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Industrial restructuring in transitional Baltic Sea Region countries (Baltic States, Kaliningrad oblast)

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Abstract

This paper analyses recent trends and possible future changes in industrial development in transitional Baltic Sea Region countries (Baltic States, Kaliningrad region) with main focus on Estonia.

The heavy industry collapsed during the first half of the 1990s in most former socialist countries. However, since the second half of the 1990s the industrial output, export, productivity and even employment (in some branches) has increased remarkably. Instead of de-industrialisation, which has been a general trend in Western Europe since the 1970s, we may speak about a re-industrialisation.

Foreign investors have played a major role in the restructuring and efficiency growth of manufacturing in transitional economies. The rising importance of foreign investors and the growing export and re-export to other Baltic Sea Region (BSR) countries indicate that the industries in transitional countries are becoming more and more integrated to developed BSR countries.

Still, especially textiles and electronics that are concentrated on relatively low-skilled subcontracting are characterised by a sharp rise in re-exports. Hypothetically, when considering the price convergence in the case BSR transition countries join the European Union, those low value added booming industries can run into crisis soon and relocate the production to cheaper regions in Russia or South-East Asia.

The empirical part analyses recent industrial development trends (employment structure, exports, investments) in the three Baltic States and Kaliningrad oblast. Finally, I try to compare the industrial restructuring within particular clusters in Estonia and Kaliningrad oblast using statistics and interviews.

Key words: regional integration, transitional economies, industrial development

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1. De-industrialization and re-industrialization

There have been great changes in western world countries' economic structures since the 1970s. Developed countries have passed from industrial society to informational society (Castells, 1996) and lost a great share of their industrial employment because of the ongoing technological development and the globalisation of economic activities.

De-industrialization (DI) is a sustained decline in industrial (especially manufacturing) activity and capacity. It may involve the absolute and/or relative decline in industrial output, employment and means of production (Lee, 1994) or be the inability of a country to compete internationally in the production and the exports of manufactured goods, both for domestic and foreign markets (Dicken, 1992).

DI in developed countries is caused by technological development, tertiarisation of the occupational structure, and development of the informal economy (Pugliese, 1993). DI regions are often characterised by negative trade balance (service production against manufactured goods), negative investment balance, and a fall in industrial output and productivity (Rowthorn, 1997).

Table 1.
DI in developed industrial core areas. Share of manufacturing employment (in percent)

	EU	US	Japan
1970	30.4	26.4	27
1994	20.2	16	23.2
Change	-10.2	-10.4	-3.8

Source: Rowthorn, 1997

Table 2.
Some indicators characteristic to the DI in industrial cores.

	EU	US	Japan
Relative productivity growth	-6.3	-6.1	-6.8
Trade balance 2/	0.3	-1	1.8
Investment	-2.1	-0.4	-2.7
Other factors	-2.3	-2.2	3.1

Source: Rowthorn, 1997

In former socialist countries DI meant mainly declining competitiveness caused by opening from the socialist centrally planned industrial system to the global market economy. Because of technological backwardness, lack of management and marketing skills, a process of underdevelopment resulted in rapidly declining industrial output and employment. One reason behind rapid DI was also the collapse of the Russian market and new border regime between the fresh independent countries and Russia. DI in post-socialist countries was much quicker and deeper than in developed countries. The biggest changes took place in the period 1989-1993. Usually the manufacturing output diminished at least two times and in some cases (Kaliningrad) even more than three

times. The great fall in industrial sector is the main reason why in most transitional regions the Gross Domestic Production at the beginning of the 21st century is still smaller than in 1989.

Roughly DI can be divided into two groups:

- DI in developed countries: caused by technological development, higher salaries in manufacturing and the import of cheaper goods
- DI in post-socialist countries: caused by the collapse of the Soviet market, poor technology, marketing and management skills

However, because of the long lasting industrial culture, available labour and usually favourable input factors, manufacturing tends to grow again in Central and East European countries, differently from developed countries. Of course, political and macroeconomic stability should be underlined as critical preconditions.

