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between the European Union and Russia

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Juhani Laurila

## Determinants of transit transports between the European Union and Russia

### Abstract

The study makes an effort to elaborate the question, how Russian political, geopolitical and economic dependencies and aspirations may influence transit transport flows related to the trade between the European Union and Russia, and on Russian decisions to invest in transport infrastructures. The factors influencing on the choice of export transit transport corridors range from a number of long-term economic and geo-political security considerations of the Russian energy sector to a short-term needs to exert pressures to gain political benefits. Thus, three factors seem to have a major impact on the direction and volume the transit transport: 1) Russian national geo-strategic security considerations aiming at the maintenance of economic autarchy and spheres of interest, 2) the structure of trade between the European Union and Russia, and 3) the unwillingness of Russia to purchase from the new border republics transit transport services, available for free during the FSU era. Finally, the study contains statistics on the volumes and values of the transit transport flows between the European Union and Russia by commodity groups and by corridors (Ukraine-Slovakia, Poland-Belarus, Lithuania-Belarus, Latvia, Estonia, and Finland).

**Key words:** transit transport, security, geopolitics, oil, gas, energy, Russia, Baltic countries

# 1 Introduction

Most countries have to resort to transit transports in their foreign trade to receive or deliver merchandise to other than their neighbouring countries. These transit transports seldom call for any special attention. Then, what makes Russia-EU transit transport so exceptional that they make headlines from time to time in the international news media? This study makes an effort to elaborate answers to that question, which relates to Russian political, geopolitical and economic dependencies and aspirations and to the way they influence transit transport flows and Russian investment decisions in transport infrastructures.

Geopolitical strategies are determined by national interests, which, in turn, are determined predominantly by economic self-sufficiency and security. The geopolitical approach is defensive and sees the existence of the nation or essential relations vital to its existence as threatened by external and internal threats. Geopolitics may be used to legitimate the power by rulers over those who are ruled and expected to make sacrifices. It is also used to reinforce "national unity" by underlining external threats. A recent article by V. Senchagov (2001) gives an excellent illustration of this approach, where typically the potential of Russia (territory; population; natural resources; food supply; economic, financial and social capabilities; technology and science; military) is compared with the corresponding potentialities of competitor nations (the US, Japan, UK, Germany, and France) with regard to three aspects: ability to participate in international co-operation, potentialities for national survival and potential to use power.

As a result of his analysis, Senchagov lists six threats to Russian security for the years 2001-2003 (the study was published in August 2001): 1) dilapidated production infrastructures; 2) a high level of foreign debt; 2) a low level of investments; 4) a lack of competitiveness; 5) the impoverishment of the population; and 6) capital flight. Topics 1) and 4) are most closely related to the subject of this study.

In this study we also make an inventory along these lines as regards economic determinants of Russian security thinking, how the security thinking is reflected in decisions related to transit transports, and how the transit transports are occasionally used as means to achieve political aims in other areas. The experience of the Baltic countries is particularly interesting in this respect. A considerable effort has been made to compile transit transport statistics to show the division of transit transports by corridor between the EU and Russia.

A brief exposé of the geopolitical starting points directly related to transit transports is given in section 2.1. The Russian export potentials in terms of reserves and how production and consumption in Russia and the EU15 have developed in the past are illustrated using statistics prepared by the Energy Information Administration (EIA 1998). The future developments are based on the visions of the International Energy Agency (IEA 2000) (section 2.2.). According to the IEA scenarios, Russia will maintain an excess supply, while Europe will be facing a widening excess demand for energy. According to the statistics of the Energy Information Administration (EIA), this situation represents a continuation of developments during the 1990s.

The marketable merchandise in Russia consist mostly of energy and raw materials. The export earnings from these sectors are essential for financing the growth of the Russian economy (2.3). This makes Russia unilaterally dependent to a great extent on its trade relations with the EU15 countries (2.4) and on the availability of transit transport services from the corridor countries. Virtually all trade between Russia and the EU countries is transit trade. These trends have contributed to fears among Russian policy-makers of not having enough direct outlets to the sea or that a too large part of the Russian exports have to be transit-transported through neighbouring countries, and the transport services have

now to be purchased from them. Therefore, for “reasons of national security”, the Russian government has been in the process of constructing new port capacity and pipelines by-passing the transit territories (2.5). The geopolitical aspect is reflected in the fact that the transit trade concerns relate to the countries that were part of the FSU (the Baltics, Ukraine, Southern Caucasus), but notably not the territories of the other countries that have to be crossed to deliver the merchandise to the EU15 countries (for instance, Poland, Slovakia, and the Czech Republic).

Heavy gas and oil pipeline infrastructures as well the structure of Russian exports tie down the Russian exporters to fixed routes, because construction of alternative ones (by-passes and port terminals) require costly investments and are often dictated by geopolitical or security aspects. The existing transport and production infrastructures date back to Soviet times, having gone without maintenance for extended periods. Russia is likely to face transport and production bottlenecks, a depleted energy supply and financial constraints (2.6). Substantial financing will be necessary to mobilise Russian energy resources and their abundance is illusory.

The polarised situation of the Baltic countries in the 1990s, dealt with in section 3: “Baltic transit in focus”, serves as an example of tensions and mutual concerns and problems created by these concerns. Keeping in mind Russia’s heavy dependency on exports earnings, and that about 40 % of these exports were transported through the Baltic countries that now plan to enter NATO, Russia feels uncomfortable about this and sees potential hazards to its national and economic security in having to depend on the small countries in the critical part of its export transports. The opening of the new Russian oil terminal in Primorsk on the Gulf of Finland makes it possible to divert transit transport away from the Baltics (3.1).

On the other hand, Russia has a unilateral monopoly on demand for transit transport services vis-à-vis the corridor countries. Provision of transit transport services to Russia is an important source of income for these countries. Indications from the Russian side of substantially diverting transport flows away from the Baltic countries would hit these small economies hard (3.3). Russia has taken advantage of this by using the regulation of transit transports as a means of political pressure on a number of occasions and concerning non-commercial questions, most importantly the question of the rights of Russian minorities in the Baltic countries (3.2).

In section 5, as an outcome of a substantial statistical exercise, a summary of statistics is introduced about the relevant volumes as well as formerly unpublished statistics on the values of transit transport flows and their distribution by corridor between Russia and the EU.<sup>1</sup> The largest transit transport flows (more than 60 % of volumes and more than half in value terms) between Russia and the EU use the central European transport corridors. The statistics also reveal that the average unit value of transit merchandise from the EU to Russia was more than seven times higher in 1999 than the average unit value of transit merchandise from Russia to the EU. The obvious reason is the structure of the trade between Russia and the EU: Russia exports mainly fuels and raw materials but imports manufactured high value-added products (for instance cars, electronics).

For the purposes of this study, six transit corridors between Russia and the EU have been defined: Slovakia-Ukraine, Poland-Belarus, Lithuania-Belarus, Latvia, Estonia, and Finland. The statistical exercise has been anchored to the year 1999, because complete sets of data for 2000 were not yet available at the time of writing. Finally, also the data on transit transports between North America (the United States and Canada) and Russia have been included. Most of this transit traffic uses the above-mentioned corridors and accounts for over 20 % of the transit. Passenger and air transit traffic is excluded, as is also the transit transfers of electricity, due to the specific questions related to these transfer modes. The

results of the statistical exercise are summed up in the map, Graphs 5.1-5.3 and Table 1 in the statistical appendix.

The statistics compiled by Arkonsuo (Arkonsuo 2000a, Arkonsuo 2000b, Arkonsuo 1999 and Arkonsuo 1998) from the Baltic authorities comprise one of the most reliable sources on this topic. Hannu Arkonsuo has collected from local, primary sources in Estonia, Latvia, Lithuania, Finland and St Petersburg statistics describing the direction of transit transport flows created by this trade between Russia and the EU countries.

