



Jaakko Kilpeläinen

**DEVELOPMENT OF TRANSIT TRAFFIC VIA FINLAND
IN 1997–2003**



LAPPEENRANTA
UNIVERSITY OF TECHNOLOGY



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Foreword

The Northern Dimension Research Centre (NORDI) is a research institute run by Lappeenranta University of Technology (LUT). NORDI was established in the spring of 2003 to coordinate the research related to Russia.

NORDI's mission is to conduct research into Russia and issues related to Russia's relations with the EU with the aim of providing up-to-date information on different fields of technology and economics. NORDI's core research areas are business and economy, energy and environment, the forest cluster, the ICT sector and the logistics sector. All the aforementioned topics are researched within the geographical area of EU's Northern Dimension. This study is a part of research co-operation between NORDI and VALORE (Value Added Logistic Research) research group.

This volume analyses the development of transit traffic via Finland during the period of 1997–2003. Year 1997 was the last full year before the Rouble collapsed and is therefore a good comparing basis for the development after the collapse of 1998.

This study tries to clarify the change in the volume and content of the traffic via Finland and also looks to the services related to it as well as trying to analyze the reasons for the changes.

I wish to express my gratitude to EU's Interreg IIIA program and to the cities of Imatra, Joutseno and Lappeenranta, the Finnish Freight Forwarders' Association and Finnish Railways Ltd for the financial support they have given to NORDI enabling this logistic research work. I also give my warm thanks to professor Tauno Tiusanen and to professor Anita Lukka for the encouragement and help they have given to me in my work as well as to research assistant Katrina Lintukangas, who has edited and put this report to its final form. Despite their valuable help, I remain responsible for any errors of fact or interpretation.

Hamina, August 25th 2004

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1. Introduction

Russia covers a lot of eastern and north-eastern Europe and northern Asia. It is huge area of 17 million km² extending eastwards from the Baltic Sea to the Pacific Ocean, and southward from the Arctic Ocean to the Caspian Sea. Russia has land borders with Norway, Finland, Estonia, Latvia, Lithuania, Belarus and Ukraine in Europe. Five of these neighbouring countries are former Soviet republics (excluding Norway and Finland). On the Baltic Sea there is an enclave, Kaliningrad region, which is separated from Russia proper by Lithuania and Belarus. Kaliningrad enclave has a common border with Poland.

The population of Russia is about 145 million, 10% of which live in two major urban centres in Moscow (about 10 million) and in St. Petersburg (roughly 4,5 million). The latter, formerly called Leningrad, is on the Baltic Sea (Gulf of Finland).

Russia is not only the largest but also the most resourceful country in the world, as far as natural riches are concerned. Almost all kinds of exploitable mineral resources are available on the territory. Especially valuable are the plentiful reserves of fossil energy bearers (oil, gas and coal). In many parts of Russia, preconditions for successful agriculture and forestry are given. Russia's endowment with material resource base is unique in the world. This fact is a potential source of economic success on the long run.

It is a well-known fact that the centrally planned Soviet system skewed economic development in favour of input products and military-related branches, neglecting consumer goods and agriculture. Terrible economic waste took place in the system of irrational prices. Thus, the allocation of resources had no rational base to minimize costs. Permanent shortages occurred and natural environment was extremely severely damaged. Energy and raw-material intensity of Soviet production was several times higher than in the West.

The extensive resource base prolonged the lifetime of central planning: the Soviet Union had resources of her own to be wasted. There were even raw material surpluses for export.

When the Soviet system collapsed in 1991, Russia inherited the big bulk of the Soviet resource base. At the same time, Russia inherited also the external debt burden of the communist empire. In the post-Soviet era, Russia has been seeking allocative efficiency via market system.

Finland is a country in northern Europe covering an area of 338.000 km², 10% of which is inland waters. The population of Finland is about 5 million. Finland is bordered on the north by Norway, on the northwest by Sweden, on the west by the Gulf of Bothnia, on the south by the Gulf of Finland, and on the east by the Russian Federation, with which the borderline is over 1.300 km. About one third of the territory is lying north of the Arctic Circle.

In the Middle Ages Finland became a colony of the Swedish empire. During the Napoleonic wars, Sweden lost Finland to Russia, and thus, Finland became an autonomous province (called Grand Duchy) of the Russian empire for over 100 years. After the communist revolution in Russia, Finland became an independent state in 1917 with a democratic political system combined with market economy.

Due the Finland's historical background, the nation has been accustomed to adopt various ideas from different cultures. In the post-war period, Finland has literally been between east and west using trade policy measures in both directions.

Finland is not endowed with extensive natural riches. Minerals account for a very small share of the economy, although Finland mines some strategic metals. Peat is the only naturally occurring fuel in Finland.

Lumbering is traditionally a major industry in Finland, and its production is one of Europe's largest. In the industrial history of Finland the principal forest products have been sawn timber, plywood, as well as pulp and paper. Traditionally, Finnish industries are mainly situated in the southern part of the country, from where export products have always been transported by ships. It is often said that economically Finland is an island, because it is separated by sea from her main export markets.

One of the major wood-processing industry clusters is situated in the south-eastern corner of the country. This pulp and paper production cluster has continuously been depended on export markets, and thus, there are two important, traditional port facilities on the Gulf of Finland, east of the capital city Helsinki. These two harbour cities, Hamina (very close to the Russian border) and Kotka (a bit further off the Russian border), play a decisive role in this study.

The post-war economic history of Finland is full of exciting details. During the World War II, Finland had two separate wars against the Soviet Union, but maintained her independence. Finland lost over ten per cent of her territory and had to pay high war reparations of \$300 million (in pre-war dollars). Human losses of the war were heavy.

A major share of the war reparation were determined to be metal products, which meant that this extra economic burden could not be settled in the traditional export products of wood-processing. Thus a forced diversification of the Finnish industry took place.

In the post-war reconstruction, the Soviet Union needed an endless amount of investment goods, and therefore, the giant communist state started a bilateral trading system with Finland. In this system based on clearing payments, five-year protocols and yearly delivery schemes were signed between the trading partners. Soviet Union, which applied a strict state monopoly of foreign trade, demanded mainly machines and vessels from Finland, which received mainly primary goods from her eastern trading partner.

In every clearing-arrangement a book-keeping money was created. Export earnings and import payments were recorded in a special clearing-ruble account kept in simultaneously in Helsinki and Moscow. By definition, relative balance was supposed to be achieved. In this respect, certain flexibility was allowed in Fenno-Soviet clearing practice.

This system, in which actual trade transactions were concluded on the basis of world market prices, functioned rather well. The Soviet partner demanded mainly investment goods and paid for them with primary goods. In this bilateral trade energy bearers (oil and oil products) became predominant import category for Finland.

During the first oil crisis in the early 1970s, the oil bill in clearing trade exploded as a result of world market price hikes. Thus, the Soviet partner had suddenly much more purchasing power in terms of Fenno-Soviet clearing: Finland was able to increase her exports to the eastern neighbour considerably. The same effect was visible during the second oil crises in the turn of the 1970s and 1980s. The importance of the Soviet trade in Finland increased substantially.

In the mid-1980s, the oil price collapsed. This meant in actual fact that the Soviet partner in clearing trade had substantially less export income in terms of clearing. However, Finnish exports to the Soviet Union continued on a rather high level. Thus, Finland became a clear creditor in clearing trade: the value of Finnish exports exceeded imports in bilateral trade in the end 1980s. When the Soviet Union collapsed and the clearing arrangement was cancelled, there was considerable Soviet debt in the bookkeeping. Post-Soviet Russia has reduced this debt, but it is not yet eliminated.

In the early 1990s, Finland suffered a severe economic crisis, which was partially caused by the structural changes in the foreign trade. It was not possible to find new western demand for all those

products, for example for ships, which were delivered previously to the Soviet market. Considerable restructuring of the Finnish export became necessary.

In this context it is important to note that the big bulk of Finnish exportables always went to the west. In the post-war period, Finland took care of her western trade links. In the 1960s, the country became an associate member of EFTA (European Free Trade Association), and signed a free trade agreement with EEC (now EU) in 1973. Finland became a member of EU in the mid-1990s together with Sweden and Austria. Finland joined EMU (European Monetary Union) as one of its 12 original members and is thus in the euro-zone.

In the early years of 21st century, the living standard in Finland has been roughly on the EU (15 countries) average, which means that GDP (Gross Domestic Product) per capita PPP (Purchasing Power Parity) adjusted is about € 25.000 a year. This is about three times more than the equivalent figure in Russia.

Thus, the long border between Finland and Russia is in many respects extremely interesting landmark. This rather short research report concentrates on one aspect of crossing this border: transit traffic between Finland and Russia. This is the first one of two separate studies dealing with logistics of the border region between Finland and transitional Russia.

In the Soviet era, it was rather difficult to gather reliable information on economic development in the centrally planned economies. Statistics were not necessarily reliable. Transition has obviously helped to alleviate this problem. However, it is evident that not all data dealing with post-communist societies is accurate. It can be assumed that there are still some distortions left in the official figures.

It is a rather well-known fact that the so-called practice of double invoicing takes place on the Finnish-Russian borderline. This practice consists of reporting artificially low volumes to Russian customs officials when western goods are imported in Russia. The objective of this trick is to obtain tax advantages (via low customs tariffs), which hurts the Russian state. It can be assumed that exporters and importers have mutual interest in using this method of tax evasion. Thus, foreign trade statistics based on monetary figures in transitional Russia do not necessarily reflect reality completely accurately.

2. Some features of the Russian transport system

The Russian Federation has 43 sea ports. The most important ones are St. Petersburg and Kaliningrad on the Baltic Sea, Novorossiysk and Sochi on the Black Sea, as well as Vladivostok, Nakhodka, Magadan and Petropavlovsk on the Pacific. A new oil terminal was established in Primorsk, near St. Petersburg.

Transneft, the state-controlled oil pipeline monopoly, is under heavy pressure to increase export capacity because private oil companies are lobbying for permitting private pipelines. The bottleneck in the export capacity is inhibiting oil companies' expansion plans. The state is reluctant to change the present system which gives her the economic and political leverage to control oil export. The state collects heavy taxes of exported oil. Thus, increasing amounts of export oil is carried by railway carriages, mainly to the Black Sea ports. Obviously, this system is not optimal.

Russia has some 150.000 km of railways, of which 86.000 km are in common carrier service and the rest serves specific industries. A bit less than half of the common carrier service is electrified. The railways account for some 40% of domestic cargo transport (in the total figure oil and gas pipeline transport is included). The railway system, which employs no less than 1,5 million people and is of strategic importance to the national economy, badly needs restructuring and modernisation. Financing of railway improvement, however, seems to be unclear.

In the early 21st century, Russia had 920.000 km roads, most of which in poor quality. About 40% of Russian villages cannot be reached on tarmac roads. Obviously, it is difficult to build hard-surface roads over the vast areas of permafrost in northern parts of the country. Road haulage registered a 23 billion tonne-km¹ in 2002, just over one third of its 1991 level, owing to a poor and deteriorating road infrastructure. The government is committed to a major investment programme, with spending of total of \$ 1 trillion² over the next twenty years, of which around \$ 15 billion is supposed to come from private sector (Economist Intelligence Unit, Russia, Country Profile, 2004, p.24).

On the Finnish side of the border, certain special schemes to advance cross-border co-operation have been created. The following text is taken from New Northern Europe Business Magazine, 2001:

¹ Unit of measure of goods transport which represents the transport of one tonne over one kilometre. The distance to be taken into consideration is the distance actually run.

(<http://glossary.eea.eu.int/EEAGlossary/T/tonne-kilometre>)

² 1 trillion = 10¹²

"Finpro, in cooperation with Finnish companies, is running a special New Northern Europe Program in order to speed up international networking and cooperation in the Northern Dimension region. As the development work of the NNE Program, a regional promotion program called "Business Boulevard" has been created. The idea has come from Finnish companies as a handout to the Finnish government as well as to local administrations in Russia to develop trade between Finland and Russia. The main target of this development program is to focus on the certain, limited geographical area from the Finnish border to the city of Moscow. Due to many existing infrastructure facilities, as well as many future plans, also by the EU, it would enable the development of a regional business climate that would also be innovating and useful to other regions in Russia.

This geographical area consists of cities and oblasts that form a kind of business chain from the Finnish/EU-Russian border to the city of Moscow. The chain includes: border stations in Vaalimaa and Nuijamaa, the city of Vyborg, the city of St- Petersburg, Leningrad Oblast, the city of Novgorod, Novgorod Oblast, the city of Tver, Tver Oblast, the city of Moscow and Moscow Oblast. This area has a population of almost 40 million.

Concentrating initially on this kind of limited area will provide better opportunities to see improvement when all of the investments will also be targeted on a smaller area. There are many good examples already showing the benefits of being located in this area. The main reasons are those related to the closeness of the EU/Finnish border as well as the existing infrastructure facilities. The city of Novgorod has been very active in attracting foreign investors, not to mention Moscow and the oblast of course. Also, Tver Oblast and the city of Tver have become a more and more interesting location and some new investments are to be expected in the near future.

To show their belief in Russia, the European Union released a remarkable loan to the city of St. Petersburg, to improve the water treatment system. This is one good example of supporting the Northern Dimension. The "Business Boulevard" program shall be developed to be a kind of "marketplace" for information not only in this geographical area but also in Finnish companies and the value added cooperation they can provide to foreign and Russian investors and companies targeting the Russian market." (Helkiö, 2001)

3. Transit traffic via Finland

Transit traffic analysed in this report is traffic which comes to Finland by sea, by rail or by road and goes through the territory of Finland or via a territory of a Finnish port to a third country. The transit traffic is possible to divide to four different forms according to the ways the transit is forwarded and handled in Finland.

Traditionally the main forms of transit traffic have been

- 1) Traffic coming to Finnish ports from third countries by sea and going further to Russia by road or by rail.
- 2) Traffic coming to Finnish ports by rail or by road from Russia and leaving to a third country by sea.

The development of Transsiberian railway traffic and the growing consumer goods demand of Russian market have also created a new form of transit traffic, which is

- 3) Traffic originating from China, Korea, Japan and other Far East places coming to Finland by rail from the Russian Far East ports for continued handling and going back to Russia by road and by rail.

Since the end of the 1990s there has been a fast growing segment of transit traffic, which is based on sea transport optimising and this transit traffic is

- 4) Traffic coming to Finnish ports from third countries by sea being unloaded from a vessel for further loading to a leaving vessel for departure by sea.

The service of transit traffic in Finland has been traditionally concentrated to the seaports of Helsinki, Kotka and Hamina. The sea connected transit traffic arrives to these ports mainly from the European ports like Hamburg, Bremerhaven, Lübeck and Rostock in Germany, Felixstowe and Tilbury in the U.K., Antwerp in Belgium and Rotterdam in the Netherlands. The cargo either originates from the hinterland of these ports or is coming from Far East and USA. The mentioned ports act as transfer places from the big overseas vessels to smaller feeder vessels, which are serving the Finnish ports. Finnish ports do not have direct container vessels sailing to Far East or USA. The locations of Finnish ports can be seen from the Map 1 following this chapter. In the same map can be seen also the other main ports of Baltic Sea. Map 2 illustrates the transit traffic network in Finland and the border crossing points.

The users have very often owned the major logistics operators in Finland. The port operating companies and shipping lines have been traditionally owned by industry because they are considered to be strategic knots in the delivery chain and therefore the control of these focal points has been arranged through ownership. As such examples can be mentioned following three operators:

- 1) Steveco Group, which is doing port operations in Kotka, Hamina and Lake Saimaa region. Owners of Steveco Group are StoraEnso PLC, UPM Kymmene PLC, Ahlstrom Ltd, Finnlines PLC and Myllykoski Ltd. Mentioned firms, except for Finnlines, are industrial enterprises using the services of Steveco for their cargoes. Finnlines is a major Baltic Sea operating shipping company, where the other owners of Steveco Group had a shareholding interest prior to the company becoming publicly listed.
- 2) Finnsteve Ltd, which is doing port operations in Helsinki and Turku, is a 100% daughter of Finnlines PLC. Finnlines in return had, as explained above, the shareholding connection to the Finnish industry.
- 3) Finnish Railways Ltd, which is a 100% state owned company and currently operates all rail traffic in Finland.