Therefore, re-industrialization (RI) may take place in the regions where industrial decline has taken place and where useful infrastructure, cheap and relatively well qualified industrial labour and industrial culture have been maintained. However, often RI avoids declining old industrial areas and concentrates on rural locations close to urban agglomerations (labour) and modern transport nodes (ports, airports, motorways) in the form of the so-called greenfield investments, quite typical e.g. in UK.

Table 3.
Types of industrial restructuring and their most characteristic location.

Types of industry	Location
De-industrialization	Developed countries: Core Western Europe, USA, (lately) Japan
Re-industrialization	Central and Eastern European Countries

However, re-industrialization is often not based on knowledge and innovation, which are of critical importance in long term development. That is why, in case favourable input factors disappear, the rise in industry in such form can not be a long term phenomenon. One possible future trend in transitional countries' industrial sector could be a new de-industrialization. This time the de-industrialization would rather be in "developed countries style", i.e. caused by relocation of cheaper manufacturing branches (relatively expensive labour) and technological development.

Chronologically industrial phases could be divided as following:

- In developed countries: Industrialisation (since 1750) -> de-industrialization (since 1970)
- In Central and Eastern European countries: Industrialisation (since 1850) -> de-industrialization in post-socialist countries style (since 1990) -> re-industrialization (since 1999) -> de-industrialization in developed countries style (since 2010?)

2. Industrial development in transitional BSR countries – re-industrialization after de-industrialization

This chapter analyses recent trends in transitional BSR countries concentrating on Estonia.

2.1 Rapid de-industrialization in early 1990s

Rapid de-industrialization in the beginning of the 1990s took place in all Baltic States as well as in Kaliningrad oblast. In Estonia we can see a sudden de-industrialization in the first half of the 1990s. In 1989 there were 215 000 manufacturing workers, ten years later the correspondent figure was 140 000. The period right before and after the monetary reform reduced industrial output significantly. During period 1989-1999 the share of the manufacturing in Estonian value added declined about twice (from 35.1% to 16.5%, table 4).

Table 4
Share of value added at current prices by economic activity and year.

	1989	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Agriculture and hunting	22	9,2	8,1	6,1	5,8	4,9	4,3	3,7	3,4	3,3	3,0
Forestry		1,2	1,7	2,0	2,1	2,4	2,4	2,6	2,4	2,3	2,2
Fishing		0,7	0,6	0,6	0,5	0,6	0,5	0,3	0,3	0,2	0,2
Mining and quarrying	1,7	1,8	1,8	1,6	1,6	1,5	1,2	1,1	1,0	1,0	1,1
Manufacturing	**35,1**	**20,5**	**20,3**	**19,0**	**18,1**	**18,0**	**17,7**	**16,5**	**18,1**	**18,4**	**18,6**
Electricity, gas and water supply	2	3,6	3,3	3,9	4,1	3,5	3,7	3,6	3,3	3,3	3,2
Construction	9	6,4	6,5	6,4	6,3	6,3	6,7	6,0	6,1	5,9	6,5
Wholesale and retail trade …*	7	15,2	13,9	14,8	15,8	15,1	14,9	14,4	13,9	14,2	14,6
Hotels and restaurants		1,4	1,2	1,2	1,4	1,3	1,3	1,4	1,5	1,4	1,5
Transport, storage and communication	6,9	12,9	11,9	10,9	11,4	12,8	14,3	15,2	16,3	16,4	15,9
Real estate, renting and business activities		7,8	8,8	10,3	10,0	10,4	11,1	11,2	11,0	11,3	11,1
Financial intermediation		3,8	4,2	3,6	3,9	4,2	3,6	4,0	4,1	4,3	4,4
Public administration and defence; compulsory social security	16,1	3,4	4,5	4,9	4,7	4,6	4,4	5,1	4,7	4,5	4,6
Education		5,6	5,7	6,1	5,7	5,5	5,5	6,1	5,7	5,4	5,5
Health and social work		2,6	3,6	4,1	4,3	3,9	3,7	4,0	3,6	3,4	3,3
Other community, social and personal service activities		3,9	3,9	4,4	4,5	5,0	4,8	4,8	4,6	4,5	4,5
VALUE ADDED TOTAL	100	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Unit: percentages

Wholesale and retail trade …*

* Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods.