The data has been supplemented by statistics received from the Russian customs authority covering the years 1999 and 2000. The Russian customs statistics indicate the distribution of volumes and values of transit transport flows not only among the three Baltic corridors of Estonia, Latvia and Lithuania-Belarus, but also statistics about the competing corridors through Finland, Poland-Belarus as well as Ukraine and the Slovak and Czech Republics. Unfortunately, these statistics were found to be fairly unreliable and could be used only to supplement the other data. Beyond the specific exclusion of a number of minor transit transport flows, this survey excluded the transfer of electric power, passenger and air transit transports, and the north-south transit through the Baltics (Helsinki-Tallinn-Riga-Vilnius).

## 2 Russian concerns

### 2.1 Russian geopolitical views

Two main lines of thinking govern Russian external relations: reformism advocating co-operation and conservatism in favour of autarchy and isolation.<sup>2</sup> These elements of thinking, although contradictory, are usually mixed in Russian foreign policy statements but also have their extreme supporters. Reformism is based on maintaining economic growth and reforms through co-operation and exports of energy to Western Europe. The co-operation with the West is expected to provide Russia with the financial resources necessary for further financing economic growth, which would gradually increase Russia's economic room to manoeuvre and its independence.

On the other hand, it is acknowledged that the necessity of economic and political co-operation - as co-operation in general - also creates dependencies and increases vulnerability. Russian national conservatism advocates restoring national pride and the importance of economic independence and autarchy. It also has a geopolitical element that underlines the importance of restoring, to the extent possible, spheres of interest that prevailed during the Soviet era. Russian nationalists and communists usually find each other agreeing on these conservative ideas and maintain that the dissolution of the Soviet Union was a mistake and a humiliation. In world politics, the general idea is to favour a 'multi-polar world' and to oppose 'US and NATO' hegemony.

Autarchic views prevail also in transport sector planning and investment decisions. The dissolution of the Soviet Union created new needs to buy transport services from the newly independent neighbour countries. These services had been formerly free of charge. The necessity to pay for them is viewed as threatening national security and as an infringement on the country's transport autarchy. Also the foreign competition for Russian transports is seen as a threat. The past ten years have shown that Russia is not prepared to tolerate reductions in her freedom or money-earning capacities in transports. Instead Russia is prepared to accept considerable economic sacrifices by investing in bypasses or competing parallel pipelines.

Russia's economic autarchy and national security strategies are reflected in the energy transport politics behind a number of projects intended to by-pass territories that formerly belonged to the Soviet Union but are no longer "ours" (like the Baltics, Ukraine, Southern Caucasus). It is also reflected in efforts to exert political pressure by taking advantage of dependencies created through co-operation, competition, or controversies between neighbouring countries. In Northern Europe the Baltic Pipeline System, including the construction of the Primorsk oil terminal, and plans to construct a gas pipeline from the Barents Sea via the Gulf of Finland and the Baltic Sea to Northern Germany represent major efforts to create direct outlets and avoid transit transports. Newly completed or planned pipelines in the Russian Caucasus, parallel to those under construction or planned in the Southern Caucasus, are there to defend the Russian transport monopoly. Plans to improve the capacity of transport networks with Central Asian republics, particularly oil pipelines from Kazakhstan and gas pipelines from Turkmenistan, are also in harmony with the consolidation of economic and political co-operation within the CIS.

## 2.2 Russian energy reserves and flows to Europe

The size of the natural resource reserves and their geographic location with varying distance and direction in relation to the regions of their potential consumption determine the potential transport flows in the longrun. They also determine the decisions to invest in the infrastructure necessary to exploit and move the natural resources to the markets. After all, natural resources obtain their value once delivered to paying consumers. This underlines the importance of energy transports, and transit transports in cases in which the energy sources are located in landlocked territories.

The proven gas reserves of Russia stood at 35 billion tonnes (48 trillion cubic metres) at the end of 1999 and accounted for about 30-40 % of the world's proven gas reserves. This compares with gas resources in Europe of about 4.5 % or 5.2 billion (Quinlan, 2000). This makes Russia the world's largest supplier of gas. Production of the West Siberian Basin provides Russia, other parts of the former Soviet Union, Europe and even other parts of the world with gas. At the end of 1999 Russia had 6.7 billion tonnes (almost 50 billion barrels) of proven oil reserves, comprising 4.7 % of the world's total.<sup>3</sup>

About 70 % of the oil and 90 % of the gas produced in Russia comes from the West Siberian Basin. These vast pre-historic caverns deep under the frozen tundra of the Yamalo-Nenetsk region alone hold about 20 % of the world's proven natural gas reserves. Also the oil production of the Basin exceeds Russian consumption by about 1.5 times. Without the oil and gas production of the Basin, world oil and gas supplies would need to be redirected to maintain the balance between their supply and demand (EIA 1997). According to most estimates, about 13 % of world's oil, 30 % of solid fuel and 14 % of uranium reserves are located in the Basin. (Dudarev 2000, p. 153, IEA 2000, p. 89).

The Soviet Union produced over 600 million tonnes of oil during the 1980s. Following the break-up of the former Soviet Union both the GDP and the energy demand in Russia declined by one quarter from 1992 to 1997. The peak of 624 million tonnes a year had been reached already in 1988. After the peak, in 1995-1996, the production collapsed down to 300 million tonnes a year. Since then the production has recovered; in 1999 Russia produced 305 million tonnes and in 2000 over 320 million tonnes of oil (Konopljannik 2000, Interfax 11 January 2001). The estimate for 2001 was 315 million tonnes (Reuters News Service 12 February 2001). During the second half of the 1990's, 50-60 % of the total Russian oil production was available for export (Figure 2.2.1, Fenkner 2001).<sup>4</sup>



Table 2.2.1 Stocks and flows of Russian hydrocarbons in 1999

	Oil	Gas	Coal
Proven reserves at end of 1999, bln t	6.7	35	
Proven reserves at end of 1999, % of world total	4.7	33	
Production, mtoe	305	496	113
Consumption, mtoe	126	327	109
Exports from Russia, total, mt	199	150	30
Exports from Russia, to non-CIS, mt	177	96	24
Exports to the EU countries, mt		58	

Sources: BP-Amoco, Goskomstat

Only in the case of coal have both production and consumption fallen in Europe and in the CIS. Coal burning has been replaced with less air-polluting fuels. In Russia restructuring programmes have proceeded slowly and occasionally suffered from labour unrest in the industry.

Aside from proven and available reserves, the regional production and consumption of energy determines the direction of energy flows in trade between Europe and Russia. This can be conveniently studied in light of regional energy balances compiled by the US government as regards the elapsed 8-year period according to the International Energy Agency (IEA, Table 2.2.2).

Interestingly, the standard of living gap is visible in the statistics: in Russia and the CIS the consumption of oil and gas has fallen more than the production, in the EU15 countries energy production has grown faster or at least as fast as consumption. The increase in the supply of excess energy in 1992-1998 probably reflects adverse economic developments related to the economic transition in "Middle Europe" (defined for the purpose of this study as the region between Russia and the EU15), Russia and in the CIS: the consumption of energy has decreased more than the production. The bad conditions of the energy production and transport infrastructures have led to a decreasing supply of energy.

Western Europe is the most important market for Russian primary energy, oil, gas and coal. The primary energy deficit of Western Europe decreased slightly from 1992 to 1998 to slightly less than 780 millions tonnes oil equivalent, because the production increased by 1 % a year while the demand remained unchanged. In the same period, the EU15 had a deficit of slightly over 590 million tonnes oil equivalent, resulting from an annual growth in production of 2 % and in consumption of 1 %.