The transit traffic is mainly measured in tons. This is the official system for measuring traffic that goes through the Finnish ports. Also the railways measure their service mainly on a per ton basis. The charges of the Port Authorities and the railways have been based on a per ton system. The exception is the container traffic where the amount of traffic is measured in TEU's. One TEU is a "twenty feet equivalent unit" which refers to the standard length of containers. Also the shortening FEU "forty feet equivalent unit" is used. The container types which are commonly used in transit traffic (and in deep sea traffic general) are:

- 20'/40' DC a twenty feet/forty feet / forty-five feet long dry container.
- 20'/40' /45' HC a twenty /forty / forty-five feet long "hi cubic" container, which is higher than standard and gives a higher cubic metre content for cargo.
- 20'/40'/45' PWHC a twenty/forty / forty-five feet long pallet wide "hi cubic" container, which is designed for standard 120 cm wide pallets having a higher internal width suitable for the pallet size and at the same time having a higher internal height giving a higher cubic metre capacity.
- 20'/40' HPL a twenty feet heavy payload container, which has a higher loading capacity in tons. These are often also pallet wide and "hi cubic".
- 20'/40' Reefer is a twenty feet temperature controlled unit.

- 20'/40'/45 OT is a “open top” unit without the steel roof. The container has a tarpaulin roof, which can be taken off for loading and unloading.

The 45' units are not very commonly used because they are few in amount. The 45' unit is designed to be an alternative for a 13,6 meter long standard trailer commonly used in European and Russian traffic.

In the Finnish traffic statistics the container traffic is mainly converted into tons. The tradition of the statistics is the reason for this. In these statistics the real cargo amount of a container is documented. There is a possibility of inaccuracy in this procedure, because in container traffic the transport is done on basis of the container (TEU or FEU) and the cargo content is mostly stated “STC” meaning “said to contain” because the loading of the container is very often done by the shipper and the transport company and / or the shipping line does not have the possibility to know in reality what is inside the container.

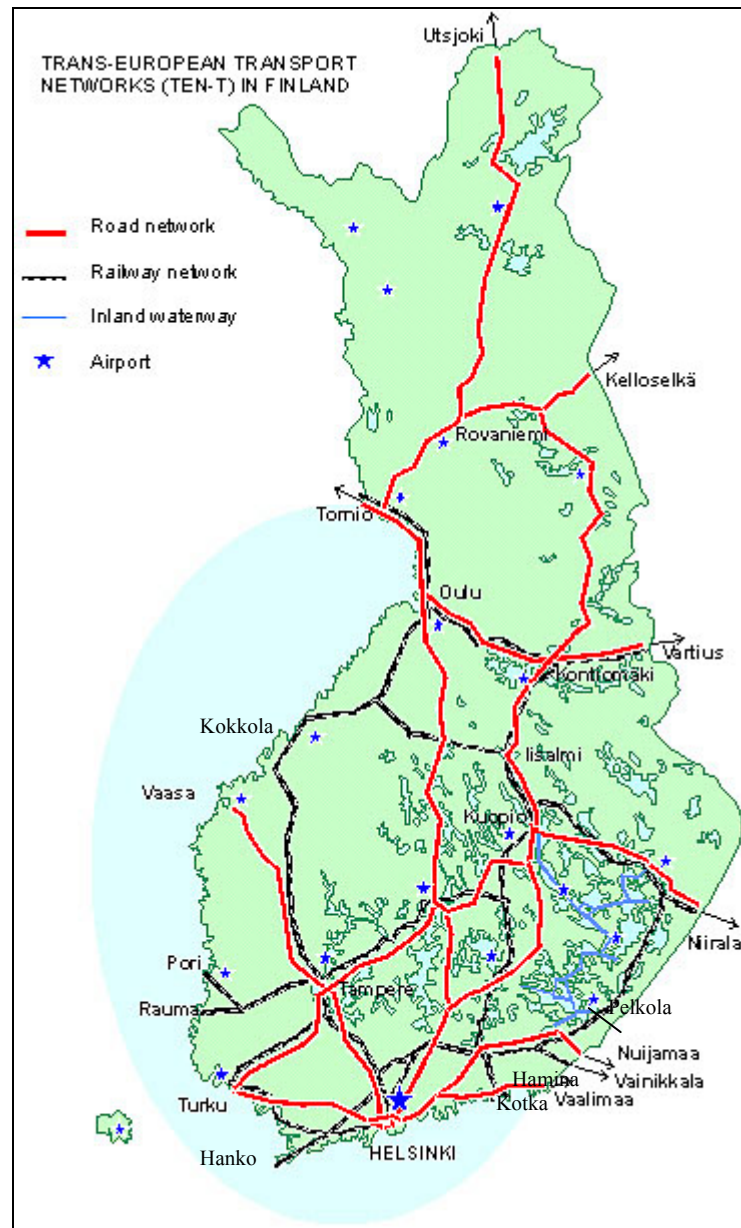
The collapse of Soviet Union and the explosion of the import to Russia in the beginning of the 1990's was a significant event for the Finnish logistics industry. Finnish domestic market was at that time suffering of the banking crisis and unemployment rates went up to a level above 15%. The sudden increase in the traffic from Finland to Russia created new business opportunities for the Finnish transport companies. Especially the Finnish trucking companies quickly entered border crossing traffic while the Russian companies did neither have sufficient know-how nor the internationally accepted equipment. This particular feature has changed a lot, especially after the Rouble collapse. Nowadays Russian trucking companies in Russian ownership and in western ownership control the main part of the border crossing truck traffic. Finnish ports and port operators have benefited of the change in the transport market. In the field of transportation and logistic the unemployment has not grown because of the increase of value added logistical services.

Map 1. The Locations of main Finnish and Baltic Sea ports



(Source: Modified from UNEP/GRID Arendal <http://www.grida.no/baltic/> 02.08.2004)

Map 2. Trans-European transport networks (TEN-T) in Finland and main border crossing points and ports



(Source: Modified from <http://www.mintc.fi/www/sivut/english/facilities/ten-all.htm>, 14.6.2004)

Main land border crossing points: Vartiuss, Niirala, Pelkola, Nuijamaa, Vainikkala, Vaalimaa

Main ports: Kokkola, Turku, Hanko, Helsinki, Kotka, Hamina

4. The post rouble collapse era in transit traffic

4.1. Some main features of the early transition

The Russian rouble collapsed as a consequence of the Russian Central Bank's inability to support the currency in the situation in where the floating of the currency failed and inflation took over and the currency entered a free fall. The collapse took place on the 17th of August 1998. The collapse of Rouble lead to a chain on bankruptcies and many Russian individuals and companies lost their money.

The first five post-Soviet years in the Russian economy can be called the era of stagflation. The overall economic activity measured by gross domestic product (GDP) declined by some 40%. This slump was even deeper than the Great Depression in the USA in the 1930s. Amid economic decline there was a very strong inflationary wave.

Presumably the output decline gives clear evidence of economic deterioration. However, in post-Soviet studies some features of the previous system must be taken into consideration including an overproduction of many input goods, a prevalence of worthless output, the non-existence of some claimed output, and waste of output that was produced. Several Western studies maintain that much of Soviet industry actually destroyed value rather than created it. This value-destroying process takes place when the value of a final product on the world market is less than the value of the raw material that it uses up in the production. Given the very uneconomic nature of this structure with value-destroying activities, systemic change was basically reasonable.

In the very early period of the systemic change, public sector subsidies to industry were cut dramatically which forced many firms to cut production. Facing a steep slump, the officials started pumping money into the economy accelerating the inflation. Solid investment decisions became hard to make since accurate forecasting of economic conditions was virtually impossible. At the same time, a golden era of capital flight was established.

In the early period of systematic change, Russia greatly liberalized the system of foreign trade and simultaneously introduced trade in foreign currencies at market-determinate rates. If the rouble convertibility at a fixed exchange rate had been established, there would have been pressure not to inflate the domestic currency more quickly than in the rest of the world. It is of utmost importance that this option of anti-inflationary pressure via fixing the rouble ER was not used in the early years of Russian transition.

The rouble ER declined dramatically since the onset of the reform, from RUB 22 to USD 1 in 1991 to an average of about RUB 2.200 to USD 1 in 1994. In April 1995 the rouble broke through at 5.000 RUB to one dollar. After that, Russia started experimenting with the exchange rate system of “managed floating”. RUB was allowed to fluctuate within a preterminated band. This policy was modified in the second half of 1996, with the adoption of a “crawling peg”, in which rouble was devalued permanently consistent with the expected inflation rate. This system was applied also in 1997. Abating inflation and the end of economic decline were characteristic features of the Russian development in that year. The difficult period of post-Soviet stagflation seemed to be over.

4.2. The new currency regime and the rouble crisis of 1998

The first years of Russian transition were extremely difficult: in the early 1990s, the Russian economy suffered from stagflation (a combination of economic decline and strong inflation). In the mid-1990s, Russia achieved a certain degree of macroeconomic stability, but no end of recession.

In 1997, it was obviously assumed that the relative stability allowed the use of semi-fixed exchange rate policy, and thus, a managed floating regime was introduced at the beginning of 1998. In this system the central rate of rouble was fixed at RUB 6.2 = USD 1. Fluctuations of 15% were permitted in that system ($\pm 15\%$ around the fixed central rate) to allow market flexibility.

This system of managed floating collapsed in August 1998. Obviously, it is important to estimate whether a similar currency crisis can hit Russian economy in the foreseeable future.

In the rouble crisis 1998 there were some special factors at work. In 1997–1998 falling prices for Russia’s major exportable (oil) and growing investor doubts about all emerging markets in the wake of the Asian crisis combined delivered a powerful external shock to the Russian economy. In the internal economy, budget deficits were virtually out of control making up roughly 7–8% of the local GDP. The reckless borrowing of the public sector caused interest rates to skyrocket: treasury bills (government bonds) had a real interest rate of 40–50%. As the maximum devaluation risk under the rules of the managed floating was only 15%, the risk taken by foreign investors looked pretty moderate.

The 1998 collapse of the rouble exchange rate can be analysed in the light of some main macro-economic trends, which helps to understand the nature of the “bubble”. The chosen indicators cover the pre-crisis period (from 1992 – the first post-Soviet year – to 1997).

Table 1. Main economic indicators (annual change,%)

	1992	1993	1994	1995	1996	1997
GDP	-14,5	-8,7	-12,7	-4,1	-3,5	0,8
Inflation	1.527	874	307	198	48	15
Gross fixed investment	-40	-12	-24	-10	-18	-5
Labour productivity in industry	-17,6	-8,8	-14,4	5,4	2,9	8,6

(Source: WIIW)

In the period under review, Russian economy declined by some 40%, while consumer prices increased by factor 200. Decline in investment in fixed assets was even deeper than in overall demand (GDP). Labour productivity (in industry) decreased rapidly in 1992–1994, but in this sphere a recovery started in 1995.

Amid these staglatory tendencies, average monthly gross wages measured in hard currency (ECU, European currency unit) showed an amazing boom. This development was entirely out of those lines described in the previous table.

Table 2. Average monthly gross wages, in ECU (calculated at official ER)

	1992	1993	1994	1995	1996	1997
Average monthly gross wage (ECU)	18	53	93	90	119	145
Growth, p.a. %		194	75	-3	32	22

(Source: WIIW)

These ECU-based earning figures show that the average monthly pay increased between 1992 and 1997 no less than eight-fold in a period, during which labour productivity clearly declined. It can be concluded that in the period under review the real ER of rouble appreciated extremely strongly, which means that Russian strong inflation was not reflected in nominal depreciation of the external value (ER) of rouble.

In 1995 inflation was still very strong (200% a year), but this rapid increase of the internal price level was only to a small degree compensated for by the nominal depreciation of the ER. Thus, the real effective ER appreciated by almost 70% in 1995. After that, the real rouble ER remained at a rather high level before the 1998 crisis.

In the hindsight it is easy to maintain that the central rate in the managed floating ER regime was set on a too “strong” level (new roubles 6,2 – the equivalent of 6.200 old roubles per dollar). The new

semi-fixed ER with $\pm 15\%$ fluctuation boundaries was launched January 1st, 1998. The system collapsed in August of that year. The market lost confidence in the correctness of the central rate and the RCB (Russian Central Bank) was unable to defend the set 15% depreciation limit that was in absolute terms about RUB 7 per dollar. Panic took over on the exchange market bringing RUB rate in a couple of months to 20 to a dollar, or about three times more than the original central rate of RUB 6,2 to a dollar.

In fixed and semi-fixed exchange rate regimes officials actually commit to maintain relative stability: they tie their hands not to inflate the domestic currency more quickly than world inflation. The fixed (or semi-fixed) ER serves as a nominal anchor for the domestic price level by restricting officials' ability to run inflationary policy. The main aim is to "stabilize expectations": monetary policy makers attempt to convince people that they are committed to a non-inflationary policy.

This background thinking was obvious in the RUB reform in January 1998. New banknotes with less zeros (one new RUB = thousand old ones) symbolized the end of the inflationary period. The new semi-fixed ER of about RUB 6–7 per dollar was estimated to be correct from the market point of view.

In the ER system of 1998, the officials actually promised that they are willing to give one dollar in exchange for RUB 6, or in the worst case RUB 7. In the managed floating (with 15% borderlines) the government ensured that the "market value" of RUB 7 is not less than USD 1. In every system of fixed and semi-fixed ERs, this sort of promise must be kept; otherwise there will be a "run" on the market, as people start doubting their chances to convert RUB 7 for a dollar. If there is a feeling that the right relationship is RUB 10, 15 or 20 to a dollar, the "run" continues: people start to sell their roubles in increasing quantities.

In this situation, monetary authorities can interfere by feeding the market with new dollars, in order to hinder the breaking of the set limit (RUB 7 or 15% down from the central rate). In this context it is important to realize that Russian Central Bank (RCB) can print roubles, but not dollars. RCB can defend the ER borderline as long as it has hard currency reserve for intervention. If the reserve is exhausted – for one reason or the other – ER defence must be discontinued. If the market still demands more dollars, its price (ER) will increase obviously sooner or later breaking the fixed borderline.

The rouble crisis of August 1998 took place because RCB was not able to defend the set borderline with massive interventions. The run against the domestic currency (RUB) was so vigorous that it

increased the price of dollar three-fold within couple of months. Similar currency crises took place in other countries in the 1990s.

After the strong depreciation of RUB's value (ER) in the autumn 1998, Russian officials did not set a new semi-fixed exchange rate (with certain borderlines for fluctuations). The solution was to move to a floating exchange rate.

Amid the rouble crisis of 1998, Russian government defaulted on its internal debt and gave notice of her need to restructure its external debt. In the year 2000, Russia and its London Club creditors (the association of private creditors) reached a deal offering Russia a combination of forgiveness and restructuring of Russia's debt.

In the second half of the 1990s, there was plenty of turbulence in international financial markets. A long and strong boom period in South-East Asia came to an end. Many countries of the region had disequilibria in their current accounts (CA). A series of devaluations took place in 1997–1998, not only in South-East Asia, but also in Latin America.

There is one oddity in the Russian RUB-crisis of 1998. Normally, currency devaluation is closely linked with a deficit in current account (CA). If a country cannot pay its import bill with her export earnings, a deficit in CA is a result. Considerable and long-lasting deficits cannot be financed forever. In that case, devaluation is normally a tool to restore relative equilibrium in the bookkeeping of the external economy. In the Russian case, CA has permanently been in surplus, even in the crisis year of 1998. This peculiar feature has a simple explanation: Russia's resource base is unusually rich, and thus, export of various commodities, especially energy bearers, guarantees a rather high level of export earnings. Under these circumstances, the capacity of export-oriented segments of the economy to benefit from the devaluation has proven limited.

In this context, it is easily forgotten that depreciation of RUB improves incentives for import-substituting activities: devaluation makes locally produced goods price-competitive in comparison to imported alternatives. This statement is especially true in activities, in which the production is based on local materials (with little import content). Thus, theoretically, for example, food-processing industry could profit considerably from the devaluation effect.

In the aftermath of the crisis there was a clear turnaround in the investment activity. Real investment started to grow at the first time in the transitional period in 1999 and the growth accelerated

remarkably in 2000. It can realistically be assumed that one important background factor in this new tendency was the depreciation of the real RUB value.

In 2000, oil price was on an unusually high level, which affected Russian exports remarkably: export earnings increased strongly. The depreciation of RUB in 1998–1999 was a decisive turning point in the Russian economy in transition. The new external value of rouble gave a clear boost for economic growth.

4.3. Development trends in the post-crisis (1998) period

In the year of the rouble crisis (1998), GDP declined in real terms almost by 5%. Gross fixed capital formation (investment) continued its decreasing trend with a real annual drop of 12%. Labour productivity in manufacturing industry, which started growing in 1995, had a minor improvement (+0,8%). Retail trade diminished by 3,5% in real terms. Exports of goods dropped by 13,3%. Import suffered a reduction of almost 20%.