Source: Statistical Office of Estonia

The deepest decline in manufacturing took place in Kaliningrad oblast. In 1998 the region's industrial output was only 29% of the output in 1990. For example the output in light industry diminished more than 10 times (in 1998 8% of output in 1990, table 5).

Table 5
Diminishing of industrial production in Kaliningrad oblast

	1998% of 1990
Hole industry	29
Energy	47
Machinery and metallurgy	18
Wood processing	22
Construction	11
Light industry	8
Food processing	31

Source: Жданов et al, 2002

In Latvia and Lithuania the de-industrialization was quite similar to Estonia. A bigger fall was characteristic to machinery, chemical industry and light industry. Declining path in industry was characteristic to both Latvia and Lithuania until 2000.

2.2 Re-industrialization since the end of the 1990s

By the end of soviet times in planned economy system (1980-1990) the textile and wood industry in Estonia produced in stable level in physical units. During the restructuring of economy, after the deep decline of production, the wood industry tripled its output in comparison with 1980 level, while the textile sector has been able to recover its output only to the half level till now. The main problem is the loss of a huge market in the east in textiles, quite highly regulated by Western governments. At the same time, wood-exporting industry has few restrictions (Raagmaa et al, 2003).

In Estonia manufacturing output in current prices has risen 4.5 times (from 10 billion EEK to 45 billion EEK) during the period 1992-2000. The production of the light industry rose only 3 times (from 2 billion EEK to 6 billion EEK), but the production of furniture 6 times (from 0.5 billion EEK to 3 billion EEK). Similar rise occurred in machinery and equipment (from 1.1 billion EEK to 6.6 billion EEK). Greatest success, by 14 times was in manufacturing of wood (from 0.44 billion EEK to 6.2 billion EEK).

Estonian export of goods has raised almost 4 times, from 15.6 billion EEK in 1994 to 55.5 billion EEK in 2000. The exports of all industries have raised in current prices, but their shares in total export have changed differently. The share of textile industry has fallen from 17.7% to 13.3%, while the share of furniture export went up from 5.8% to 6.5% and that of wood products from 11.8% to 16.6%. Machinery and equipment rose from 9.7% to 36% (!), but that was mostly due to enormous rise (11 billion EEK) in re-exporting activities in 2000.

In some branches the employment is also rising. In the period 1994-2000 for example the wood processing industry hired 2.9 thousand workers and inside the engineering industry the electronics hired 4 thousand new people. In last years there are also new jobs in textiles.

If we also take into account the fact that manufacturing has been a quickest riser in Estonian GDP both in absolute and relative terms then it is understandable why we can talk about re-industrialization.

In Kaliningrad oblast the industrial output has been rising since 1999. In the period 1999-2001 the industrial output has risen 1.5 times. A bigger rise has taken place in light industry (2.6 times), and in machinery and metallurgy (almost 2.3 times, table 6).

Table 6

The rise in industrial output in Kaliningrad oblast (1998=100)

	2001
Hole industry	155
Energy	137
Machinery and metallurgy	231
Wood processing	190
Construction	249
Light industry	258
Food processing	169

Source: Жданов et al, 2002

Besides the rise in industrial output in Kaliningad also the industrial employment has risen remarkably in last years. In year 2000 there were about 80 thousand workers in industry comparing the year 1998 when there were 71 thousand workers the rise has been more than 12% (Жданов et al, 2002).

In Latvia and Lithuania the rise in industrial production volume has not been as significant as in Estonia. However, since 2000 the rise has still been notable, especially in Lithuania where the economics in last years has been rising 7% per year. Re-industrialization in Latvia and Lithuania begun just 1-2 years later.