The opposite is the case in Russia and the NIS, which experienced fairly strong growth in the primary energy surplus of over 400 million tonnes oil equivalent in 1998. The production surplus increased despite the fact that the production of primary energy fell by 3 % a year in Russia, but the consumption fell even faster by 5 % a year from 1992 to 1998.

As shown in Table 2.2.2, the total EU15 demand in excess of production was more than twice the total Russian supply in excess of domestic consumption in 1992-1998. The Former Soviet Union (FSU) countries have not been, and are not likely to be, the sole suppliers of energy for Europe. Russia and the NIS supplied Europe with 29 % of the 16 billion tonnes of its oil imports in 1999, whereas 14 % of the energy supplies to Europe originated from Saudi Arabia, 13 % from Libya and the rest from a number of Middle East and African countries (IEA 2000, p. 145, and Brower 2000, Townsend 2000). As for gas, in 1999 almost 20 % of the EU gas market depended on Russian gas supplies, 53 % came

from indigenous production, 16 % from Norway, 6 % came from North Africa and Turkmenistan, and 6 % was imported in the form of liquid gas.

Table 2.2.2 Supply and demand of energy in the EU15 and Russia 1992-1998

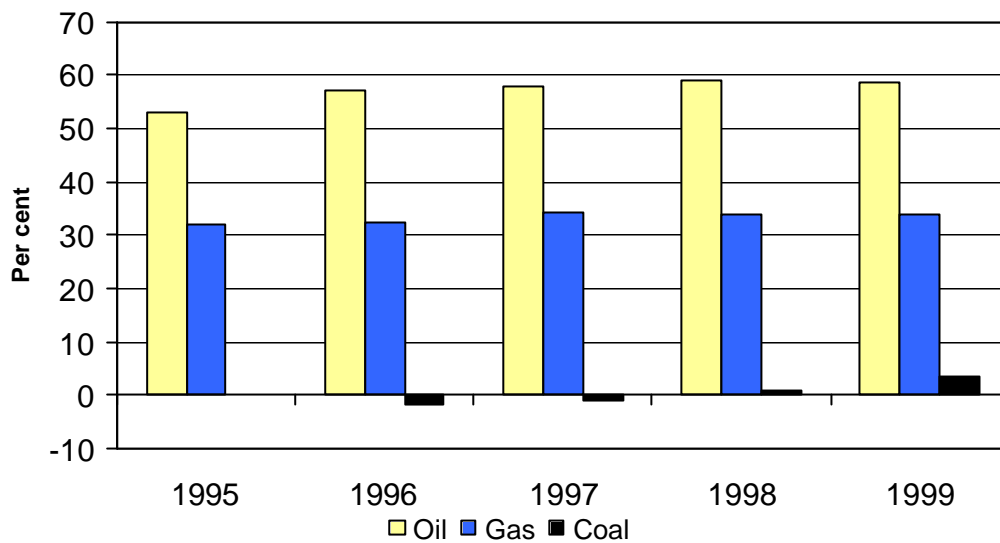
	Balance: Production less Consumption								
	Primary energy			Oil			Gas		
	Surplus or Deficit (mtoe)	Average Growth p.a. % 1992-1998		Surplus or Deficit (mtoe)	Average Growth p.a. % 1992-1998		Surplus or Deficit (mtoe)	Average Growth p.a. % 1992-1998	
		1998	Prod.		Cons.	1998		Prod.	Cons.
Selected regions	1998	Prod.	Cons.	1998	Prod.	Cons.	1998	Prod.	Cons.
Western Europe EU15	-592	2	1	-411	5	1	-89	3	3
Middle Europe	-186	-3	-4	-96	-1	-4	-138	-4	0
<b>Total demand</b>	<b>-778</b>	<b>1</b>	<b>0</b>	<b>-506</b>	<b>5</b>	<b>0</b>	<b>-226</b>	<b>2</b>	<b>2</b>
Russia	379	-3	-5	187	-4	-10	176	-1	-3
Central Asia & Caucasus	25	-5	-6	18	3	-8	37	-6	-13
<b>Total supply</b>	<b>404</b>	<b>-3</b>	<b>-5</b>	<b>205</b>	<b>-4</b>	<b>-10</b>	<b>213</b>	<b>-2</b>	<b>-4</b>

Source: Energy Information Administration (EIA) of the US Department of Energy (<http://www.eia.doe.gov/>); summarised and converted from BTU<sup>15</sup> to mtoe.

In addition, Russia does not have only European customers. According to the World Energy Outlook (WEO), Russia's total gas production in 1999 was about 430 million tonnes, which left 33 %, or over 140 million tonnes, for exports. Almost 2/3 of Russia's total gas production went to domestic consumption; about 15 % of the total production, or 65 million tonnes, was exported to Europe, of which in turn 40 %, or over 25 million tonnes, went to Germany.

Energy production and consumption are usually considered to follow the growth of GDP. The scenarios of the WEO are based on the assumption of favourable and uninterrupted economic development in the long run and that the supply and demand of energy are linked with growth in GDP. Hence, a one per cent growth in energy consumption is coupled with a 2.1 % growth in GDP in Europe, and a 1.4 % growth in Russian energy production is associated with an expected 2.4 % average annual growth in the GDP of the Russian economy in 1997-2020.

Figure 2.2.1 Oversupply (production less consumption in Mtoe) of hydrocarbons in Russia as percentage of production 1995-1999



Source: BP Amoco 2000

According to the scenarios of the International Energy Agency, Western Europe will base its energy supply on increased gas imports, and Russia again on increased gas exports. The supply of primary energy is expected to grow annually by 1 % in Europe and 1.4 % in Russia during 1997-2020. The supply of gas is expected to grow at a rate of 2.8 % in Europe versus 1.3 % in Russia. As a result, the share of gas of the total primary energy supply in Europe would amount to 30 % as projected for 2020, while its share in 1997 was no more than 20 %. The main features of the WEO scenarios are summarised in Table 2.2.3.

The energy balances for oil, gas and coal present parallel patterns (Figure 2.2.1). In the case of gas, the CIS surplus in 1998 clearly exceeds the EU15 deficit and comes close to the total Western European deficit. In the cases of oil and coal, the Russian or CIS surpluses clearly lag behind the European deficits.

Natural gas will dominate Russian primary energy production even in the long/medium term. According to the WEO, gas will still account for over half of Russia's total primary energy supply in 2020. Gas will be the only fuel, the production of which will exceed the 1992 level of production of 422 million tonnes oil equivalent by 2020. The importance of the increased gas imports from Russia stems from Europe's need to obtain/have access to enough fuel for its strongly increasing transport needs. The idea is to replace gas for oil, which is currently used for heating and power production. Burning gas to produce electricity is expected to compensate also for the downgrading of nuclear power generation.<sup>5</sup> The EU15 countries plan substitution away from oil by increasing their gas supplies equivalent to an additional 100 million tonnes a year up to 2020 (Baum 2000).

Table 2.2.3 The Balance and Growth of Production and Consumption of Primary energy in Russia and Europe from 1997 to 2020 in Mtoe

	WEO, OECD		Growth
	1997	2020	% p.a.
Supply of primary energy from Russia	576	803	1.4
Russia's own consumption	395	545	1.4
Available for exports	181	258	1.5
Required imports to meet Europe's own consumption	502	611	0.9
Europe's own consumption	1716	2144	1.0
Supply of primary energy from Europe	1214	1533	1.0
- Relational primary energy balances:			
Russian excess supply, % of total Russian supply	31	32	
European deficit, % of total European supply	41	40	

Source: scenarios from 1997 to 2020 for the OECD: World Energy Outlook 2000 (WEO 2000).