A clear turnaround took place in 1999, when GDP grew in real terms by 5,4%. It is of utmost importance that in 1999 the permanent decline of investment in physical capital stopped: in this sphere an increase of 5,3% was recorded, the first real growth figure in the transitional period. Productivity improvement was with almost 12% remarkable. Retail trade (–6,3%) and import (–28,5%) suffered clear setbacks, obviously as a result of the strong devaluation of the rouble.

A real economic miracle took place in 2000: Russian GDP expanded by no less than 9% in real terms. The most important background factor of this unusually high growth rate can easily be found in foreign trade: export grew with phenomenal figure of over 60% amid global boom of oil prices. Also import grew considerably (by 30%) after two years of deep decline.

Investment growth of almost 18% in 2000 is also impressive. Productivity in 2000 increased over 10%, a second essential hike in a row. Retail trade recovered from the two-year slump showing a 9% increase in 2000.

One year later (2001), export value was virtually on the same high level of the previous year. Investment grew by almost 9% in 2001. Retail trade and import showed rapidly increasing tendency with 10,6% and 23,6% growth rates, respectively.

In 2002, GDP growth was 4,3%, while export again virtually stagnated. Investment activity growth decelerated strongly, but was still on the growth path (+2,6%). Retail trade increased still strongly by

9,1%. Import increase was relatively moderate (6,7%) which is higher than the overall GDP-growth in 2002.

It is obvious that the described recovery of the post-crisis economy in Russia is closely linked with oil price development. Long-term sustainable economic growth presupposes high level of investment. Investment showed vigorous growth in 2000.

However, investment in the Russian economy in transition has been on a very low level. In the meantime, the capital stock has qualitatively deteriorated, which can be observed in buildings and in the machine park. The latter is estimated to have an average age of over 30 years. This means that machines in Russian industry are badly outdated technologically and presently also physically. A lengthy renewal process is absolutely necessary.

In sum, the balancing act of the post-crisis Russia has been highly successful. This positive development is visible in overall living standard figures.

4.4. Living standard developments

In the early period of Russian transition all indicators of economic development pointed to difficulties, except personal income figures measured in hard currency on the basis of official exchange rates. Thus, it became crystal clear that there was something wrong with the data of earnings converted into hard currency (euro or dollar). Official ER obviously did not reflect reality in a correct manner.

It is, therefore, absolutely essential that purchasing power parity corrections are taken into consideration when living standard measurements are done. Local price level is an important factor in assessing real material living conditions.

In emerging markets price level has the tendency to be lower than in the rich part of the world. Official exchange rates in TEs have in the whole transitional period been undervalued which means that ER does not correctly reflect local living costs. It is said that emerging markets exercise “exchange rate protectionism”: ER deviates from “equilibrium rate” which makes imports expensive (calculated in local money) and exports price-competitive.

Exchange rate deviation index (ERDI) is a tool with which relative under- and overvaluation of various currencies is measured. ERDI figures are derived from GDP calculations with a simple

method: purchasing power parity (PPP) adjusted GDP figures per capita are divided by GDP per capita calculated at official exchange rate. In this study euro-based ERDI figures calculated by the WIIW (The Vienna Institute for International Economic Studies) are used to measure how rouble ER biases have developed in the transitional period.

This issue of ER bias can be explained via a theoretical example. Let us assume that the official ER is RUB 30 = € 1, but the PPP adjusted ER is RUB 10 = €. If under these circumstances a tourist from the euro-area visits Russia, he/she receives RUB 30 for every exchanged euro. This means in actual fact that this Western visitor receives “an undervaluation bonus” of RUB 20 per euro, because the PPP adjusted ER is ten RUB (not 30 RUB) per euro.

If a Russian visitor goes to the euro-area, he/she pays an “undervaluation penalty” of RUB 20 per euro: he/she pays according to official ER RUB 30 for every euro, even if the PPP adjusted rate presupposes an essentially cheaper price (RUB 10 per euro).

When these details are taken into consideration, it can be concluded that it is advantageous for Western tourists to visit Russia (in this theoretical example, ERDI value of 3 gives the advantage). At the same time, it is disadvantageous for Russian tourists to go to the West.

It is useful to bear in mind in this context that few Russians pay rent or mortgages, because the big bulk of the population inherited their flats and houses from the communist state. Housing costs in the West take a big part of an average family budget. Thus, there are essential differences in discretionary income (gross income minus necessities) in the TEs and the market economies of the West.

These simple points demonstrate that living standard comparisons between different societies are far from simple. No exact figures to measure all details of real life can be produced. Also PPP adjusted figures can only provide an incomplete picture of international living standard differentials.

As pointed out above, average gross wage increased rapidly in the pre-crisis years (measured in euro that is in “hard currency”), while there was a general decline in the overall economy (measured in GDP). Undoubtedly, the described situation was paradoxical.

Devaluation of a currency always lowers the income of local people calculated in a foreign currency. Therefore, it is natural that the average gross wage decreased in 1998 calculated in euros. The average monthly gross wage calculated in euro according to official exchange rate (A) declined by

one-third in 1998 and even more than that in 1999. In this comparison, average wage collapsed nominally from € 145 a month in 1997 to a mere € 58 in 1999.

Table 3. Average monthly gross wage

	1997	1998	1999	2000	2001	2002
A: Euro (ER) Nominal	145	95	58	85	124	149
B: ERDI (euro based)	2,01	2,97	4,35	3,15	2,74	2,75
C: Euro (PPP adjusted) Real (A x B = C)	292	282	252	269	340	411

(Source: WIIW)

At the same time, however, ERDI value increased rapidly, from about 2 in 1997 to almost three in 1998 and further to about 4,4 in 1999. Thus, “real” monthly pay in euro with PPP adjustment had relatively modest drop amid RUB devaluations: figures marked in C column (nominal wage multiplied by ERDI) went down from € 292 in 1997 to € 252 in 1999 (a decline of some 14%). The equivalent figure (A x B) in 2001 was with € 340 already over the 1997 level. In 2002, the “real” wage was no less than € 411 or some 40% more than in the pre-crisis year of 1997. ERDI value was with 2,75 in 2002 much higher than in 1997 (2,01).

In the light of above figures, the real average monthly gross wage experienced an amazing recovery in 2000–2002. The real wage (C figure) in 2002 was about 63% higher than 1999.

The Russian living standard (GDP figures per capita with PPP adjustment) can be compared with four other TEs in the Baltic Sea region (Estonia, Latvia, Lithuania and Poland), as well as with Greece (the lowest living standard within EU) and the EU average (15 countries).

Table 4. GDP per capita, PPP adjusted (euro-based)

	1999	2002	Growth (%) 1999–2002
Russia	5.399	7.000	29,7
Estonia	8.203	10.380	26,5
Latvia	6.070	7.987	31,6
Lithuania	7.318	9.121	24,6
Poland	8.269	9.805	18,6
Greece	14.548	16.555	13,8
EU-average (15)	21.391	23.582	10,3

(Source: WIIW)

The Russian economy grew by almost 30% between 1999 and 2002. Latvia, which like Russia is a former Soviet republic (as well as Estonia and Lithuania), had in the same period even higher growth (31,6%). Estonia (26,5%) and Lithuania (24,6%) show also strong economic growth, while Poland's growth remained below 20%. Greece and EU average (15 countries) show clearly more modest growth rates (13,8% and 10,3% respectively).

Amid the currency crisis of 1998 state finances were in turmoil. The state defaulted her internal debt and rescheduled the international one. Individuals and institutions holding government bonds lost their savings. In the pre-crisis period there were over 5.000 banks, many of which had heavily invested in government securities. In this environment of financial turmoil, a large number of financial institutions went bust leaving their clients empty-handed.

At the same time, there were also winners in the devaluation event. The value of flight capital increased in a short period of time fourfold (in Rouble terms). In the aftermath of the crisis there is evidence of some repatriation of the capital sent abroad in the 1990s. Many Russian citizens exercised so called "internal capital flight". Local earnings and savings were converted in dollars, because of general uncertainty. Tens of billions of dollars were kept in cash in Russia. Those people who made this conversion and deposited their savings back home, received a windfall profit (calculated in Roubles).

A very natural consequence of the Rouble depreciation was the decrease of average income (calculated in dollars or euros) causing a clear drop in import. However, it is worth of underlining that a very rapid and strong recovery of average income took place in the aftermath of the crisis. The most important single background factor in the earnings development (calculated in dollars or euros) was the world market boom in oil prices enhancing Russian export income substantially.

These factors have essentially influenced the revival of high value consumer goods import in the post-crisis Russia (cars, consumer electronics, house hold appliances, etc.) It is relatively easy to create import – substituting capacities for price sensitive consumer goods, like foodstuffs and beverages. In high-value consumer goods, technology and prestige (e.g. brand) may be decisive factors. Thus, local alternatives cannot necessarily be offered in the short notice. Price is one factor, but obviously not the most important one in consumer durable business. Prestige of imported goods in this sphere is essential. Thus, the Russian business cycle in the turn of the century had many interesting features with consequences to transit traffic via Finland. These effects cannot be described in simple terms.

Import of consumer goods in Russia decreased in the immediate aftermath of the 1998 crisis. The main transit routes as well as the Russian ports faced strongly decreasing cargo-flows after more than seven years of continuous growth.

The logistics service companies, especially the ones depending on the transit traffic of consumer goods, experienced a crisis. The outcome of the situation in Finland was that many trucking and forwarding companies stopped their activities through voluntary actions or went bankrupt. This led to a new competition situation in logistics routing. At the same time the Russian domestic production took a boost.

The Rouble collapse had some boosting effect on the volume of export of finished Russian goods like paper and carton, which hardly affected flows via Finland. The high price of oil caused a growth of export of oil and oil related products in value terms 2000.

The Rouble collapse started a new era of so called “value added logistics” (VAL) in transit traffic via Finland. The value added (VAL) services are mainly connected to the container traffic arriving to the Finnish ports and to Finland via the Transsiberian railway from Korea, China, Taiwan and Japan. The cargoes originating from these containers are then unloaded to warehouses in Finland and further consolidated / separated to leaving transport units mainly back to the Russia.

The growth of VAL services indicates that not everybody suffered financial losses during the 1998 crisis in Russia. Those, who had their assets in non-Rouble form (mainly in dollars), made windfall profits enhancing their purchasing power. In this context, it is also useful to bear in mind that the general recovery of purchasing power in the aftermath of the crisis was very strong.

The amount of the above-described value added service has grown tremendously during the period of 1999–2003 and a large share of transit traffic eastbound is connected to VAL sector. The new Russian Customs Law, which became effective on the 1st of January 2004, will most obviously have an effect to the need of VAL services and to the content of them. The new Customs Law aims at restricting the rights of Russian Customs Committee to manipulate regulations. That means that customs regulations will be applied in coherent manner on the whole area of Russia providing better sustainability and predictability to foreign trade business. The competition environment is changing fast because Russia is investing to its own port capacity. The Baltic States, now members of the EU, offer cheap alternatives in the port business. Currently Finland has a very strong position in the service of VAL connected traffic to Russia.

Therefore the study of the possible next step of the evolution of logistics is needed; Finland had the period of bulk / raw material transit, followed by container transit supplemented by the VAL services. The next step could be the Free Zone concept enabling flexible trade and production arrangements across the border South-East Finland – Russia.

5. Development of transit traffic via Finland in 1997–2003

Transit traffic has had a very important role in the main Finnish ports and for the Finnish Railways. The Port Authorities, of which some have become shareholding companies, the port operators like Finnsteve Group and Steveco Group and The Finnish Railways (VR Ltd.), have all received significant income of the transit traffic. The value of transit traffic service is difficult to calculate due to fragmented charge structures and highly variable agreement structures used in the logistics business. The companies offering the service are multi-national and the costs are often charged and paid outside Finland.

The transit traffic is of special importance to Kotka-Hamina region. The amount of transit traffic is about 20-25% of the total traffic, but the employment factor in transit traffic is much higher than in normal traffic because of the more complicated documentation and customs functions. In VAL services labour content is high. The VAL service is based mostly on manual labour even though the cargo arrives to Finland unitised to containers. The handwork unloading of the cargo and hand-done separation of the cargo are very labour intensive operations. Normal palletised or bundled cargo out-take from a container takes about 30 minutes from one man and one machine. It takes about the same time to re-load the same amount of palletised/unitised cargo back to a container. The VAL service done as manual handwork consumes about 24 labour hours for the same amount, one container-load, of cargo. Bearing in mind the above-mentioned simplified figures the transit traffic via Finland is a very serious and important matter, especially for South East Finland.

The Finnish National Board of Customs has documented the commercial value of transit traffic since year 2002. Year 2002 was a pilot year and 2003 was the first official statistic year. This statistics (Finnish National Board of Customs, Statistics division, March 4th 2003 , February 11th 2004, and May 19th 2004) calculates the eastbound road transported transit cargo traffic's commercial value as follows:

- Year 2002 the value of cargo transported was EUR 12 billion
- Year 2003 the value of cargo transported was EUR 17,7 billion
- The growth in value of cargo was about 50%.

In the first three months of 2004, the value of eastbound transit cargo transported by road was 4,8 billion EUR. The seasonal structure of eastbound transit traffic indicates that the volume of transport grows heavily during the fourth quarter of the year. This supports the vision that the value of cargo transported in eastbound transit traffic is growing strongly. As comparison to the value of eastbound

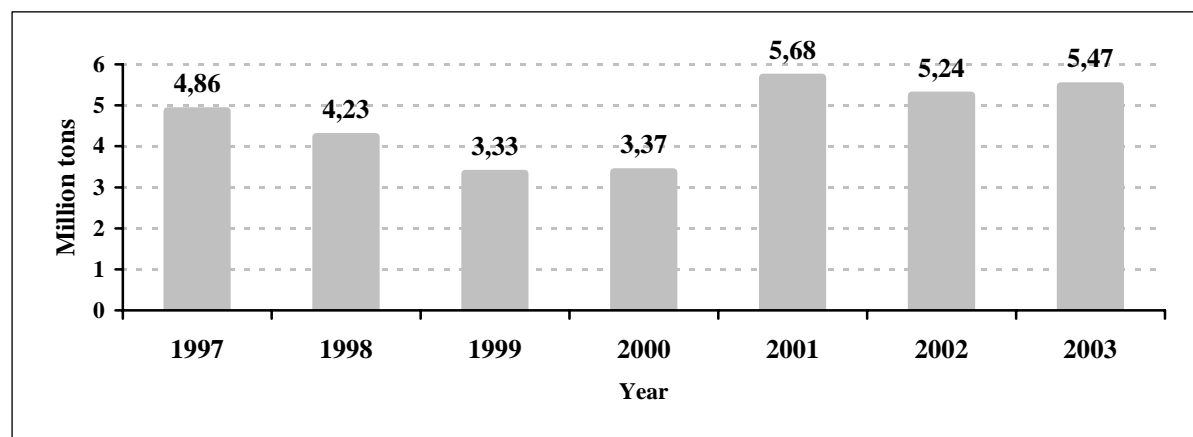
road transit traffic can be used the value of Finnish export which shows that (Finnish National Board of Customs, Statistics division, March 3rd 2004):

- Year 2002 the value of Finnish export in total was about 47 billion EUR.
- Year 2003 the value of Finnish export in total was about 46 billion EUR.

Transit traffic is not included to the Finnish export values. The value of eastbound transit traffic by road is obviously under recorded. As mentioned before, the double invoice system distorts statistics. The rail and sea moving transit traffic is not included to this statistic. Especially the sea moving transit traffic of port of Helsinki has a large value.

The amount of total traffic via Finnish ports was 75,2 million tons in 1997 and in year 2002 it was 87 million tons. Chart 1 describes the development and volume of the transit traffic during the years 1997–2003. The average figure is of about 5 million tons in 2001–2003.

Chart 1. Transit traffic via Finnish ports 1997–2003 in million tons



(Source: Statistics Finland)

The calculation of transit traffic via Finland is based on the transit traffic amounts going via Finnish ports. There is some transit traffic moving via Finland via the land borders. Transsiberian railway traffic that comes to Finland by rail and goes back to Russia by road or by rail is the most significant of these.