Table 7

Industrial production volume indices (1995 = 100)

	1999	2000	2001
Estonia	118.6	135.9	146.4
Latvia	117.0	122.5	131.0
Lithuania	104.2	109.7	128.3

Source: Canstad, 2002/3

If we look at the changes within industrial branches we can notice that in all Baltic States there has been a respectable rise in wood processing industry, metalls and metallurgy, and machinery and equipment. Textile industry has risen more in Estonia and Lithuania (table 8). Chemical industry has been stuggling in Estonia and Latvia, since 2002 it has been rising in Lithuania.

Table 8
Industrial production volume indeces, previous year =100

	EST			LAT			LIT		
	1999	2000	2001	1999	2000	2001	1999	2000	2001
Textile industry	101.2	118.6	114.2	95.0	110.4	103.9	103.4	103.8	107.3
Wood processing industry	123.1	118.8	109.7	111.1	114.4	107.9	105.1	**125.0**	**128.7**
Paper and paper products	114.7	116.5	113.7	97.9	90.5	100.9	94.1	104.5	113.7
Metals and metallurgy	95.0	**126.7**	**122.1**	105.5	110.0	113.1	93.2	123.3	112.8
Rubber industry	92,7	128,1	116,4	110,4	114,7	115,4	106,2	**121,2**	**125,2**
Machinery and equipment	95.6	**149.2**	**127.2**	72.7	**119.7**	**127.5**	85.8	101.8	**125.8**

Source: Canstad 2002/3, www.stat.ee

In conclusion we can say that the biggest rise in Baltic States' industrial sector has been in Estonia, the industry in Lithuania has been rising remarkably since 2001. The main motivation behind re-industrialization in the Baltic States is cheap and relatively well qualified industrial labour, which is an advantage in labour intensive branches. However, re-industrialization is not based on knowledge or innovation and that is why we can say that probably RI is a short term process.

3. Push factors of re-industrialization

This next chapter attempts to summarise and conceptualise briefly the main factors influencing industrial development in non-core post socialist countries using Estonia as a case.

3.1 Availability of skilled labour

In developed countries R&D, innovation, and prototype fabrication were concentrated in highly innovative industrial centres in core areas, generally with good quality of life. Skilled fabrication in branch plants in Western Europe was generally in newly industrialized areas in home town, which for example in US generally meant medium-sized towns. Semi-skilled large-scaled assembly and testing work was located particularly in South East Asia. Low cost manufacturing was mainly located at the periphery in developing countries (Castells, 1996).

In Estonia fast privatisation and restructuring at the beginning of the 1990s did not cause high unemployment as predicted which means that local labour market has high flexibility comparing to the other CEEC (Eamets, 2001). Estonian industry has better chances than many other economies in transition to get after a sudden de-industrialization in the 1990s into a fast industrial development, since the educational level is relatively

high and the possibilities of increasing the export capacity are fairly good in some branches (Kilvits, 1999).

Estonia has also a 45 year experience of forced industry so besides maintained infrastructure and labour we can talk about a kind of industrial tradition, experience and educational base, which makes several CEEC attractive for FDI in industrial branches.

Today, the biggest dissimilarities are in labour cost: approximately 6 times between Estonia and Western Europe. Dissimilarities between labour skills, natural resources and other factors are not that big. That is why labour cost is the main pull factor and cause of FDI and RI.

3.2 Natural resources, real estate and location in relation to consumer markets

The land price is a pull factor of getting FDI in Estonia. Comparing to other Western Europe and even EU candidates, Estonian (Poland, Slovak Republic) land prices in rural regions are remarkably lower (Raim,2001). Although Estonia is a peripheral country it is a rising transit corridor between Russia and Western Europe. This is again a chance to attract FDI and RI.