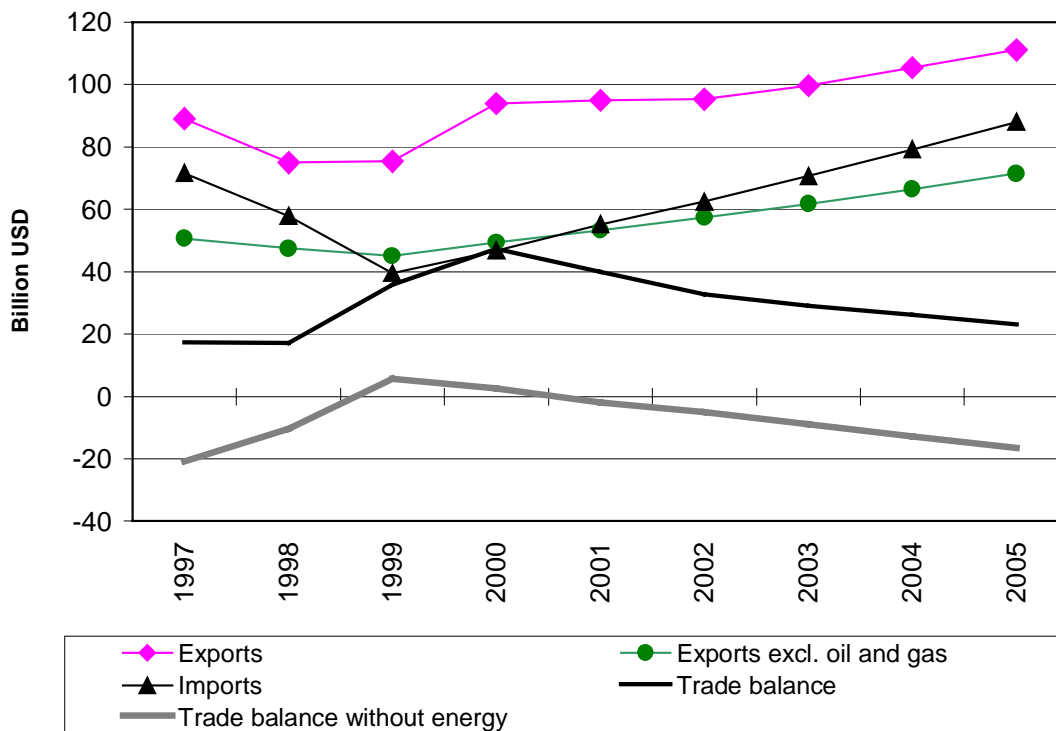
There are also other reasons for the increased use of gas in Europe: Western European gas consumers have more than 75 % of the world's proven gas reserves within a reasonable pipeline distance: 40 % of the global proven gas reserves are in Russia and 34 % in the Middle East. The demand for natural gas in Western Europe (EU15 plus Switzerland and Norway) is expected to grow from about 270 million tonnes in 1998 to 340-450 million tonnes by 2020 (North Transgas 1999). On the other hand, the indigenous production of natural gas in Europe is expected to start declining, creating deficits of 30 million tonnes oil equivalent by 2010, 80 million tonnes oil equivalent by 2015 and 140 million tonnes oil equivalent by 2020.

Nonetheless, oil will remain Europe's largest energy source. More than 90 % of incremental demand will come from the transport sector, expected to grow by 1.5 % annually. The growth rate of the European oil supply of 0.7 % is more modest and expected to suffice to meet the demand originating from the transport sector, Europe will increase its gas and oil production from indigenous sources (the North Sea) and by increasing imports of gas and substitutes, like gas from Russia, the Middle East and Africa.

### 2.3 Relevance of energy exports for the Russian economy

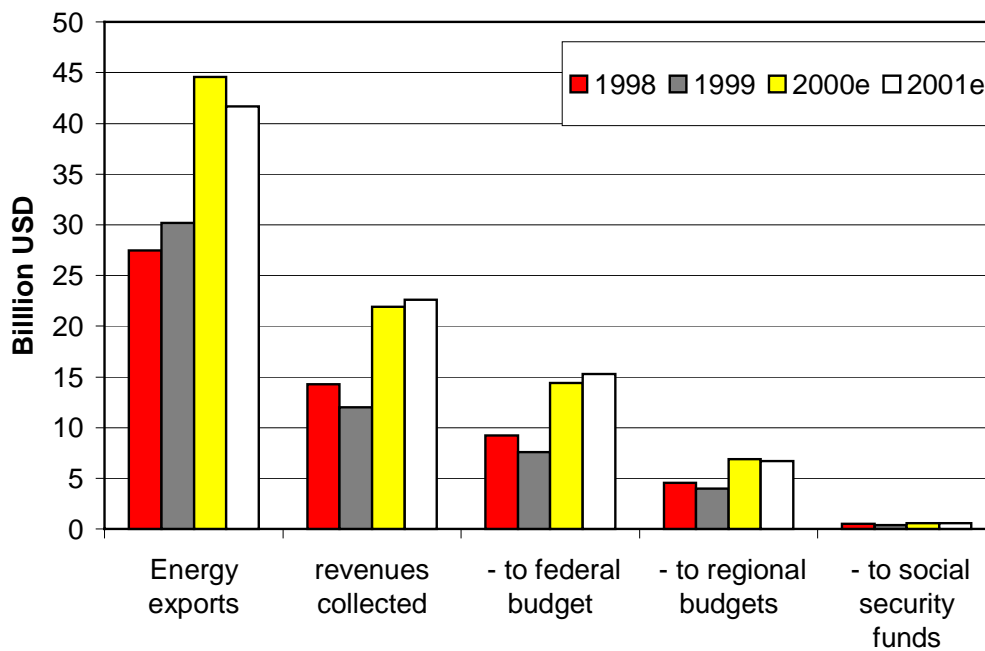
Energy exports constitute the main source of financing of the Russian economy. According to some estimates, in 1999 the production and sale of oil and gas accounted for more than 40 % of Russia's total exports of about 75 billion dollars, and 8 % of its GDP of about 375 billion dollars. Assuming that this share will persist also in the future and given the forecasts for Russian foreign trade, the trade balance of Russia will show a relatively strong surplus. Without energy exports (see Figure 2.3.1), the trade balance will remain clearly negative.

Figure 2.3.1 Share of oil and gas in Russian trade



Sources: ABN Amro, IMF, the Russian Ministry of Finance

Figure 2.3.2 Revenues allocated to Russian federal and regional budgets and to social security funds from receipts of energy exports in 1998-2001



Sources: ABN Amro, IMF, the Russian Ministry of Finance

World market prices of oil have been highly volatile.<sup>6</sup> The main driver of oil prices is OPEC, which is in a position to control the world market prices of oil. However, Russia's increasing presence in export markets may force OPEC to take it into account in the future in order to avoid eventual destabilising effects. Changes in oil prices have an important effect on Russian on Russia's domestic economy. In the future oil and gas sales are expected to bring in about 15 billion dollars, or 40 % of Russia's close to 40 billion dollar budget revenues (Figure 2.3.2, Fenkner 2001, p. 18). According to some estimates, a one dollar change per barrel in the price of oil price in either direction is equivalent to a change of 0.3 billion dollars in federal budget revenues (corresponding one percentage point of the GDP) and is equivalent to a change of 0,5 billion dollars in consolidated budget revenues, corresponding to three percentage points of the GDP (Kwon & Siddique 2001).