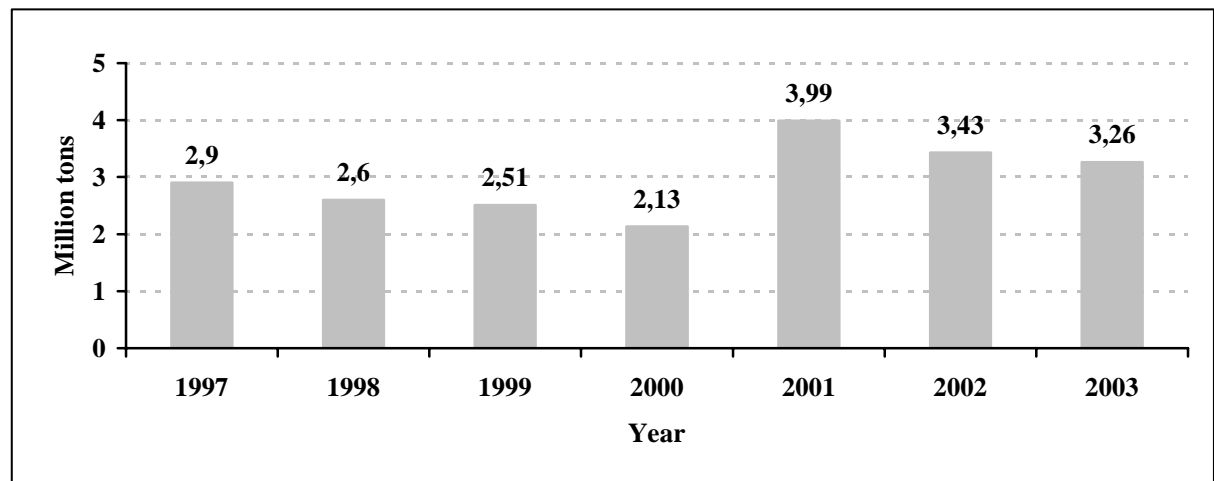
The Finnish Statistic Centre collects the traffic amounts from the statistics of the Finnish National Board of Navigation, the Finnish Railways and the Finnish Customs. The tradition of collecting information is based on Law. The collecting of transit traffic statistics started in 1997 upon the request of the Finnish Ministry of Traffic and Communication.

The transit traffic via Finland is measured in tons. This traditional system of measuring gives a clear picture of the volume of the traffic, but it does not tell the different value addition contents created by the various links of the transport chain. The system of measuring the traffic in tons is becoming less correct as the value of cargo transported grows. The physical transport effort can, however, still be measured in tons and it tells clearly the magnitude of the transport exercise.

When measuring the traffic in tons, the value added services containing the transport of expensive commodities is given in volume only. In reality, these services contain a high value due to high costs of service and also high labour intensity in the logistic chain. Thus, the volume (in tons) does not reflect value of activities under review.

When looking at the content of the traffic, it is important to note that most of the westbound traffic is raw materials and half finished goods: oil, fertilizers and chemical products. The westbound traffic is important to the railways since most of this cargo flow is moved by rail to the Finnish ports. In the westbound transit traffic Finland has lost ground to Russian domestic ports and alternative transit ports in the Baltic States. The westbound transit traffic was at its highest level in 1993 / 1994 when the amount of westbound transit traffic was about 6 million tons. These westbound bulk cargo flows are important to the oil and bulk cargo terminals giving work to technological infrastructure, such as oil tank farms, conveyor systems etc. The bulk cargo flows have a significant impact to the income of the ports via the port duties charged by the port authorities in the form of traffic fee and fairway duties etc. Chart 2 illustrates the volume development of westbound cargo during the years 1997–2003. The volume decreased in the late 1990s, but recovered clearly in 2001. In 2002–2003, the westbound transit declined somewhat, but the 2003 volume was higher than the equivalent in 1997.

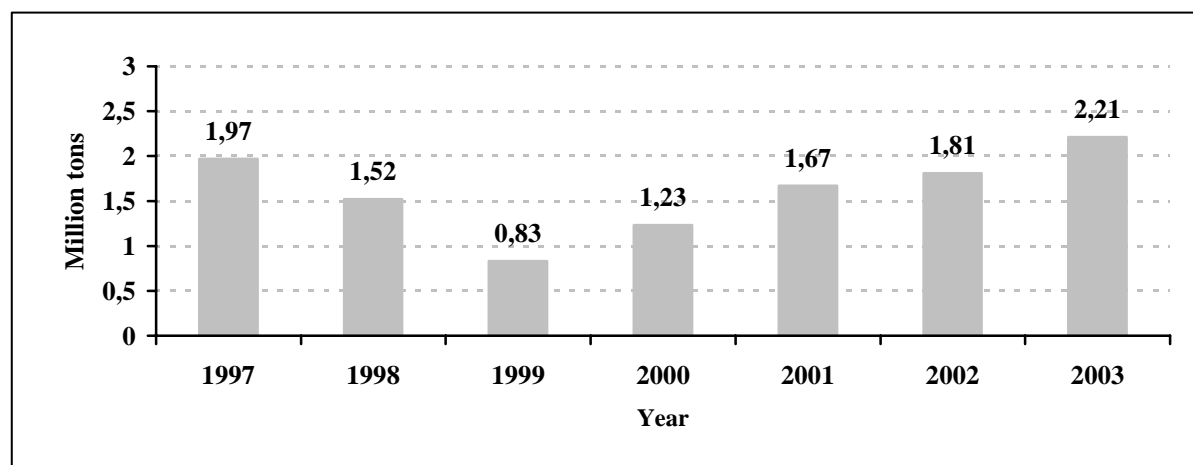
Chart 2. Westbound transit via Finnish ports 1997–2003 in million tons



(Source: Statistics Finland)

The eastbound traffic is an important balancing factor to the Finnish export industry. The overseas exports of the Finnish goods need containers for the transport. Since Finland has a small population with rather limited demand of consumer goods, the natural amount of incoming container units for the domestic market of Finland is small compared to the need of units in the service of export flows from Finland. The Russian import traffic uses the containers eastbound. The containers are either unloaded in Finland or transported loaded to the final destination in Russia and returned empty back to Finland where the empty units are released for the use of Finnish export. The actual structure of this operation is more complicated than the simplified structure described above. Chart 3 presents how the eastbound transit containing mostly consumer goods has changed during the years 1997–2003.

Chart 3. Eastbound transit traffic via Finnish ports 1997–2003 in million tons



(Source: Statistics Finland)

The eastbound transit traffic mirrors very well the Russian cycle in the turn of the century; the curve in Chart 3 drops in 1998–1999, and recovers in 2000. In 2001–2003, a clear increase can be observed.

The Transsiberian (TSR) railway traffic is not included to this analysis. The TSR traffic has had an increasing significance in transit traffic, which shall be explained below.

5.1. Traffic trends of 1997–2003

Transit traffic via Finland has a growing trend during the research period. The decline of traffic in 1998–1999 was a consequence of the Rouble crisis. In Finland the growing trend is mainly supported by the growing eastbound traffic that consists of consumer goods.

The growing price of oil in the international market has boosted the Russian export traffic since year 2000. However, it is worth of noting that the growing oil transports from Russia are mainly moving via the competing routes. This factor mainly explains the heavy growth of traffic on these routes (see chapter 6).

In the westbound traffic, the growth peak of 2001 is mainly explained by the temporary return of fertilizer traffic to the port of Kotka. The Finnish National Board of Navigation made an exemption clause to reduce the fairway dues of the vessels coming to Finnish ports to pick transit cargoes. This reduction had a very big impact to the large fertilizer vessels. This in return motivated the Russian fertilizer producers to start using Finland and Kotka as a route again. The fairway dues are charged by the National Board of Navigation based on the size and ice-classification of the vessel. The idea of the charge is to cover the cost of upkeep of the fairways, lighthouses and ice-breaking. The fertilizer traffic is mainly operated by vessels without any ice-classification and could therefore not enter the Baltic Sea during the ice season. The transit traffic operators asked the Finnish government to cancel this due for the vessels that do not benefit of the ice-breaking operations. The fairway due is very expensive. For a typical large “Panamax” – type vessel (Net Register Tonnage NRT 24519, Dead Weight Tonnage 72266) that carried fertilizers from Kotka to China in about 50.000–60.000 ton loads per trip, the fairway due would be according to the National Board of Navigation 109.040 Euros per trip and after the reduction half of this, 54.250 Euros. This shows that the fairway due is a significant cost factor. The competing routes matched the price competition very soon and the traffic moved back to them. This affected the trend in the westbound traffic negatively (Chart 2) during 2001–2003.

In the westbound traffic, the connection to the Transsiberian traffic is important. The incoming traffic from Far East via the Transsiberian railway to Finland returns back to the Russian markets by road. Most of the cargo is handled in the value added warehouses, where the containers are unloaded and re-loaded to smaller consignments in to the trucks.

Eastbound traffic via Finland has a growing trend after the short-term decline of 1998–1999. The traffic consists mainly of consumer goods and a lot of value added service is connected to this traffic.

This traffic moves to Russia via the road border crossing points and the amount of trucks has returned to the level of approx. 200.000 loaded units per year from Finland to Russia. The amount of eastbound traffic has grown from 1,97 million tons of 1997 to 2,21 million tons in 2003. The growth of traffic of the period was about 11%.

One important part of transit traffic growth is in the cargo moving via the port of Helsinki. This sea-going transit traffic is moving both east- and westbound. This traffic is calculated to the traffic statistics twice because each container moves in and out. The amount of Helsinki traffic has grown from 0,54 million tons of 1997 to 1,55 million tons in 2003. Without this new form of transit traffic via Helsinki, the overall traffic would be strongly decreasing.

The total transit traffic trend shown in the Chart 1 has a growing trend and the amount of transit traffic has grown from 4,9 million tons of 1997 to 5,5 million tons in 2003, a growth of about 11%.

5.2. Short annual analysis of the period

The transit traffic via Finland reached a level of 4,9 million tons in 1997. Eastbound traffic was 2 million tons and westbound amount 2,9 million tons accordingly. The share of railway traffic was 69% and road traffic was 31% of the total.

In the devaluation year (1998) the westbound transport of oil products and fertilizers went on in a rather normal manner, but the consumer goods flow suffered greatly during the end of 1998. The total traffic decreased to 4,1 million tons. Eastbound traffic was 1,5 million tons and westbound traffic 2,6 million tons. The amount of transit traffic decreased by 21% in 1998 compared to the previous year. The amount of railway transport was 67% of the total traffic and the road transport 33%. Railway traffic decreased by 12% and road traffic by 25% compared to the previous year. In railway traffic the border crossing point of Vainikkala dominated the traffic with 86% of all rail transit traffic. In road traffic Vaalimaa, Nuijamaa and Imatra in South-East Finland counted for more than 95% of the road transit traffic. In the road traffic, 95% of the total was eastbound.

The traffic kept on decreasing in 1999 and reached the lowest level during the period under review. Especially the eastbound traffic was in a deep crisis. The traffic dropped to a level that was less than half of the 1997 level. The total amount of transit traffic was 3,3 million tons including 0,8 million tons eastbound and 2,5 million tons westbound. The total traffic was 19% below the previous year. Eastbound traffic decreased by 46% and westbound traffic by 4%. The traditional transit products like oil and fertilisers kept on moving to the west, but low purchasing power of Russian economy did

not give a chance to the consumer goods traffic growth via Finland. About 75% of the transit traffic via Finland moved by rail and 91% of the rail traffic moved via Vainikkala border crossing in Lappeenranta. In road traffic Vaalimaa, Nuijamaa and Imatra controlled still more than 95% of the total road traffic and about 94% of the road traffic volume was eastbound in 1999.

In year 2000 the total traffic achieved the level of 3,4 million tons. The traffic grew by 1% from the previous year. The eastbound traffic increased by 50% and the westbound traffic decreased by 15%. The share of rail traffic in total transit traffic was 68%. The rail traffic decreased by 5% compared to the previous year. 93% of the transit traffic by rail was westbound traffic. Vainikkala rail border crossing had a traffic share of 90% in rail transit traffic. The road transit increased by 29% compared to the previous year. The road transit was 95% eastbound traffic. The South-East Finland border crossing points had a traffic share above 95% of the total.

The total traffic of year 2001 reached a level of 5,7 million tons. The increase compared to the previous year was 69%. The traffic exceeded the 1997 level for the first time. The eastbound transit traffic increased by 37% and the westbound transit by 87%. The rail transit traffic increased 50% compared to the previous year. The share of westbound transit of the total rail transit traffic was 94%. Vainikkala border crossing served 84% of the total rail transit. Road transit traffic increased by 24% compared to the previous year. 92% of the road transit traffic was eastbound. The South-East Finland border crossing points maintained their position in the service of the transit traffic.

In 2002 the total transit traffic via Finland was 5,2 million tons. The traffic decreased by 8% compared to the previous year. The total amount remained above the level of 1997. The westbound transit traffic decreased by 14% and the eastbound traffic increased by 7% compared to the previous year. The rail transit traffic decreased by 14% compared to the previous year. 94% of the rail transit was westbound traffic. Vainikkala border crossing had a 99% market share in the rail transit traffic. The road transit traffic increased by 17% compared to the previous year. The eastbound transit traffic was 93% of the total transit traffic by road. The South-East Finland border crossing points dominated the traffic with a 95% share. A structural change in the road traffic takes place: road volume from Vaalimaa to Nuijamaa route.

In 2003 the total transit traffic was about 5,5 million tons. The traffic increased about 5% against 2002 but was below the level of 2001. The eastbound traffic increased by more than 20% and westbound traffic decreased by some 7% compared to the year 2002. The rail transit traffic accounted to 3,4 million tons, which was about the same as the year before. The road transit traffic increased by some 25% and reached a level of about 2,25 million tons. More than 90% of this traffic was

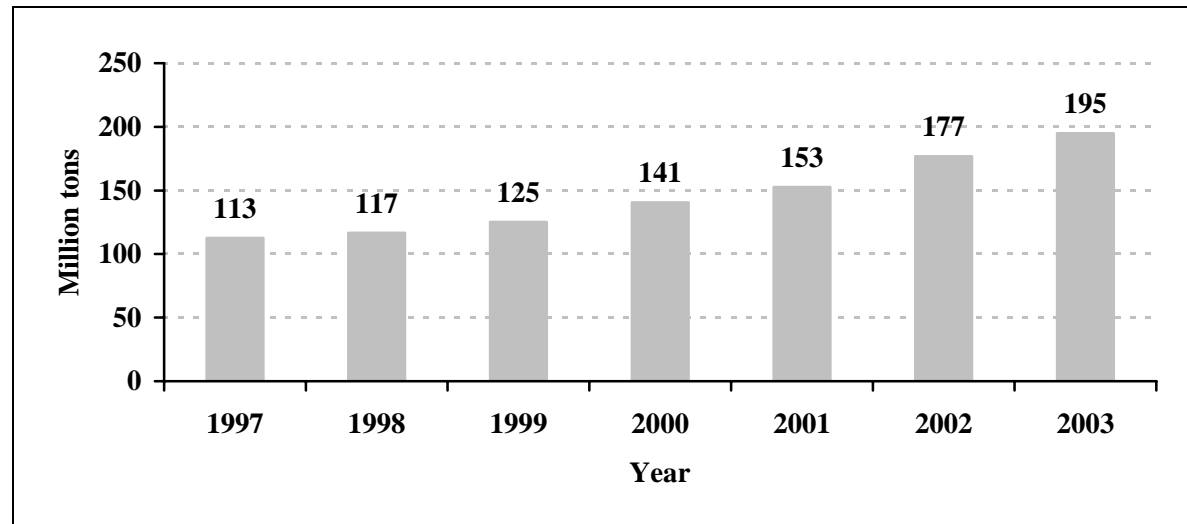
eastbound road traffic. The rail traffic was further concentrated to Vainikkala. Vainikkala border crossing served about 99% of the total transit traffic by rail. In the road traffic Vaalimaa border crossing served about 60% of the total traffic, Nuijamaa about 37% and Pelkola 2%. Pelkola border crossing had, however, close to a 50% market share in westbound road traffic. The total volume of westbound traffic was about 120.000 tons.

6. Development of traffic via Finland versus competing routes

Finland is facing competition in her transit traffic business. The competing routes and their development will be analysed in detail in a separate report. However, a short summary of the development of the total traffic business of transit is given below.