3.3 Taxation and general entrepreneur milieu – attracting foreign direct investments (FDI)

Among the determinants exerting a positive influence on the Western companies' attitude towards FDI are the market size and prospects for growth. According to surveys great importance is attached to stable environment and to a political and economic climate favourable to foreigners (Kivikari, 1998).

Estonian foreign policy has been liberal and is concentrated on getting FDI (Kilvits, 1999). A good example of a stable policy and favourable investment climate can be given by analysing the features of Estonia's economic development policy where the main priorities have been the stabilisation of national currency and both sustainable continued growth and yearly reductions of inflation, and encouragement of FDI (Venesaar&Venesaar, 2002). Estonia's relatively stable environment (for example from year 1994 to 2000 Estonia's consumer prices have risen only 2.4 times) and progressive economical growth in last years have induced quite good entrepreneurial milieu – one motivation behind growing FDI.

This growth speeds up price convergence. Theoretically speaking, sunset industries will not stay here for a long time. After some years it is not economically reasonable to keep those industrial branches here, because for example in Ukraine the labour costs will stay cheaper. We will touch this alerting trend in 5th chapter.

4. Future shifts in manufacturing – de-industrialization in Western style?

4.1 Re-industrialization as a characteristic for only some branches

If we analyse the volume of output and export of Estonian goods we can see that the biggest rise has been in machinery, textiles and wood processing. At the same time for example the production of foodstuffs and chemical industry has not achieved even 1995 level. So we can say that re-industrialization has not been a general process but rather characteristic to some branches which have favourable input factors.

In period 1995-2000 Estonian industrial output in current prices has risen approx 2 times. In the mentioned period in Tallinn region, which has got the most investments, the rise has been only about 1.5 times, but for example in peripheral and less developed Narva city region the output has risen almost 4 times (Statistical Office of Estonia). It shows that the prices of real estate and the salaries in manufacturing are too high for the branches which are behind re-industrialization (textiles, electronics): already now it is more efficient to relocate low qualified producing to cheaper (peripheral) regions. But if the salaries and prices rise in peripheral regions as well then it is more sufficient to relocate this kind of producing to countries with cheaper industrial labour. Most probably it would mean new de-industrialization.

4.2 High importance of re-export

If we analyse the re-export of Estonian industrial sector then we can see that both machinery and textiles are great re-exporters. Together they gave 88% of Estonian re-export in 2000. At the same time wood processing re-exported only 5-10% of its total export. This means that textile and engineering could easily go to the other countries if they find better conditions (table 6). If we also take into account the fact that those two branches gave in 2000 approximately 50% of all industrial output exports, it is obvious that degradation in textiles and machinery would mean a new de-industrialization.

Table 6

Re-export after inward processing and export for outward processing by groups of goods at current prices, million EEK

	1994	1995	1996	1997	**1998**	1999	**2000***
Foodstuffs	214,3	162,9	208,8	164,8	130,4	99,5	82,9
Mineral products	6,9	51,0	19,6	11,8	2,4	0,0	0,0
Products of chemical industry	60,4	121,3	104,5	126,1	127,0	171,5	398,9
Clothing, footwear, headgear	1306,5	1566,9	1790,9	2407,0	2942,3	3020,1	**3433,3**
Timber, paper and products thereof	34,8	49,7	44,0	65,8	78,3	46,7	43,3
Non-precious metals and metal products	114,0	227,9	358,9	581,8	1145,1	1074,0	1368,7
Machinery and equipment	710,2	1756,7	2040,3	4098,0	6394,9	6662,6	**17562,8**
Transport vehicles	66,9	161,6	49,4	59,7	43,9	60,1	132,0
Furniture etc	176,1	223,0	157,2	201,5	225,1	275,1	376,5
Other goods	71,0	100,0	154,3	204,8	192,4	187,7	338,1
Total	2761,3	4420,9	4927,8	7921,2	11281,7	11597,2	23736,4

* Preliminary

Source: Statistical Office of Estonia

4.3 Convergence of prices and salaries

According to Statistical Office of Estonia, the average income in Estonia in 2001 was 320 euros (gross wages) per month while for example in Estonia's Nordic neighbours (Finland, Sweden) it was more than six times bigger and with Wales the difference is also nearly six times (1716 euros in 2000; New Earnings Survey 2001). If we take into account also the maintained infrastructure and the quality of labour then it is obvious why Estonia is so attractive to FDI (above all from Finland and Sweden) and why it is possible to talk about RI.