## 2.4 Trade

The European Union is the most important trade partner of Russia. About 34 % of Russian trade in 1999 took place with EU countries, and about 14 % with non-EU European countries. The foreign trade between the EU and Russia has three implications for transit traffic. First, more than 80 % of trade flows that relate to trade between the EU and Russia use the transit transport corridors and qualify as transit transports. The direct transports through the Russian Baltic Sea ports constitute the major exception. Second, Russia depends strongly on trade with the EU, but such trade with Russia plays a marginal role in the foreign trade of the EU countries. Finally, the inter-industry character of the trade between the EU and Russia determines the modes of transport and the kind of infrastructure required.

Table 2.4.1 Trade and transit transport flows between Russia and the EU 15 (incl. North America) in 1999, million dollars

<b>Trade</b>	X from Russia	M to Russia	Trade
US & Canada	6549	2553	9102
EU14	21646	12711	31804
Total	28195	15264	40906
<b>Tansit transport</b>	from Russia	to Russia	Total
US & Canada	5730	3150	8880
EU14	22849	10545	33394
Total	28579	13695	42274

Remarks: X stands for exports, M for imports.

Source: IMF, Direction of Trade Statistics and results from the transport statistics analysis in section 5 below.

In Table 2.4.1 the trade statistics between Russia and the EU15, including the North America, are compared with the transit transport flow figures resulting from the statistical exercise explained in section 5. The value of the transit transport flows seems to exceed the

trade flows, which is not necessarily correct. In fact, the trade flows should exceed the transit transport flow figures, because according to results from the statistical exercise, about 15 % of transport flows represent direct transports from Russian Baltic Sea ports to the EU15 and North America (Table 1 in the Statistical Appendix). Nonetheless, and taking into account the error elements in the international trade statistics and our estimates, it is possible to conclude that the match is adequate to substantiate the contention that more than 80 % of the Russia-EU15 trade deliveries are transit-transported through one or more of the transit corridors.

Figure 2.4.1 Direction of Russian trade by selected regions in 1999

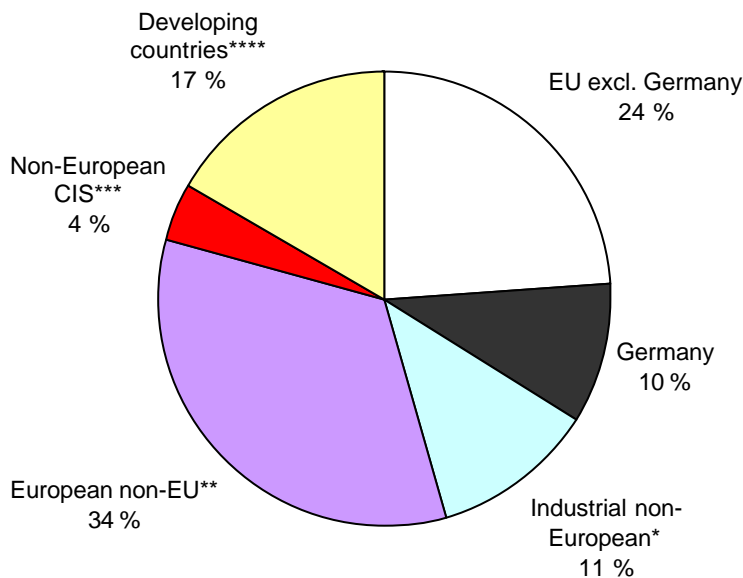


Table 2.4.2 Direction of Russian exports and imports by selected regions in 1999

	Billion dollars		% -distribution	
	Export	Import	Export	Import
EU excl. Germany	17.8	6.9	24	23
Germany	6.2	4.2	8	14
Industrial non-European*	8.7	3.2	12	10
European non-EU**	25.9	8.9	36	29
Non-European CIS***	1.9	2.3	3	8
Developing countries****	12.6	4.8	17	16
Total	73.1	30.3	100	100

Remarks:

\*United States, Canada, Australia, Japan, New Zealand

\*\*Including also Norway and Switzerland

\*\*\*Caucasus and Central Asian republics

\*\*\*\*Developing Asia, Middle East, Latin America and Africa

Source: IMF, Direction of Trade Statistics

As shown in Figure 2.4.1, 68 % of Russian trade took place with European countries, and half of that trade with EU-member countries. Germany is singled out as the most important individual country, with which 10 % of Russian trade took place in 1999. Italy, France, the Netherlands and the United Kingdom followed Germany in importance absorbed 24 % of Russian exports and provided Russia with 26 % of its imports in 1999. Another import source region was the non-European CIS, where mainly Kazakhstan and Turkmenistan are supplying Russia with oil and gas. The principal receiver regions for Russian exports were are the non-EU European countries and developing countries.

These trade dependencies are asymmetric if looked at from the side of the EU countries: trade with Russia is not very important for them. The share of each EU member country's trade with Russia in terms of its total foreign trade remained at about 1 %, with the exceptions of Portugal and Luxembourg totalling less than a half per cent, Greece 3 % and Finland 5 %. For instance, in 1999 Germany's share of Russian foreign trade was 10 %, but Russia's share of Germany's foreign trade was 1.4 %. Finland still constitutes an exception: in 1999 Finland's share of Russian foreign trade accounted for 3.2 % and Russia's share of Finland's trade was 5.2 % (IMF 2000).

The commodity structure of the trade between the East (Russia) and the West (the EU or Western Europe) follows an inter-industry pattern. Russia provides Western Europe with traditional Soviet-era exports of oil, gas and raw materials and receives in exchange manufactured goods and food to be consumed by the most well-to-do part of Russian consumers (Table 2.4.3).

Table 2.4.3: Russian foreign trade (excluding the CIS countries) by commodity group in 1999

	Trade in 1999, % - distribution of value	
	Exports from Russia	Imports to Russia
Crude, gas, other mineral products	42.8	2.0
Metals, precious stones	28.5	5.1
Wood, cellulose and paper	5.4	4.0
Machinery, transport equipment	9.5	36.2
Food and agricultural products	2.4	28.4
Chemical products	8.2	17.2
Others	3.2	7.1
Total	100.0	100.0
Total in billion US dollars	62.8	22.2

Remarks: Textiles and clothing are included in "Others"; beverages, tobacco, sweets etc. in the category "Food and agricultural products"; cars, major durables and electronics in "Machines and instruments"; and, pharmaceuticals and rubber in "Chemical products".

Source: Goskomstat, Ezhegodnik 2000 (Year Book 2000).

Although the commodity distribution statistics listed above do not make any explicit distinction between raw materials and manufactured products, we can safely state that the first three items (fuels, minerals, metals, wood and cellulose) represent raw materials or products with a low degree of fabrication and comprised about 70 % of Russian exports in 1999. The next four groups listed (machinery, transport equipment, food, chemical products and others) represent, by and large, fabricated or half-fabricated consumer or investment goods and amounted to nearly 90 % of imports to Russia in 1999. The statistics for



the year 1999 are fairly representative, because the distribution has remained quite stable during the 1990s.

Table 2.4.3 illustrates the role the Russian economy still has as a provider of energy and raw materials in exchange for consumer and investment goods it purchases from Europe. The inter-industry trade between Russia and the EU15 is based on the principle of comparative advantage created by the structure of production in the Russian economy. Although this has been a matter of concern among Russian economists, one can safely assume that the structure of production is not going to change drastically in the foreseeable future. In fact the "partnership in energy" between EU-Europe and Russia, which was concluded in the European Union and Russian summit on 15 October 2000 in Paris, proposed "positive interdependence" by way of Russia increasing energy deliveries to Europe in exchange for investment and new technologies from the EU countries.<sup>7</sup>

## 2.5 Russian security and transit transports

According to Russian national security thinking, transports have been diverted from the risky to safe areas and from transit routes to domestic ones. The oil export revenues from the EU countries are vital for financing the Russian economy, and the bottlenecks in Russian transports would harm these interests. The security aspects have been taken into account by constructing new outlets to increase the total transport capacity for exports and bypasses around the risky territories.