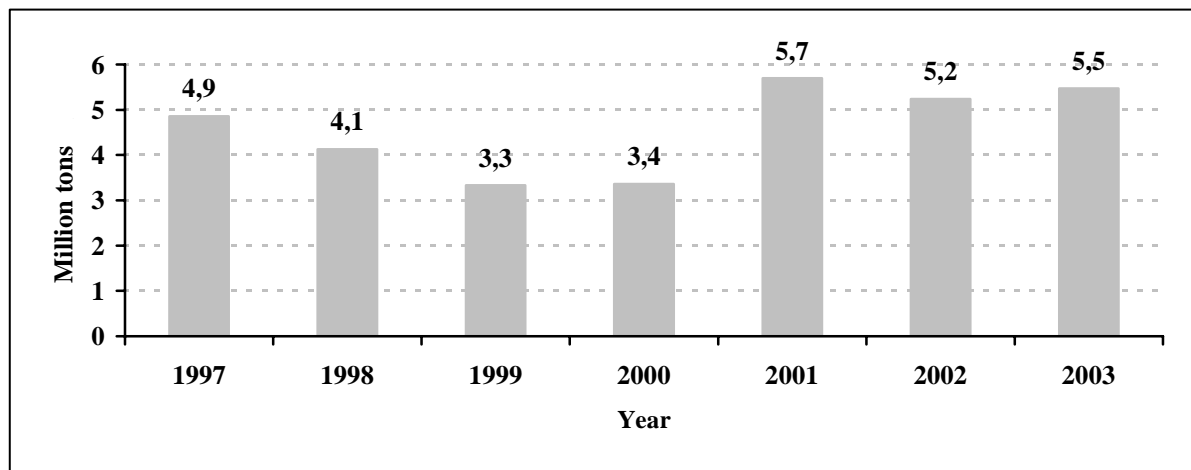
The competing routes include St. Petersburg, Vyborg, Vysotsk, Ust-Luga, Primorsk, Tallinn, Riga, Ventspils, Liepaja, Klaipeda and Kaliningrad. There are some domestic cargo flows in the alternative transit routes, but the amount of domestic market is not significant. The cargo flows going via competing routes include some insignificant amounts of cargo, which cannot be transported via Finland (like poultry meat).

Chart 4. Development of traffic on the competing routes



(Source: St.Petersburg Transport Institute)

The Chart 4 shows the competing route development between 1997–2003. The competing routes had traffic of 110 million tons in 1997. In Finland transit traffic was at the same time a little below 5 million tons with a market share of about 4,5%.

Chart 5. Development of transit traffic via Finland

(Source: Statistics Finland)

In 2001 the transit traffic via Finland reached its highest level. The total traffic accounted about 5,7 million tons. The traffic in 2001 on the competing routes was 152,6 million tons.. While the traffic via Finland has recovered to the level of 1997, the competing routes have had an increase over 70% (from about 113 million tons to 195 million tons). Thus, in the period under review, Finland has had a clearly declining market share from about 5% to roughly 2,5% in 2003.

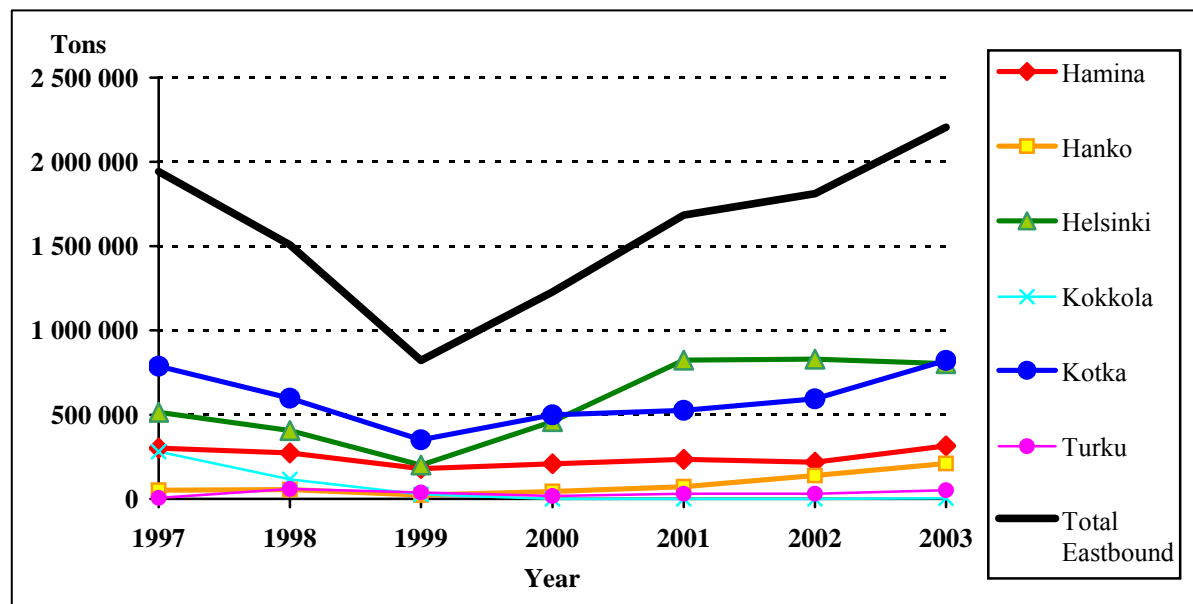
7. Traffic volume development via Finnish ports

7.1. The “top6” ports

The “top6” ports of Finland in transit traffic are in alphabetical order; Hamina, Hanko, Helsinki, Kokkola, Kotka and Turku. These six ports have an average share of over 98% of the total transit traffic. The mentioned six ports have had different market shares in the traffic during the period of 1997–2003.

Among the “top6” the traffic is strongly concentrating in Hamina, Helsinki and Kotka. Kokkola had a rather significant role, but now it is losing its position. The runner-up in the top6 is Hanko. The eastbound traffic has started to grow after year 2000. The reasons for this are tense liner traffic between Germany and Hanko and car import service in Hanko Free Port. These factors have created a strong flow of personal cars, which are driven to Russia by the buyers of the cars or their representatives or transported by car carrier trucks. Sometimes also rail service is used to more distant destinations in Russia. Turku has had a very steady position in the service of the transit traffic. The amounts have been and still are marginal, but the port belongs to the top6 group. Development of the transit traffic via these six ports is shown in the following Charts 6 and 7.

Chart 6. Eastbound transit traffic via the “top6” ports

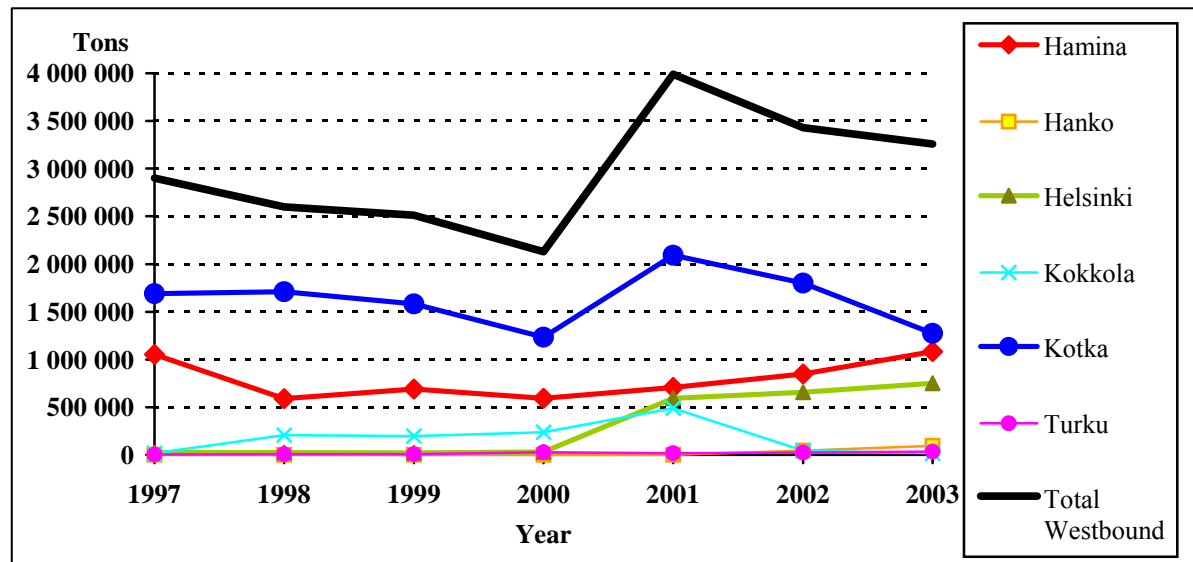


(Source: Statistics Finland)

In the eastbound traffic, the devaluation of Rouble in August 1998 caused a deep drop, during which the traffic decreased by more than 50% compared to the level of 1997. As shown in Chart 6, this

traffic started to recover in year 2000. The eastbound traffic mainly consists of consumer goods and investment goods, which are transported in containers and originate from overseas places. Since the end of 1999 a growing share of this traffic has been going via Finnish warehouses as VAL related traffic meaning that cargo has come to Finland in containers and has been unloaded to warehouses and consolidated further from warehouses to leaving transport units.

Chart 7. Westbound traffic via the “top6” ports



(Source: Statistics Finland)

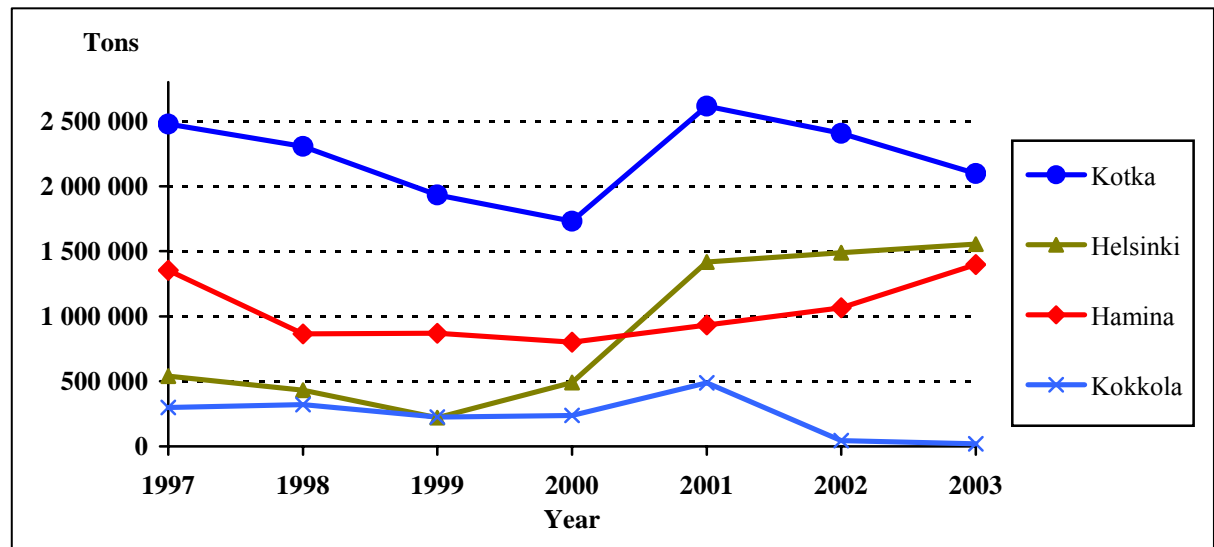
The westbound traffic consists mainly of bulk and liquid cargoes, with very little employment effect for Finland, especially the Southeast part of Finland. The westbound traffic moves into Finland mainly by rail. The collapse of Rouble in 1998 improved essentially the price competitiveness of Russian exportables, which is normal when a currency depreciates strongly. However, Russia has a very special export structure, and thus, the favourable exchange rate hardly affected Russian exports. The price of oil increased strongly in 2000 causing an export boom (in value) in Russia.

Rouble devaluation ought to have given a boost to Russian export, but this export via Finland actually declined in 1998–1999 as shown in Chart 7. In the new decade, there is no clear trend in the westbound traffic. In Kotka, the main port in this business, there was a clear boost in 2001, while decline in the two following years can be observed. Since 2001, Hamina and Helsinki show increasing trends.

7.2. The “top4” ports

The “top4” ports together have had an average share of 92–97% in the total transit traffic via the Finnish ports during the period of 1997–2003. It is to be noted that these ports have had similar role during the whole time of the transit traffic.

Chart 8. Transit traffic via the “top4” ports



(Source: Statistics Finland)

The Chart 8 shows that the transit traffic via the top4 ports has more or less recovered to the level of 1997 in volume. The definite winner is the port of Helsinki, which has more than six-folded its transit traffic after the lowest year 1999.

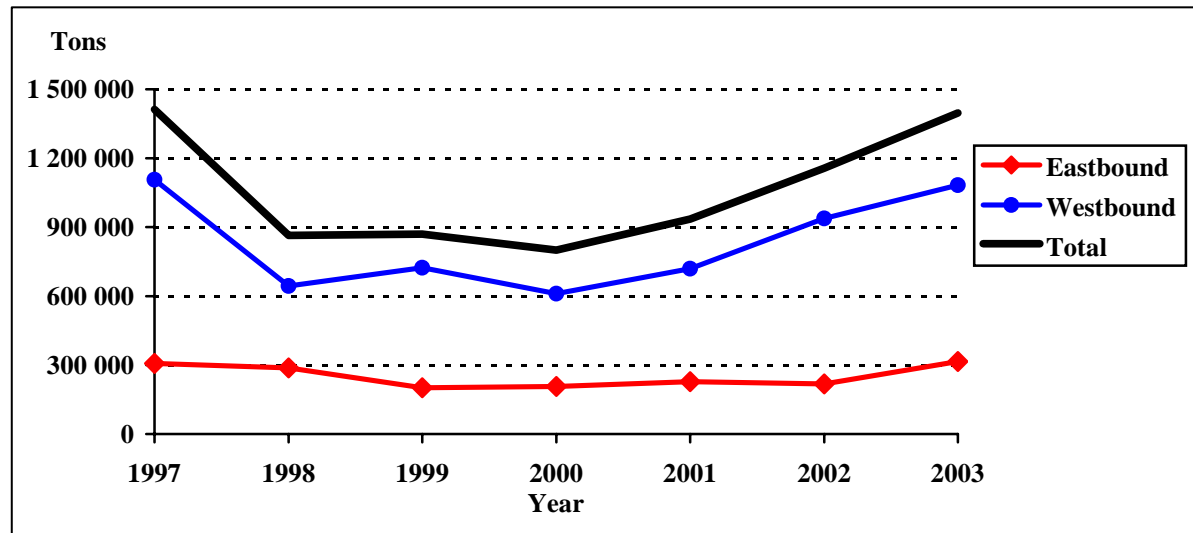
Hamina has recovered in volume and has returned to the volume level of 1997. The content of the traffic is however very much different to what it was in 1997. Kokkola has, as stated before, lost its role in transit traffic. After year 2002 the port of Hanko should be listed among the top4 ports instead of Kokkola. Kotka has been by far the most important westbound transit port of Finland. Kotka’s success has mainly been depending on dry bulk traffic and liquids.

7.2.1. Port of Hamina

The port of Hamina has been a limited liability company owned by the City of Hamina since 2001. Hamina is located the closest to the Russian border among the Finnish main ports serving transit traffic. The ports of Lappeenranta and Imatra on the Lake Saimaa are located closer to the border, but their role in the service of transit traffic is marginal. The Port of Hamina Ltd and prior to year 2001

the Port of Hamina has invested to the port infrastructure more than 36 million Euros since 1998. The port has a significant direct and indirect impact on the total economy of the City of Hamina. The total transit traffic via Hamina has recovered almost to the level of 1997 in 2003 as can be seen in Chart 9.

Chart 9. Transit traffic via the port of Hamina



(Source: Statistics Finland and Port of Hamina Ltd.)

In general the port of Hamina has had a rather difficult period during 1997–2003. The total port traffic has decreased by 12% from 6,6 million tons to 5,8 million tons. The huge investments to the infrastructure and to a stevedoring company involves risks due to uncertainties in transit traffic, but the trends in Chart 9 show positive tendency.