In traditional branches where labour cost is the most important factor, Estonia is going to lose its competitiveness to countries with cheaper labour, for example Ukraine, where the labour costs are about 3 times smaller. The same shifts will take place in Hungary (Csösz, 2001): in 2000 the average labour cost was on a par with Malaysia, but about 10% cheaper than in Czech Republic and around 15% cheaper than in Poland. In terms of labour prices, Hungary is far more expensive than China. A relevant example is the German Mannesmann's decision in 2000 to shift its labour intensive production from Hungary to China. So in both cases with the rise of income the low skilled jobs shift to less developed countries, which is a problem for future manufacturing: relocating to cheaper regions in next decade seems to be very likely.

Most likely Estonia will join EU in 2004. This means that prices and salaries will rise remarkably: with the help of the so called catching-up process. As a result we expect at least 25% rise in salaries in a few years. This would definitely affect the most important re-industrialization push factor – the price of the labour. That is why we can say (if the present industrial structure remains) that de-industrialization can not be avoided.

4.4 Low productivity and innovation

Although in most Estonian industrial branches the productivity in period 1994-2000 has risen, it seems that it is a short term phenomenon and bases on favourable circumstances not on knowledge or high technology.

A great part of Estonian entrepreneurs think that renewing their enterprises technological base would rise the productivity. On the other hand the present situation has given a possibility to invest into sectors with greater profitability, but in those branches the rise of productivity is slowing down. Entrepreneurs do not have the pressure to invest into R&D and to co-operate with universities and research centres. Considering that most of Central and Eastern European countries industries are based on low technology, it is really hard to rise investments into R&D quickly to the same level as in developed countries (Teadus- ja Arendusnõukogu, 2002). If we take also into account that Estonia has not got its own industrial policy then we can say that quick restructuring is rather impossible and de-industrialization after some years is a logical step.

5. Conclusions

As a result of the study we can say that since 1995 there has been almost two times rise in Estonian manufacturing production, and in some branches, like textile, electronics and wood processing the rise has been more than three times. In period 1994-2000 the export of goods in current prices has risen 4 times, also new jobs have been created in wood processing, electronics and metal processing and recently in textile. In period 1999-2002 the manufacturing has been the quickest riser in Estonian GDP both in absolute and in relative terms. This trend could be called re-industrialization.

In the Kaliningrad region the industrial production and employment has risen since 1999. Since then the production of branches like light industry, wood processing and machinery have risen approximately two times. Also in industry 9000 jobs have been created in the same period.

In Latvia and Lithuania the industrial rise has not been as remarkable as in Estonia. The reason is that Estonia has received approximately two times more FDIs to industry than the other Baltic States. However, the rise in machinery, wood processing, textile and metal processing industries has been most notable in Latvia and Lithuania as well.

The motivations behind re-industrialization in all the mentioned regions are: relatively cheap and well qualified industrial labour and favourable geographical position (geography matters). Besides that another push factor in the Baltic States is the stable investment climate and in Kaliningrad the Special Economic Zone advantages.

The re-industrialization in these countries is not based on knowledge but rather on cheap labour. Also it is characteristic to only some branches, which are labour intensive and usually subcontractors to Western companies. It may mean that when some of the advantages disappear there might be a turn in re-industrialization. It is probable because of the convergence of labour and others input costs with the rest of Europe, especially if the Baltic countries join European Union. Threats to re-industrialization are also low innovation and technology base. That is why we can say that re-industrialisation is a short term process and will turn to de-industrialization (relocation of cheaper industrial branches) after some years.

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