One of the largest projects is the Baltic Pipeline System (BPS), which includes also terminals and ports on the Gulf of Finland, in the Leningrad region not too far from the city of St. Petersburg. The Primorsk and Batareinaya terminals and the BPS are being constructed to bypass the Baltic countries. In order to take full advantage of these new terminal capacities, also the throughput of crude and oil products between Kirishi and Primorsk is being increased by constructing new pipeline connections (270 km, with a budget of 320 million dollars). Russian dependence on transit has been further reduced by three new detours. The largest project is the crude pipeline from the Tengiz oil field in the north-eastern corner of the Caspian Sea (Kazakhstan) to Novorossiisk on the Black Sea (with a capacity of 15 million tonnes of oil a year, 1580 km long and at a cost of 2.5 billion dollars). The second bypass from Baku to Novorossiisk around Chechnya was scheduled to become operative by mid- 2001. The third project, for transit from Samara to Novorossiisk with a detour via Sukhodolnaya – Rodionovskaya, bypassing Odessa (Ukraine), has been operative since October 2001 (with a capacity of 25 million tonnes to be increased later to 35 million tonnes, 150 km long, and at a cost of 180 million dollars). Transneft decided to construct this last bypass when Ukraine did not agree to lower the annual transit fee of 60 million dollars.

With the Tengiz - Novorossiisk and Baku - Novorossiisk projects, Russia aims at maintaining its dominance in oil transports from Central Asia. Transporting cheaper Central Asian oil and gas also enables Russia to prevent the cheaper Caspian and Central Asian oil and gas from competing with Arctic oil and gas, the production and transportation costs of which are higher. It is Russia's answer to the parallel European-American pipeline projects (Baku - Poti and Baku - Ceyhan). However, the emergence of Caspian Basin and Central Asian oil and gas will increase only marginally the transports via the Baltic and Central European corridors.

A number of totally new outlets have been planned or are already under construction, for example: the gas pipeline from Western Siberia through Poland to Central Europe; new outlets of gas and oil to the Adriatic Sea; the "Blue Stream" gas pipeline across the Black

Sea from Russia to Turkey; the gas pipeline from the Barents Sea through Kola and Karelia and under water through the Baltic Sea to the north coast of Germany; the new LUKOIL-financed oil terminal on the Pechora Sea; and YUKOS plans to construct a pipeline to China with a capacity of 10 million tonnes a year, to be extended to 30 million tonnes a year later on.

The construction of pipelines in Central Asia aims at keeping the Russian pipelines filled with oil and gas from Kazakhstan, Turkmenistan and the Caspian Basin. It is hoped that the energy production and transport interests shared by Russia and these Central Asian republics will lead to increased integration of the economies of participating countries and to strengthening Russian – Central Asian co-operation, which has been organised within the CIS, the Customs Union between the CIS countries, and the Euro-Asian Economic Union (Aleksandrov & Orlov 2001).

Moreover, the gas transport questions concerning Ukraine serve as an interesting case of the mixture of legitimate commercial interest and measures based on geopolitical motives.<sup>8</sup> A nominal reason, not necessarily telling the whole truth, is the Russian reluctance to pay transit transport fees to the FSU republics. The 1-2 billion dollars a year “lost” to the Baltic countries served as one of the arguments for the construction of the Primorsk-BPS project. Similarly, reluctance to pay 60 million dollars a year to Ukraine for gas transport via Odessa (Ukraine), motivated the construction of the Sukhodolnaya – Rodionovskaya bypass.

## 2.6 Existing Russian transport infrastructures

According to a widely supported view in Russia, the delivery routes for exports between Russia and the EU across the new independent republics constitute a threat to the sustainability of Russia’s economic security. At the very least, Russia now has to purchase from the Baltic countries, Ukraine and Belarus the transit transport services that formerly had been provided “free of charge” by the Soviet transport system. To explain these security concerns, “objective factors” have to be taken into account: the landlocked position of Russia and Soviet legacies as reflected in the transport system.

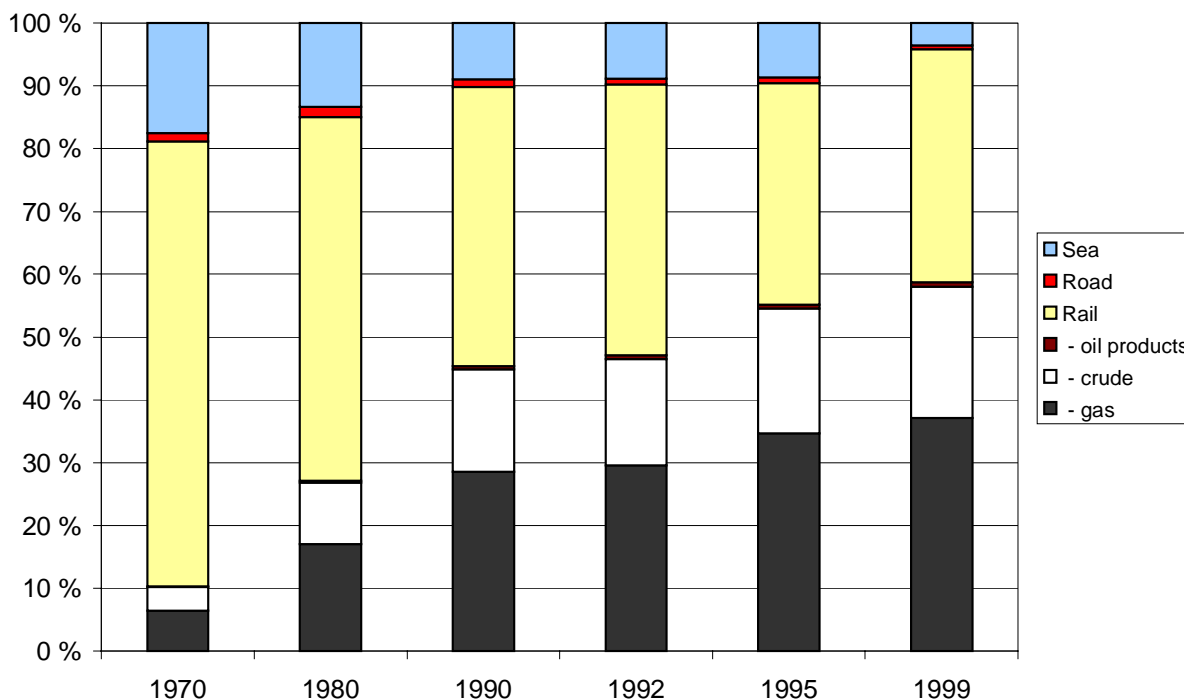
After the dissolution of the Soviet Union, the cargo transported through Russian ports dropped by 1/3 because the foreign trade of Russia fell and Russia also started to buy transit transport services from the Baltic countries and Ukraine. Presently Russia possesses 43 commercial seaports with a total capacity of over 165 million tonnes. From 40 to 50 % of the Russian sea transport takes place through the Baltic Sea ports, including the St. Petersburg and other Gulf of Finland ports. More than one third takes place via Black Sea ports, 15-20 % via Far East and Pacific ports, and 5-10 % via Arctic ports (Goskomstat 1999 and 2000). Excluding the direct transports through the St. Petersburg, Vyborg and Kaliningrad ports, around 30-40 % of Russia’s sea freight in the 1990s was transported through the neighbouring countries of Belarus, the Baltic States and Finland (Puheloinen 1999)

Russian transport is traditionally based on railroad, inland water transports and pipelines. The role of roads has been to serve as feeders to the railways. Road transport was not a priority in the Soviet Union.<sup>9</sup> Measured by performance in tonne kilometres, rail transport still dominated Soviet transports in the 1970s. The transport performance, in terms of tonne kilometres, increased from about 2300 tonne kilometres in 1970, of which railroad transports comprised about 70 %, to about 5700 tonne kilometres in 1990, with railroad performance falling to less than half of previous level of the 1970. The gas and crude pipeline transports had increased during this same period from 10 % in 1970 to 45 % in 1990

(see Figure). Since the peak of 1990, transport performance fell during the 1990s and was around 3200 tonne kilometres in 1999. The share of pipeline transport performance had increased to almost 60 %. Overall, the Soviet-Russian transport system continues to be specialised on moving large quantities of raw materials, fuels and chemicals and industrial semi-manufactured goods.