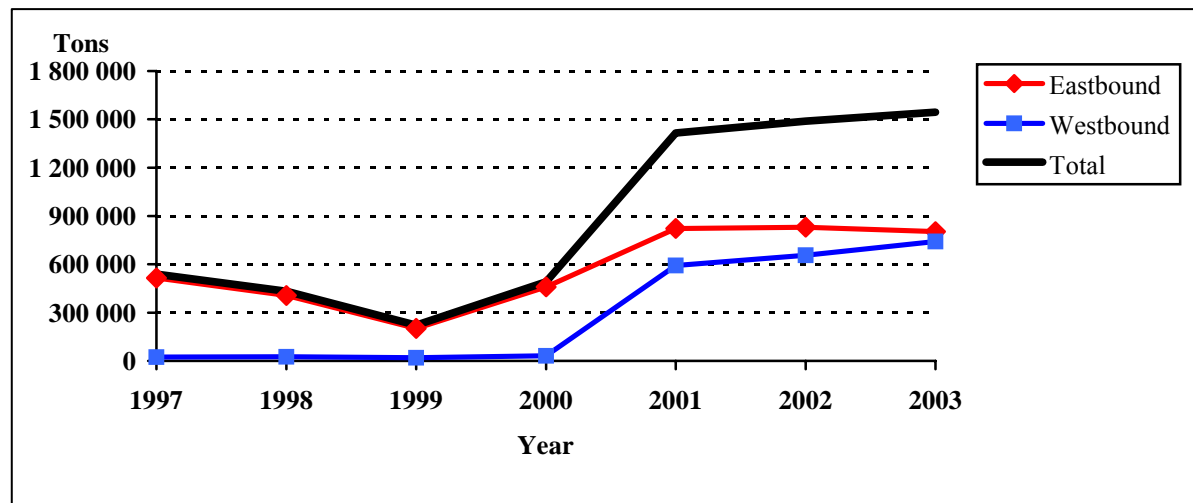
In Hamina the eastbound traffic consists mainly of consumer goods in containers. This traffic has remained on the level of 1997, but the content of the service provided to the traffic in the port or close to the port has changed greatly. Hamina was the forerunner in VAL services and the first big VAL warehouses were constructed already prior to the Rouble collapse. After 1999 more and more VAL capacity has been built in Hamina and the investments continue to take place in an accelerating manner. The VAL structures have given the port area an important role also in the service of the TSR traffic that comes from the inland to the port.

The amount of transit traffic in 1997 was 1,42 million tons while the total traffic of Hamina port amounted to 6,6 million tons. In 2003 the amount of transit traffic was 1,4 million tons of the total traffic of 5,8 million tons, 24,1% of the total.

7.2.2. Port of Helsinki

The Port of Helsinki is a division of the City of Helsinki. Helsinki has traditionally been an import traffic center of Finland. The transit traffic has not been an important factor in the total port traffic of Helsinki. The management of the Port informs that there is no investment done to transit traffic during 1997–2003. The content of the transit traffic in Helsinki is much different from the other main transit traffic ports of Finland.

Chart 10. Transit traffic via the port of Helsinki



(Source: Statistics Finland and the Port of Helsinki)

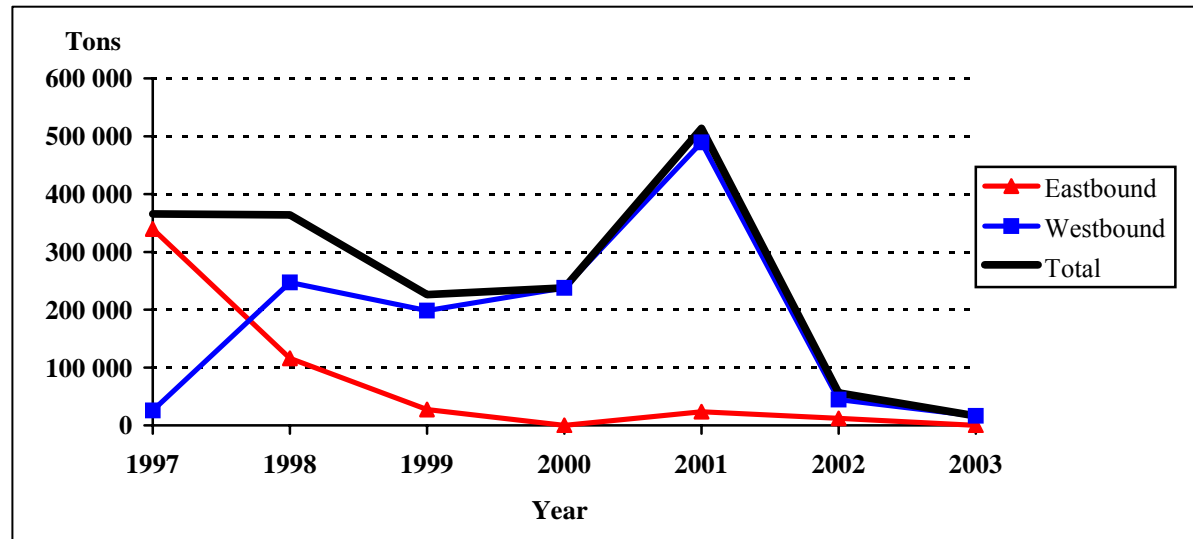
The Helsinki transit traffic volume shows a drop 1998–1999 as Chart 10 illustrates. The transit traffic in 1999 was less than a half of the traffic of 1997. The transit traffic of Helsinki started to increase due to new shipping systems, which were taken to use by the shipping companies. This system uses Helsinki as a hub for extension feeding of containers to and from St. Petersburg. These transshipment containers that come in by sea and go out by sea form about 80% of the transit traffic of the port of Helsinki since 2000. This extension feeding has very little value addition for Finland. It is based on pure logistics know-how without VAL contents. This extension feeding concept of Helsinki has also started in the port of Hamina at the end of 2003.

The total traffic via the port of Helsinki has slightly (by 3,5%) increased from 11,3 million tons in 1997 to 11,7 million tons in 2003. The transit traffic in 2003 was about 1,54 million tons in 2003 compared with 0,54 million tons in 1997. The growth of transit traffic was 285% between 1997 and 2003.

7.2.3. Port of Kokkola

Port of Kokkola is a division of the City of Kokkola. The transit traffic via Kokkola has a different content compared to other Finnish ports. The transit via Kokkola includes mainly raw materials and bulk cargo and not consumer goods.

Chart 11. Transit traffic via the port of Kokkola



(Source: Port of Kokkola and Statistics Finland)

Kokkola is a very special case in this study of Finnish ports. The city is situated on the Gulf of Bothnia in relative North. The transit traffic of Kokkola port contains several very specific features.

In 1997, large amounts of aluminium clay was imported by Russian metallurgy industry via Kokkola. This special traffic dropped dramatically in 1998, and after that, stopped altogether, which is visible in Chart 11.

In the westbound transit via Kokkola, iron ore pellets have played a decisive role. This special item was exported to the west in the late 1990s in reasonable quantities via Kokkola. The trade with pellets experienced a strong boost in 2001, only to collapse altogether in 2002–2003. It is impossible to estimate with any accuracy what were the background factors causing the collapse of transit traffic in Kokkola: the demand for this route just stopped completely.

The management of port of Kokkola points out that the port has no active plans for transit traffic and the port shall concentrate on the servicing the local industry. If transit traffic starts again it is welcome, but no active marketing efforts are set forth to attract it. During the period of 1998–2003

the port of Kokkola has invested approximately 10 million euros to the port structures. According to the management, no investment has been made specifically to the needs of transit traffic.

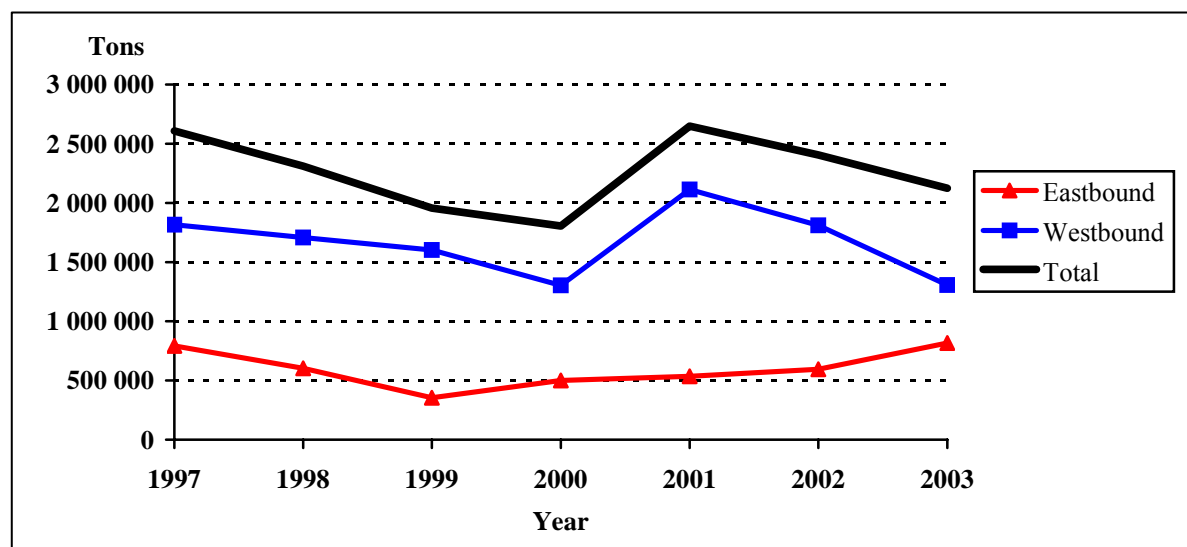
The total port traffic of Kokkola accounted 3,07 million tons in 1997. In 2003 the total port traffic was 3,04 million tons. The decrease of the traffic was marginal (1%). In 1997 the transit traffic was 0,36 million tons, which was about 11,7% of the total traffic. In 2003 the amount of transit traffic was 0,017 million tons, which is 0,6% of the total traffic. In actual fact, this means that the transit traffic in Kokkola has ceased to exist.

7.2.4. Port of Kotka

The port of Kotka has traditionally been the biggest transit traffic route in Finland serving the traffic to and from Russia. Port of Kotka started to operate as a shareholding company on the 1st of January 1999. The City of Kotka owns 100% of the shares.

After 1998 Port of Kotka has invested heavily to the port structures. The total investment to the port including office buildings and cranes owned by the port was over 75 million euros during the period of 1998–2003. This amount includes the investment to the new Mussalo container terminal. Port officials point out that the amount invested to the transit traffic is not exactly known, but the basic idea is that the investment is related to the transit traffic's share of the total traffic.

Chart 12. Transit traffic via the port of Kotka



(Source: Port of Kotka and Statistics Finland)

Port of Kotka suffered clearly of the Rouble collapse of 1998 (Chart 12). The total transit traffic decreased a million tons from year 1997 to year 2000. One big reason for this was the of dry bulk transport via Mussalo deepwater terminal westbound transit with no link to Rouble crisis. The negotiations over the Finnish fairway dues were successful and the decision of the government to allow a discount on the due brought back the big vessels calling the port during the open water season. This had an immediate impact to the amount of traffic and the amount of westbound traffic bounced up almost one million tons. At the same time the amount of eastbound traffic started to recover.

The recovery of dry bulk transport was, however, not a permanent one, because the competing routes quickly responded to the effective discount achieved through the fairway dues. The development of eastbound traffic via Kotka is very closely connected to the VAL services like in Hamina too.

The opening of Mussalo container terminal and the connecting industrial area in 2001 had an impact to the capacity of VAL services in Kotka. The development that had taken place in Hamina in the end of the 1990s also started in Kotka and a construction boom of terminals started. This development has been going on with accelerating speed till the end of 2003 and seems to continue.

The total traffic in Port of Kotka was 7,99 million tons in 1997 and accounted to 8,34 million tons in 2003 showing a growth of 4,4%. The amount of transit traffic was 1,82 million tons in 1997 being 22,8% of the total traffic. In 2003 the amount of transit traffic was 2,12 million tons being 25,4% of the total traffic.

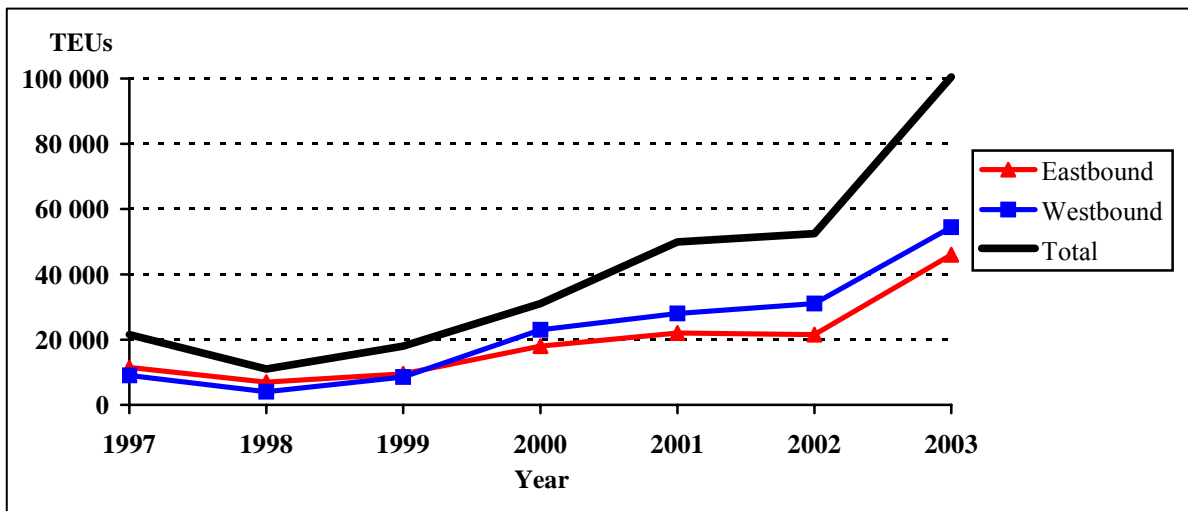
8. Transsiberian railway traffic

The transsiberian railway (TSR) has been connecting the northwest Russia to Far East for more than 100 years. The Russian Ministry of Railways has been supporting the development of TSR traffic by maintaining a favourable tariff policy for it. The Russian Railways became a shareholding company in 2003. In the Soviet period Rouble exchange rate was permanently fixed against US dollar. Rouble in that period became undervalued in extreme manner. Transit traffic was obviously service income in the balance of payments of current account, and this income was denominated in convertible currencies (mainly in dollars). Foreign clients were offered convenient prices making the Transsiberian route competitive. At the same time, the Soviet state earned supplementary amounts of convertible currencies, of which the second superpower had a permanent shortage.

In the post-Soviet time, Rouble is still grossly undervalued which means that charging foreign clients in convertible currency is by definition good business for Russian railways in transit traffic. This method is justified, because the Transsiberian route crosses the Finnish-Russian border, and thus, serves international trade. Prices offered can be kept on a modest level, because of Rouble undervaluation. Russian railways earn good money in terms of Rouble, in which almost all costs of the rail operator are denominated. Charging in foreign currencies (dollar, euro, yen, etc) includes a very obvious advantage: the risk of Rouble devaluation is eliminated. Thus, preserving the present system is undoubtedly in the interest of the Russian railways. If cargo trains are loaded and unloaded in Russian territory, it would be difficult to justify invoices in foreign currencies in purely internal traffic. Therefore it is likely that the Transsiberian route will remain “international” also in the future.

Japanese companies started using the TSR route in the 1980s, but the traffic volume was not large because of improved deep-sea connections from Japan to Europe and because of transport quality defaults on the TSR route. Now the Russian Far East ports (Vostochny and Nakhodka) are functioning well. Sea shipping system from the ports to Korea, China and Japan exists. The sea route has become reliable and cost efficient.

However, many Far East countries export electronics and other consumer goods via Transsiberian railway to Europe and Russia. Many Chinese and Korean companies are using the favourable Russian transit tariff bringing their cargoes to Finland where it is unloaded to warehouses or leaving trucks. The TSR traffic has a very important role in the VAL service Finland is providing to Russia. Practically all eastbound TSR traffic is Russia bound. The cargo is not actually transiting through Finland, but coming to Finland in order to return to Russia. In some respect the railway border station of Vainikkala can be seen as a transit traffic port to Finland.

Chart 13. Development of TSR traffic

(Source: VR Cargo)

The TSR traffic has increased fivefold in volume during the period of 1997–2003. TSR traffic decreased after the collapse of the Rouble. In 1998 the traffic was about half of the level of 1997. All TSR traffic crossing the Finnish-Russian border cannot be considered as transit traffic. This route serves the Finnish export and import business.

The westbound traffic is almost all connected to Russia bound cargo, but the eastbound traffic contains very little transit traffic from the Finnish point of view. The eastbound traffic is mainly Finnish export to China, Japan and Korea. The incoming TSR traffic is having the same balancing factor and benefit as the transit container traffic in Hamina and Kotka. Finnish export industry benefits from the availability of empty containers for Finnish export cargoes. Still, in average, almost half of the eastbound TEUs go back to Far East empty. TSR traffic moves almost solely in FEU units. FEU is a “forty feet unit” and is twice a TEU “twenty feet unit”.

