.3	3.6	1.8	1.7	5.5	10.3	8.3	8.5	5.7	5.4	7.0	7.7	8.3	9.4
29 – Machinery and equipment n.e.c.	2.6	3.0	7.4	5.9	5.9	4.2	8.3	6.7	14.7	14.0	9.5	8.7	10.7	9.5	14.6	13.2
30 – Office, accounting and computing machinery	1.0	1.4	0.3	0.4	0.2	n/a	0.3	0.3	1.0	1.5	0.5	0.5	0.8	0.3	0.3	0.5
31 – Electrical machinery and apparatus	1.0	0.8	4.1	4.7	1.1	4.2	3.6	4.7	7.6	8.0	3.3	3.2	3.0	3.0	2.6	4.5
32 – Radio, television and communication equipment	2.3	0.8	2.5	1.0	4.6	10.6	1.5	2.6	1.9	3.0	3.8	20.7	3.5	6.5	2.3	3.3
33 – Medical, precision and optical instruments	1.9	1.8	0.7	1.0	0.8	0.3	1.3	1.6	3.2	3.6	1.8	1.8	3.3	3.5	3.1	4.0
34 – Motor vehicles, trailers. semi-trailers	0.8	0.3	3.5	0.2	0.2	0.4	3.1	5.7	11.3	16.1	1.1	1.1	6.9	13.9	1.0	1.5
35 – Other transport equipment	6.2	4.1	5.5	3.5	2.4	2.8	3.1	1.7	2.0	1.7	2.7	1.5	2.6	1.9	2.8	1.4
36 – Furniture; manufacturing n.e.c.	29.5	38.3	3.7	3.2	3.0	4.9	3.8	6.6	3.2	2.0	2.6	2.3	2.2	1.9	6.0	5.7

Source: *UNIDO Statistical Database*, Last update 22 August 2005.

Table 19. Manufacturing value added structure, % share

ISIC(Rev.3) - Branch	ESTONIA		LATVIA		LITHUANIA		POLAND		GERMANY		FINLAND		SWEDEN		DENMARK	
	1993	2003	1993	2003	1993	2003	1993	2003	1993	2003	1993	2003	1993	2003	1993	2003
Food cluster	21.2	7.5	32.6	29.2	32.8	22.6	19	14.6	8.1	7.7	10.6	6.9	8.7	6.2	21.3	18.6
ICT and electronics cluster	3.3	2.2	2.8	1.4	4.8	10.6	1.8	2.9	2.9	4.5	4.3	21.2	6.3	6.5	2.6	3.8
Wood cluster	37.0	52.2	14.6	27.9	13.6	20.0	14.1	19.7	13.3	10.2	37.1	28.1	25.1	19.5	19.0	17.4
Metal and machinery, and automotive cluster	18.8	22.1	22.1	24.9	26.5	21.1	31	26.6	31	28.4	24.8	24.9	20	18.4	28.8	26.5
Textiles and clothing cluster	11.4	9.9	11.8	9.6	18.2	14.6	10.7	6.4	3.5	1.6	3.2	5.6	1.5	0.9	4.1	2.6
Total above 5 clusters	91.7	93.9	83.9	93	95.9	88.9	76.6	70.2	58.8	52.4	80	86.7	61.6	51.5	75.8	68.9

Source: *UNIDO Statistical database*, Last update 22 August 2005.