The profitability in general, and the oil and gas production and transportation in particular, was not necessarily the primary concern in the FSU. The territory was vast and the sources of energy and raw materials were in distant locations, far removed from consumers and costly to extract and transport. Also the legacies of the megalomania of the FSU central planning are grave. The dimensions of a project were often large, sometimes gigantic, and made to symbolise national pride. Usually also various political, security and strategic considerations were given precedence over transport economics. The costs did not matter; many of the infrastructures were constructed by using low-cost or forced labour. With this affection for large sized projects, without much regard to their profitability or to human suffering, the FSU was able to develop its energy production and transport capacities quite rapidly. For instance, the expansion of natural gas pipelines allowed exports of 7 million tonnes in 1975, 24 million tonnes in 1980, 42 million tonnes in 1990 and from Russia 55 million tonnes in 1999 - the annual rate of growth being 8.6 % in 1975-1999.

Figure 2.6.1 Distribution of Soviet-Russian transport performance, selected years 1970-1999



Remark: oil-products, crude and gas represent pipeline transport.

Sources: Goskomstat 1999 and 2000

## 2.7 Competitiveness and financial problems

Russia is facing depletion of its current energy resources and degradation of its heavy transport infrastructure. When assessing the long-term development and the future of trade and transport requirements between Russia and its trade partners, the technical and financial constraints and the competitiveness of Russian energy in the international markets have to be considered.

Years of Soviet mismanagement and under-investment have taken their toll. A major problem is the size of investments necessary to guarantee the growth of the supply of energy for Russia itself and the provision of Europe with energy, mainly gas. The above scenarios of the IEA and the OECD, summarised in Tables 2.2.3 and Appendix Table 1, based on assumptions of favourable and uninterrupted economic development in the long run as well as of the supply and demand of energy, are linked with growth in the GDP. As mentioned above, according to the IEA, in Europe one per cent growth in energy consumption is coupled with 2.1 % growth in the GDP. In Russia, 1,4 % growth in Russian energy production is associated with a 2.4 % average annual growth of the GDP in 1997-2020.

Table 2.7.1 Assumptions for the IEA scenario

	Europe	Russia
GDP, billion USD in 2020	12267	1311
GDP per capita, USD in 2020	23280	9500
GDP annual growth %	2.1	2.4
Population, million in 2020	527	138
Population, annual growth %	0.2	-0.2
World Market Prices		
Gas price, annual growth %	1.7	
Oil price, annual growth %	1.5	
Coal price, annual growth %	0.1	

Source: IEA 2000, pp. 137, 175-176

In fact, after 2015 Russia is expected to be a net importer of oil, the net import need being about 25 million tonnes a year by 2020. This situation is predicted to change, because the drop of the indigenous gas production in Europe and associated gas deficit would require 5-6 new pipelines to be constructed by the year 2020 (Vuoria 2000).

The best oil and gas fields were exploited first during the Soviet era. Now Russia will have to relocate its energy exploitation and necessary production and transport infrastructures to new fields. For these reasons Gazprom expects its production to continue to decline for another decade.<sup>10</sup>

Exploration and finding new fields and resources are not likely to compensate for the depletion of old oil fields. Of the currently exploited oil and gas fields, more than 50 % of the oil and 30 % of the gas have been exhausted. The state of installed equipment is poor the plants and pipelines are worn out. According to Dudarev, over 50 % of coal mining equipment, 30 % of gas pumping units, over 50 % of oil production and 30 % of gas production equipment is worn out. The same goes for more than 50 % of power plants, including nuclear power plants. Over 50 % of the oil pipelines have been in use from 20 to 30 years (Dudarev 2000).

Unlike Europe, Russia also plans to increase its coal production and nuclear power supply, both by 0.6 % a year. The nuclear energy programme includes construction of 20-25 new power stations at a cost of 60-80 million dollars during the coming 15 years. According to UES estimates the new power-generating capacity necessary after 2005 requires investments of some 7-8 billion dollars during 2000-2010 (Andrew 2001, Wendlandt & Cookson 2001). The bill is estimated to amount to about 14-16 billion dollars a year during the period 2000-2020. About two thirds of increased electricity will be used domestically. The principal foreign clients for nuclear power-generated electricity are expected to be China, and in Europe Germany and Finland (Andrianov 2001).

The financial feasibility of these plans devised by the Russian energy authorities can be questioned. The feasibility is affected by uncertainties in the world market prices of oil, gas and other fuels and raw materials, the pace of transitional changes and the growth of the Russian economy, and the attractiveness of the Russian energy sector for foreign and Russian investors. The prospects for attracting financing to implement these plans remain bleak. Although estimates about the needs for financing the necessary investments to maintain and modernise Russian energy production vary according to sources of information, the following 'consolidated' table gives an idea of the magnitude of the financial needs:

Table 4.6 Financing needed for maintaining and modernising the Russian energy sector in 2110-2020

(In billions of dollars)	2001-2010	2001-2020	Source
Oil sector modernisation	80	170	Ministry of Energy, Russia
Gas production maintenance	50	140	WEO
Power production and distribution	70	160	UES, Troika Dialog, WEO
Non-nuclear power capacity maintenance	150	300	Troika Dialog, WEO
Total	350	770	

The efficiency of Russian energy production in comparison to production in other industrialised countries is low. To take an example from the gas industries, Dudarev estimates that the average pumping efficiency of gas-pumping units in Russia is 18-23 % in comparison to 33-36 % in the West. Approximately 44 million tonnes of gas (or about 10 % of production) is lost annually in gas transports (Dudarev 2000, p. 155). As soon as the gas transport routes from Kazakhstan and Turkmenistan to Europe are opened, the major part of the subsidised Russian energy will be non-competitive.<sup>11</sup>

Russia would have a chance to improve the situation by introducing energy savings, and in general, improving the efficiency of the domestic use of energy. According to the World Development Report (World Bank 2000), energy is being more efficiently used in industrialised countries and this efficiency has been growing faster in Western Europe than

in Russia. Comparing Russia, with its population of 147 million people (in 1999), with the largest European energy consumer, Germany, with 82 million people, the efficiency of energy use (measured by purchasing power-adjusted GDP produced by one kilogram of energy) was more than 3 times higher in Germany than in Russia in 1997. Also the average annual growth in energy efficiency has been faster, 2.7 % a year in Germany in comparison with 0.9 % in Russia in 1990-1997.

## 3 Baltic transit in focus

### 3.1 Russian political concerns about the Baltics

Russia has four major concerns in the Baltic Sea region. The first concern is the question of the treatment and rights of the Russian minorities, particularly in Latvia, but also in Estonia and Lithuania. The second concern is the decision of the Baltic countries to seek membership in NATO. The third concern is the arrangements necessary for Kaliningrad and its development, particularly once Lithuania and Poland have joined the European Union. Fourth, Russia has postponed the ratification of the border agreements with Estonia. The concerns of Russia, just by being concerns of Russia, become concerns of the Baltics as well.