The westbound TSR traffic goes to VAL locations in Finland. In 2003 the westbound traffic was divided per destination in Finland as follows:

41%	Hamina
38%	Kouvola
16%	Lappeenranta
5%	Other destinations in Finland

In 1997 the TSR traffic was about 21.500 TEUs and in 2003 about 101.000 TEUs. The growth was 370%. In the transit related westbound traffic the amounts developed in similar manner: in 1997 the

traffic was 9.000 TEUs and in 2003 the traffic amounted to 54.800 TEUs, the growth being 509%. It is again important to note that these westbound amounts are almost all connected to the VAL service which is highly labour intensive and therefore important to South-East Finland. It is to be noticed that while the port of Hamina suffered a decrease in traffic, the TSR traffic that goes to the port area is not included to the traffic amounts shown in the port statistics.

9. Development of rail transit traffic via Finland in 1997–2003

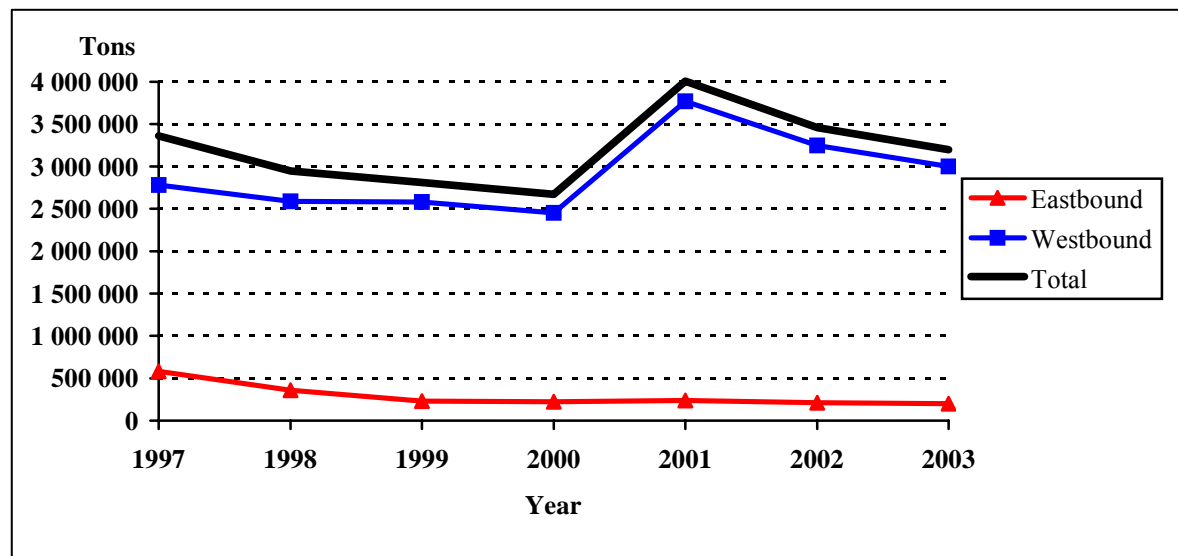
Traditionally rail traffic has had a very significant role in the border crossing traffic between Finland and Russia. During the Soviet time the rail transport was the main means of transport. Today, with more than ten years of post-Soviet development, the rail system still is the backbone of Russian national logistic system.

In the transit traffic via Finland, the rail transport has clearly two different roles. The first and the older role is the transport of bulk commodities to and from Russia. These products move normally in big quantities and rail transport is practically the only possible way to move these commodities in sufficient amounts with reasonable costs. Such commodities in transit traffic via Finland have been westbound; fertilizers in various forms, sulphur, different gas products, iron and steel products, as well as oil and oil related products. All rail transit traffic operators have noticed in the course of time that the mentioned products move in big amounts and the quantities may increase or decrease all of a sudden creating problems to the logistics chain and setting almost impossible demands of flexibility to it.

The second main form of rail transit traffic is connected to the Transsiberian Railway (TSR) traffic. The volume of TSR traffic has grown with the growth of Russian purchasing power. Many Korean and Chinese producers of consumer goods use this routing because it is fast and cost efficient.

The rail traffic between Finland and Russia is commonly used in the trade between the two countries as well as in the delivery of goods to and from the CIS countries via Russia. The total railway traffic between Finland and Russia in 1997 accounted to 15,3 million tons and in 2003 about 14,2 million tons. These amounts include the transit traffic. The main commodities in the border crossing rail traffics were timber and oil / petrochemical products.

The following Chart 14 shows the development of rail transit traffic during 1997–2003.

Chart 14. Development of rail transit traffic

(Source: VR Cargo and Statistics Finland)

The drop in the transit traffic after the 1998 Rouble collapse can be seen also from the Chart 14. However it is to be noticed that the drop in rail transported transit is considerably more moderate than what it is as in other traffics.

The westbound and the eastbound traffic increased in 2001, after decreasing between from 1997 and 2000.

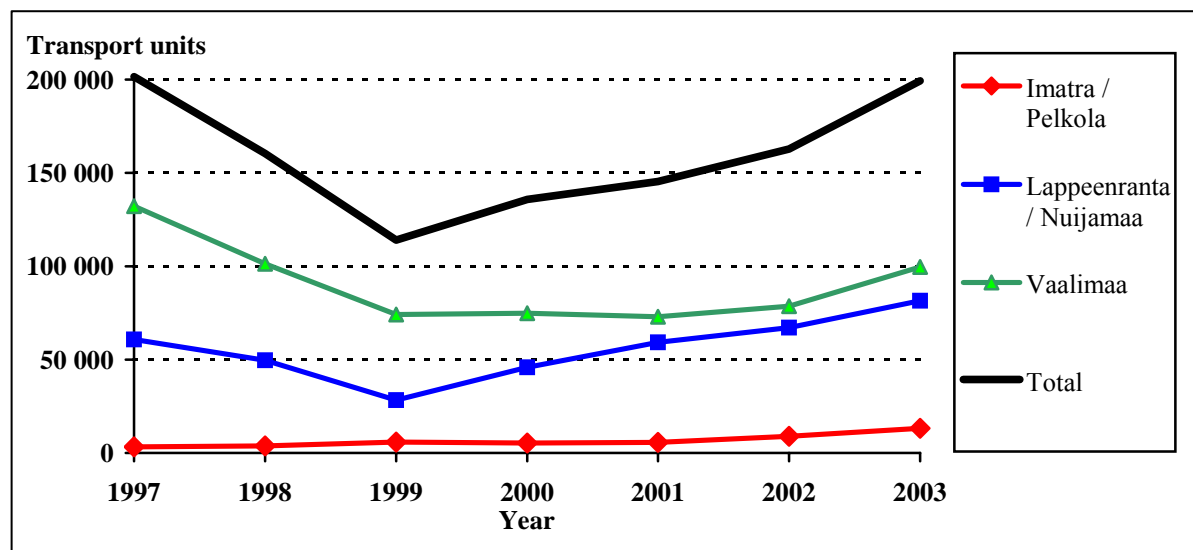
In 1997 the westbound traffic was in 0,6 million tons and 0,2 million tons in 2003. The decrease was 66,7%. In 1997 the eastbound traffic was 2,8 million tons and 3 million tons in 2003. The increase was 7,1%. The total rail transit traffic was 3,4 million tons in 1997 and about 3,2 million tons in 2003. The decrease was 5,9%. The best year in rail transit traffic during the analysis period was 2001 when the amount of rail transit traffic reached the level of 4 million tons.

10. Development of road transit traffic via Finland

10.1. Road transit via the “top3” border crossing points

The road transit traffic concentrates very much to three points: Vaalimaa, Nuijamaa and Pelkola. These three points have a 97 – 99% share of the total road transit traffic.

Chart 15. Development of road transit traffic via the “top3” crossing points



(Source: Finnish Customs)

The Chart 15 measures the transport units (trucks) crossing the border between Finland and Russia. The oldest, southernmost and biggest crossing point is Vaalimaa (Torfianovka on the Russian side). Second is Nuijamaa (Saimensky on the Russian side) and third is Pelkola (Svetogorsk on the Russian side). Pelkola was opened to international traffic on the 3rd of July 2002. Prior to that Pelkola served traffic having special license for the crossing.

The road transit traffic is clearly showing the drop after the Rouble collapse. The two main crossing points suffered and Pelkola had an increase in 1999 because of growing export traffic of Russian produced paper from the paper combine of Svetogorsk. Pelkola traffic, however, is very insignificant when comparing it to Vaalimaa and Nuijamaa.

The amounts of year 2003 are not exact because of the fact that November and December amounts are estimated and not actual. In any case it can be stated that the road transit traffic has recovered to the level of 1997 in transport unit amount. The statistics regarding the border crossing units are not exact: in the statistics there should be a division between loaded trucks and trucks carrying

containers. Because of the border crossing traffic arrangements this separation is not possible since both container trucks and normal trucks are using the same border crossing lanes.

Based on the interviews of the customs managers of Kotka and Hamina, it is obvious that the content of the border crossing road traffic has changed after year 1999. The main change is, that prior to 1999 the dominating road transit traffic were containers on trucks. The trucks took these containers mainly from the ports of Hamina and Kotka.

After years 1999–2000 the traffic on the road has changed more to the direction of VAL service. This has more and more changed the type of trucks to so called “hi cubic” trucks. These trucks have the capacity of 120 m³ to 165 m³ per truck. In practice these trucks can take from the VAL warehouses a load, which equals two FEU cargo amounts. This feature means that more cargo moves across the border per truck. This is one of the advantages of the VAL services.

The observation of the amount of transport units does not give a full picture of the cargo volume. However, it gives a picture of the volume of traffic on the border crossing points. The higher amount of cargo in fewer units helps the crossing points to process more cargo across the border with less resources because of fewer documents and transport units per volume of cargo.

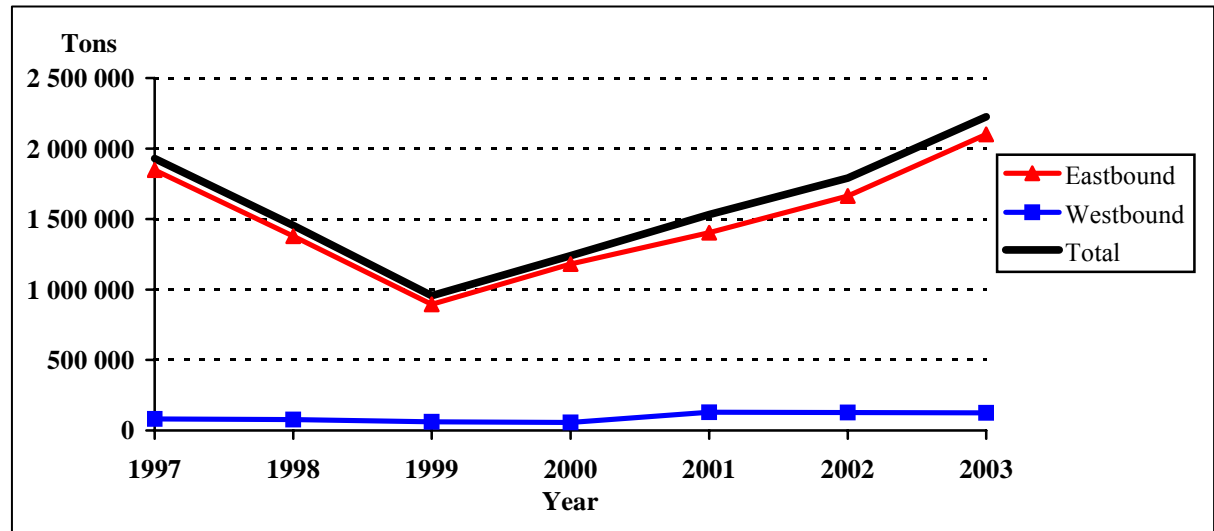
It is important to note that since the truck X-ray system started to operate at Vaalimaa, traffic has converted to Nuijamaa. Not all transit traffic operators like the X-ray. The road transit traffic contained 201.500 border-crossing trucks in 1997. The amount went down to 114.000 units in 1999. From that time the traffic has recovered back to the amount of 1997: the amount of 2003 was 199.312 units.

In the road transit the traffic stream is almost fully eastbound. There is very little transit cargo moving in trucks westbound. The biggest single westbound transit flow by trucks originates from Svetogorsk and moves via Pelkola border crossing point.

10.2. Main trends of road transit traffic via Finland

The road transit traffic moves mainly eastbound as one can see in the Chart 16.

Chart 16. Road transit traffic via Finland



(Source: Statistics Finland)

The volume picture of the road transit traffic shows clearly the collapse of transit in connection to the collapse of Rouble in 1998. The traffic decreased by half in 1999 compared to the amount in 1997. However, the same Chart 16 indicates, how road transit traffic started to recover in 2000. This recovery in eastbound traffic (Russian imports) has been very rapid. This steady and strong growth is closely connected to the VAL services.

In 1997 the eastbound road transit traffic was 1,85 million tons and westbound traffic at the same time only 0,08 million tons. In 1999, which was the worst year in road transport volume so far, the eastbound amount was 0,9 million tons and westbound traffic 0,06 million tons. In 2003 the eastbound traffic accounted 2,1 million tons and westbound 0,12 million tons accordingly. The growth compared to year 1997 was 13,5% in eastbound traffic and 50% in westbound traffic, the westbound traffic being marginal in total volume.

11. Value Added Logistics

Value added logistics (VAL) are defined in various ways. In connection to the transit traffic via Finland, VAL can be seen in two different ways. The first interpretation is the service provided by a warehouse keeper in order to receive to the warehouse various commodities in large amounts and then consolidate / order pick of those amounts for specified leaving delivery. This interpretation gives logistic value addition to the client by enabling large incoming deliveries and optimisation of the logistics. At the same time, this enables the client to buy from the product assortment of the seller according to existing need and market situation.

The second, and more transit traffic related interpretation is the transfer of cargo from coming transport units, which are mainly 40' containers, directly or via a warehouse to the leaving transport units by combining two incoming transport units to one leaving transport unit. This interpretation does not give actual transport related logistics value addition, but enables the consignee of the cargo to do the customs clearance at destination in Russia so that one transport document (CMR or railway bill) actually includes two units or more.

The trend for VAL services in transit traffic via Finland started in the middle of the 1990's. The big electronics suppliers had the need to ship in commodities per model in amounts as the buyers wanted to have them. The issue was settled by setting up distribution warehouses in Finland, which received electronics per model and sent out order-picked deliveries.

The content of VAL service has changed over time alongside with the Russian regulations. Prikaz (internal order) number 848 became effective on the 1st of January 2000. The Prikaz stipulates, that customs clearance is to be done per transport document. The various customs brokers in Russia soon negotiated agreements with the Customs and agreed fixed rates per clearance based on a cargo document and at the same time started to maximize the incoming cargo amount per transport document.

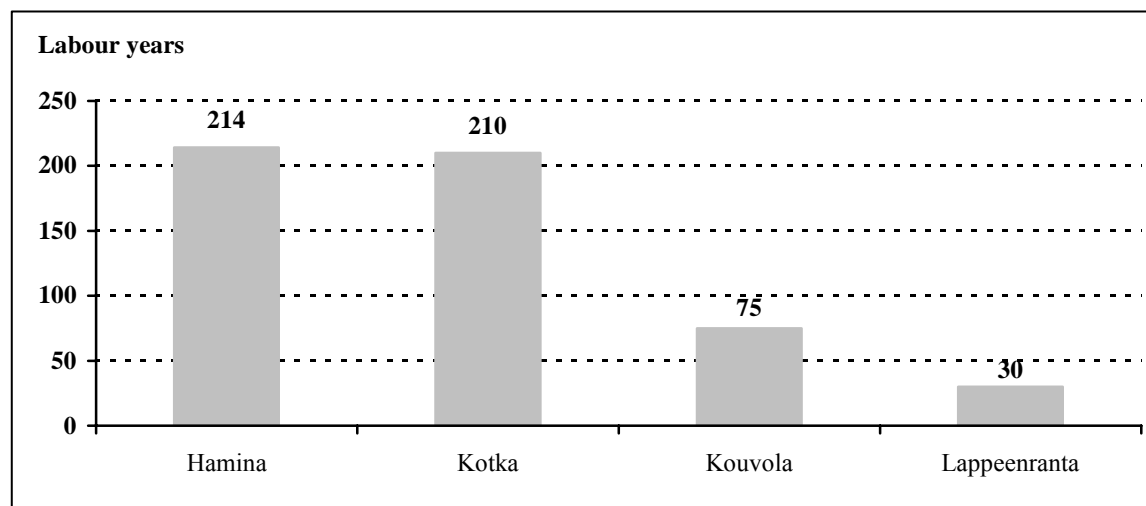
In the turn of the century, the golden era of VAL started in Finland causing a boom into investments VAL warehouses. The first step was to start to load leaving cargoes to about 120 m³ trucks. The second step of truck evolution was to start to use app. 150 m³ trucks and now even 160 m³ trucks. Later the railway operators entered this segment of VAL service. The railway operators are now commonly offering 250 m³ wagons for the needs of the clients.

11.1. Employment factor of VAL services

The estimation of the employment factor of the VAL services is based on information collected in Hamina, Kotka, Kouvola and Lappeenranta. Customs managers of Hamina and Kotka maintain in interviews, that far over half and up to 80–90% of the incoming containers are delivered to VAL warehouses in the region. The cargo management of VR Cargo (FIN State railways cargo division) states that practically all westbound TSR containers are delivered for further handling at VAL warehouses of the region.

The estimation of the VAL employment factor in Southeast Finland is not taking into consideration the port handling of the container, transfers of the containers to and from VAL warehouses, repair of containers, forwarding function related to VAL services, and the carriage of the loaded VAL commodities. The VAL sector has had a strong impact on labour situation of construction industry of the region during the recent years: during the period of 1997–2003 more than 150.000m² of warehouses have been built in the region for the needs of VAL services. The Ministry of Labour Kotka office manager's interview reveals that during the period of 1997–2003 in the South Kymenlaakso (Hamina-Kotka region) the amount of job openings in the field of transport and logistics has grown significantly. At the same time the amount of unemployed person has decreased in the group of transport and logistics. The importance of VAL sector as employer is supported by the fact that the biggest port operator of Finland, Stevedco Group, has not increased staff during the period of 1997–2003 but has decreased it. Stevedco is not operating in the VAL sector. The number of trucks registered in Finland active and in the border crossing traffic has decreased during the same period, causing a drop in the number of driver job opportunities. Finnish truck companies have lost price competitiveness vis-a-vis the Russian ones.

Chart 17. VAL employment factor in Southeast Finland



The VAL employment factor shown above in Chart 17 is calculated as follows: Unloading of a VAL container takes in average 2 hours for a group of three men. One of these men is normally a forklift driver. The loading of a 150 m³ truck taking in 2 container loads takes time from the same group about 4 hours. One leaving truck hereby taking an 8 hour effort from three men and this makes an average of 4 hours per VAL container for three men. Each VAL container makes hereby a 12 man-hour working input. Some of the direct “back-to-back” loadings may go faster and some in and out loading may take a considerably longer time, but the employment factor estimate of 12 man-hours / VAL container is a realistic one.

Hamina has the strongest and oldest VAL tradition. Hamina gets in about 35.000 TEU of transit containers per year (2003). Of this amount about 80% go through the VAL warehouses (Customs management’s comment). This means 17.500 container loads per year, since practically all transit containers are 40’ (FEU) units. In addition, Hamina has the strongest position in incoming TSR traffic. This gives additional 11.000 containers per year for the VAL warehouses. The total container amount for the VAL service in Hamina is thus 28.500 containers per year. Employment factor 12 man-hours / container makes a total employment factor of 342.000 man-hours / year. The working year is 1.600 hours when taking into consideration the holidays. Thus, 342.000 man-hours divided by 1.600 hours per year makes 214 working years (labour years).

In Kotka there are about 40.000 incoming transit containers per year (2003). Of these containers about 60–70% go via VAL warehouses (Customs management’s comment). In addition, Kotka gets about 2.000 railway containers per year for VAL service. The total amount for VAL service is thus about 27.000 containers per year. This multiplied by 12 man-hours per container makes 112.000 man-hours per year. This in return makes 210 working years (1.600 hours each).

Kouvola’s figures are estimated on basis incoming TSR containers only. It is well possible that some containers go from Kotka and/or Hamina to Kouvola for VAL service, but it is also possible vice-versa. Kouvola has about 10.000 TSR containers in per year (2003). This multiplied by the 12 man-hours per container makes 120.000 working hours per year, or 75 working years (1600 hours each).

Lappeenranta handles about 4.000 TSR containers per year (2003). This multiplied by 12 man-hours per container makes the annual amount of 48.000 working hours. This makes 30 working years (1.600 hours each).

The Chart 17 shows that Hamina has the strongest VAL working intensity and that Kotka is virtually on the same level. The total of VAL employment factor in Southeast Finland (Hamina, Kotka,

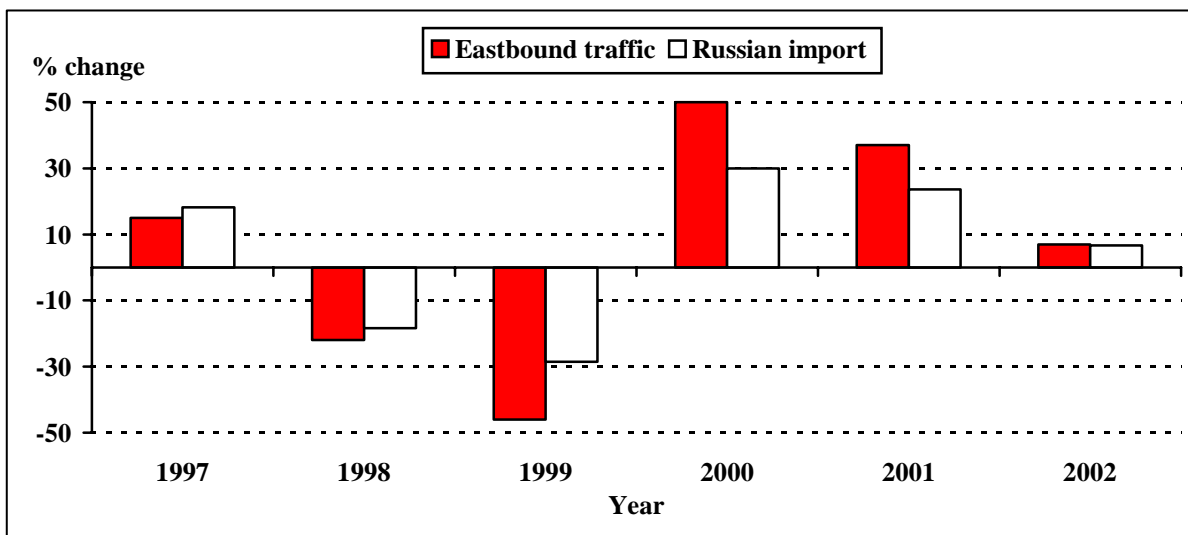
Kouvola, Lappeenranta) is about 520 labour years. In theory this means that VAL service gives a direct year round regular job for more than 500 persons in Southeast Finland. In practice, the need for labour is sometimes much higher and sometimes much less due to the character of the VAL business.

12. Transit Traffic via Finland Versus Russian Import and Export

Transit traffic trends have been analysed above by using physical units (volumes measured in tons). During the business cycle of the Russian economy under review, export and import values have fluctuated strongly, which is natural in a period of exchange rate turmoil.

The strong depreciation of Rouble exchange rate caused a remarkable import decline in 1998–1999, which can be regarded as normal. The drop of import value correlates rather nicely with the eastbound transit traffic volume, as the Chart 18 shows.

Chart 18. Russian import change compared to the eastbound traffic change via Finland



(Source: WIIW and Statistics Finland)

The import value recovery in 2000 is directly linked with the growth of export income caused by the special factor of world market price hike of oil. Thus, Russian import was able to grow also in 2001–2002, but in decelerating rates. The same can be observed in the second trend of the Chart 18; also transit traffic (Russian import via Finland) increased in the same manner (in volume).

It is rather difficult to estimate, in how far the depreciation of Rouble affected Russian exports positively. The oil price improvement in 2000 was the main cause of the 60% export value growth in that year. After that, this crucial price remained on a high level.

Chart 19. Russian export change compared to the westbound traffic change via Finland



(Source: WIIW and Statistics Finland)

In the Chart 19, there is a certain correlation (positive) in the Russian export value development and westbound transit traffic volume. The latter experienced a strong peak with a delay, in 2001. The correlation in Chart 19 is not as clear as in Chart 18.

13. Some Conclusions

The last decade of the 20th century was an extremely interesting period from the point of view of economic history. Centrally planned economies in Eastern Europe were dismantled and the colossal Soviet Union collapsed. The formerly communist societies acquired a new label: transitional economies (TEs). For the complicated transitional process there was no theoretical universal blueprint to turn around the centralized economies into decentralized ones overnight.

In the 1990s, Russian transition seemed to be far from easy. Economic activity decreased, while prices increased strongly. Capital flight in large scale took place. Income differentials became extremely severe.

In the early period of Russian transition a very remarkable paradox became visible: in the rapidly declining economy average income-calculated in euro (or dollar) basis grew considerably. Because of this fact, import of consumer goods – including foodstuffs – expanded fast. The reason for this is in the hindsight clear: the real effective exchange rate (ER) appreciated strongly. This means in actual fact that the rapid local inflation was not reflected fully in the exchange rate.

In 1998, the monetary authorities in Moscow assumed that price inflation is decelerating allowing a new system of semi-fixed ER. A managed floating system was established for the Rouble ER. This system with +/- 15% borderlines around the central rate of RUB 6,2 = \$ 1, collapsed in August 1998. As a result of the currency crisis, RUB depreciated strongly causing a strong inflationary move.

The devaluation crisis became a blessing for the economy. Many industrial sectors took advantage of the import-substitution opportunities. In the turn of the century, oil prices experienced a strong boost. Favourable price conditions in this field of activity still continue, which is good news for Russian growth prospects. Naturally, RUB devaluation has helped some exports (e.g. in wood processing industry) to become more competitive.

Gross fixed capital formation experienced a very deep slump in the early period of Russian transition. In 1999, investment in real terms increased: it can be stated that the devaluation caused a strong investment boom. Thus, economic growth has gained momentum in the early years of the 21st century.

Empirical data of transit traffic via Finland reflects the Russian “devaluation cycle” in a very interesting manner. The total traffic curve decreased clearly in two years (1998–1999), and remained

stable in the third year (2000). In 2001, the total transit figure in tons exceeded the level reached in 1997, and remained virtually on the 2001 level in 2002–2003.

In the devaluation cycle under review, the westbound transit traffic (Russian export via Finland) shows a decreasing trend in 1997–2000, although RUB devaluation ought to have given a general boost for Russian exports. As pointed out above, this traffic contains mainly bulk cargo like oil, fertilizer and chemicals. Competing routes have obviously gained market share. A strong boost in this activity took place in 2001, but moderate decline is visible both in 2002 and 2003. However, the Finnish ports have not in the westbound traffic reached the rather high figures of the early 1990s.

The chart of eastbound transit traffic via Finnish ports (Russian imports via Finland) reflects the Russian “devaluation cycle” in extremely interesting way. The traffic dropped clearly in the year of the devaluation (1998), as well as in the following one (1999). In these two years the volume more than halved. A new upward trend started in 2000 and continued 2001–2003. Thus, the figure of 2003 exceeded the level of 1997.

The curve of the eastbound traffic is a clear mirror image of the average earnings trend in Russia calculated in euros, purchasing power parity adjusted. As pointed out above, the devaluation hit the earnings severely, but in this sphere the recovery due to improved oil income was very quick and strong.

The development trend of traffic on the competing routes is of utmost importance. In this sphere, there is no up and down cycle, but a continuously increasing tendency: the growth between 1997 and 2003 is no less than 70%! The overall volume increased from 113 million ton to 195 million tons.

Obviously, this growing trend is a symbol of the new growth period in the Russian transition. It can with good reason be assumed that this growth path is sustainable: in this assumption the most important background factor is the world market price of oil, which obviously remains on high level.

The competing routes comprise Russian ports, as well as ports in Baltic states (excluding Russian ports on Pacific and Black Sea). In the competition under review, Finland has lost market share: it was under 5% in 1997, and over 2,5% in 2003. The overall market includes the new oil route via Russian Gulf of Finland coast.

It can be assumed that on the long run price competition becomes more and more decisive. Finland has high labour costs in comparison to Russia and Baltic states. The Gulf of Finland is covered by ice

in the winter causing ice-breaking costs. The Baltic states (and Kaliningrad) have ice-free ports south from the Gulf of Finland.

Hanko is the southern-most port in Finland west from Helsinki. The success of Hanko in the eastbound transit is mainly based on delivering cars from Germany to former Soviet Republics. This traffic shows dynamic features in new century. Kokkola is relatively far in the north of Gulf of Bothnia. Some rather random factors have caused transit business in Kokkola. Kokkola's permanent role in the transit business is questionable.

The port of Helsinki has increased its transit business strongly in the new century. The capital city is used as hub for extension feeding of containers to and from St. Petersburg. This business sphere has rather low profit margin.

Helsinki is representing a new form of transit traffic, which comes in to the port by sea and also leaves the port by sea. This new form of transit traffic via Finland supports the needs of Finnish industry and combines the traffics in a good logistic way. The employment factor and cash flow of this form of transit traffic is considerably less than from the traditional transit traffic or the VAL services.

The VAL services have grown after the Rouble collapse. There has been a need to adjust logistic benefits to specific Russian import rules. This service has a very big employment factor for Southeast Finland. The risk connected to this part of transit traffic is linked to the large amount of investment made in to VAL warehouses. If the import rules change in Russia, at least a part of these warehouses will suffer economically. It is to be noticed that some of the VAL warehouses are doing real consolidation and separation of cargoes. Some of the warehouses are purely doing adjustment of cargo units according to Russian import regulations, which is a high-risk business.

The development of traffic volume in the Finnish main ports has not been very good. The growth has been marginal and in some cases even negative. At the same time, the investments to infrastructure have been big containing risks. The reason for this is that Russian export of oil and other bulk products are channelled to competing routes in Russia itself and in the Baltic states.

The TSR traffic connected services are under a risk of change. The traffic through Russia to Finland for returning to Russia again is based on two main factors that are both under the risk of change. Firstly, the Russian railway tariff for bringing the containers to Finland is favourable compared to direct deliveries from the Russian Far East to e.g. Moscow. From the logistic and cost control point of view this is illogical. The continuation of this traffic totally depends on the decision of the new

shareholding company, Russian Railways Ltd. Secondly, the turning of cargo coming in via the TSR is mainly connected to the VAL services. The same risk as in the sea incoming containers is affecting the TSR containers as well. If the Russian Customs rules change, the business is under a heavy risk of decreasing.

The development of competition is affecting the transit traffic via Finland. The cost structure of Finland is not helping the development of transit traffic. The Finnish transit traffic has a very low market share in the total traffic amount of Russia. The share has decreased from some 5% of the total market down to about 2,5%. The potential for increase in volume is tremendous, providing the Finnish route is competitive.

The high price of oil in the international market is helping Russian economy and the increasing movement of goods is keeping Russian ports busy. Russia is, however, interested in giving a larger and larger share of the logistic flow to domestic routes. Russian logistics structures, is an interesting investment objects for capital rich Russian companies and multi-national logistics enterprises. The VICS terminal in the Port of Vostochny and Transsiberian railway operator TSES (Transsiberian Express Service) can be mentioned as examples.

Finland's position in price competition is not good. The case regarding the fertilizer traffic proves that the alternative routes are cost competitive.

Finland has a good quality profile as a safe storage and commercial transition point. The future of transit traffic via Finland highly depends on these matters. The global operators are willing to pay for good and reliable service for high price products entering the Russian market.

The trend of entering the VAL sector deeper seems to be the only survival path for the future. The VAL sector ought to be real VAL, not only Customs adjusting. The "sea transit" which is coming in by sea and going out by sea is most obviously a growing segment of transit traffic.

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Development of Transit Traffic via Finland in 1997–2003

This eighth volume in the series of NORDI deals with the development of transit traffic via Finland during the period of 1997–2003. The study clarifies the changes in the volume and content of the transit traffic and analyses the reasons for the changes.

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The Northern Dimension Research Centre (NORDI) is a research institute run by LUT. NORDI was established in the spring of 2003 in order to co-ordinate research into Russia. The most outstanding characteristic of NORDI's research activities is the way in which it integrates technology and economics. NORDI's core research areas are:

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