The official stance of the Russia foreign policy in general, and towards the Baltic countries in particular, has been codified in a document approved by President Vladimir Putin on June 28, 2000. According to this document, ". . . There are good prospects for the development of the Russian Federation's relations with Lithuania, Latvia and Estonia. Russia stands for putting these relations onto the track of good neighbourliness and mutual cooperation. An indispensable condition here is respect by those states of Russian interests, including the key question of respect for the rights of the Russian-speaking population,." (The Foreign Policy 2000). The document invites the Baltic countries to respect Russian interests, singling out explicitly the rights of the Russian speaking population (29 % in Estonia, 33 % in Latvia and 8 % in Lithuania).

Russia has assumed a negative attitude towards the expansion of NATO and particularly the use-of-force operations in the territories of new members. According to the Russian position, NATO's present-day political and military guidelines - and NATO's new strategic concept in particular - do not coincide with the security interests of Russia (The Foreign Policy 2000). Still, all three Baltic countries have already filed their applications for NATO membership. The Russian "Council on foreign policy and defence" (SVOP) concluded in its discussions that the improvement of relations between Russia and the Baltic countries would be frozen. Also the priorities in transport policy are likely to be reshuffled and the transit transports through the Baltic countries would be redirected through the ports of the Leningrad and Murmansk regions, which already have demanded such a redistribution of transports for several years (SVOP 2001).

President Vladimir Putin stated in September 2001 that it is up to the Baltic States to decide about their membership in NATO. Nonetheless, in case they do join, both Western and Russian sources (van Ham, Trenin, Medvedjev) consider it likely that Russia will activate a number of sleeping issues, one of which is expected to be the redirection of the transit transports from the Baltics through alternative routes. A number of other questions have already been touched upon by the SVOP: the treatment of Russian minorities, the Russian-Estonia border questions. It may affect adversely Russia's participation in Nordic regional

co-operation or increase Russia's political interventions in major commercial or environmental issues (having the Ignalina power station closed by the year 2005, problems with the privatisation of the Lithuanian Mazheiku oil refinery and difficulties in agreeing on crude oil deliveries with LUKoil. Even new issues might be provoked, like conflicts between Belarus and the Baltics.

The Kaliningrad issue might be used to obstruct the enlargement of the EU. Russia insists that the Kaliningrad region stay as an inseparable part of the Russian territory. Decisions about the region will be made in Moscow. Russia expects that the free movement of people and transports between the enclave and the rest of the world will be arranged (Uniting Europe 2001) and that Kaliningrad will be developed into a flourishing economic centre. Given these preconditions and the current socio-economic state of Kaliningrad, the equation does not seem to have solutions. Although Russia took the initiative and opened the door to discussion on Kaliningrad with the EU in 1999, the EU has been somewhat unprepared to accept the challenge, nor does Russia seem to have feasible ideas about how to develop the area. Foreign investors have not been very enthusiastic, with some exceptions, like BMW. The EU has launched and implemented a number of projects under the Tacis program, but they have not been very successful.<sup>12</sup>

In contrast to its attitude towards NATO, Russia's attitude towards the EU is fairly positive. Russia regards the integration processes of the EU " . . . as an objective component of European development" and " . . . will seek due respect for its interests . . ." The relations are outlined in the Agreement on Partnership and Co-operation of 24 June 1994 and the agreement on the Strategy for the Development of Relations between the Russian Federation and the European Union, approved in 1999. The latter deals with the process of EU expansion and reform. In this context, " The EU's emerging military-political dimension should become an object of particular attention." (The Foreign Policy 2000).

### 3.2 Baltic political concerns about Russia

Although the largest transit transport flows between the EU and Russia take place through the Central European corridors (Poland-Belarus and Slovakia-Ukraine, see section 5 below), political aspirations and their impact on transit have culminated in the case of transit through the Baltic corridors (Estonia, Latvia and Lithuania-Belarus). The ultimate reason is the restricted access to the Baltic Sea via a number of ports (Ventspils and Riga in Lithuania, Tallinn in Estonia and Klaipeda in Lithuania), the services of which were no longer available free of charge once the Baltic countries had re-gained their independence.

The three Baltic countries have been rapid and determined in their transition process towards a market economy and orientation towards the West. This "window of opportunity" was most fully used by Estonians. In the 1990s, and particularly during the first half of it, Estonia was the most liberal country in Europe (Lainela & Sutela 1994). The developments were parallel but slower in Latvia, with Lithuania still lagging behind Latvia. In order to ensure individual freedoms and the future development of democratic systems in these countries, all three countries have applied for membership in the EU, WTO and NATO (Krickus 1998). The westward orientation seems to be fast and successful enough to evoke irritation among those Russians who felt that Baltic independence itself represented a humiliation for Russia.

However, all three Baltic countries would like to secure themselves a firm position in Western security structures, involving membership in the EU and NATO. They have many sources of concern. The track record of the Soviet Union and Russia in treating any of its border neighbours in the past and present is not very comforting. The estimated 40 000

Russian troops in Kaliningrad worry Lithuania. There are heavy concentrations of Russian troops just behind the Estonian and Latvian borders. A Soviet-type despot dominates neighbouring Belarus. Although it is possible that Russia would be able – following in the footsteps of Germany and Japan – to establish a stable democratic system, in view of its uneven economic development and social turmoil, a return to autocracy in Russia is not implausible (Krickus 1998). The policy and attitudes of Russian policy-makers and authorities towards the Baltic countries has been ambiguous and inconsistent, seasoned with contradictory decisions, statements and a number of agreements that have never been implemented (Keisalo 2000). In light of this and of their history, the Baltic security concerns are legitimate, as acknowledged even by Russians themselves. Russia would be prepared to discuss regional security guarantees including, for instance, the Nordic countries. The Baltic countries fear that acceptance of region-specific arrangements would undermine their chances of being included in broader ones (Joenniemi 2000b).

Moreover, Russia has been pressing its small Baltic neighbours by repeatedly interfering in oil transit transports on a non-commercial basis so as to impose its political will on the Baltics. The Baltic countries feel that NATO membership will increase their security against such Russian pressures, reinforce their independence and increase its credibility (Mölsä 2001). Their applications for NATO membership represent desires for military security warranted by the possibility that Russia would again threaten the independence of the Baltic countries. During the 1990s the Baltic governments have been concerned about political and economic pressure from Russia. Russia regulated punitively transit transports more or less continuously towards all three Baltic countries regularly during the 1990s.<sup>13</sup> Russia closed the oil products pipeline from the Samara refinery on the Volga River for the first time already in 1992. At that time the measure was linked to the dispute between Latvia and Russia about the ownership of the pipeline. However, in April 1998 Russia cut again oil exports through Latvia and diverted it to other routes in order to persuade Latvia to modify legislation leaving a large part of the ethnic Russian population effectively stateless in Latvia (American University 2000). At the same time, other measures against Latvian exports were taken in Russia (Arkonsuo 1998). Most measures have been aimed mainly at Latvia, because Latvia has the largest ethnic Russian population in the Baltics, of which a large part had not been granted civil rights similar to those enjoyed by the Latvian majority.

On the other hand, the Baltic nations have to take part of the blame for being intolerant and oversensitive in their attitudes toward the Russian minorities. Beyond the fact that there have been occasional frictions among the three countries, the track record of the Baltic countries in being tolerant towards each other or towards their minorities (Jewish, German, Polish, Ukrainian, etc.) is not good. Anatol Lieven describes in his book factors explaining why the Balts have neither been too anxious nor too skilful in relating tolerantly to their minorities, and to the Russian minorities in particular. Without pretending to seek excuses for discriminatory minority laws, the current treatment of the Russian minorities obviously reflects memories among Baltic citizens of the Soviet-era occupation, deportations and suppression of national independence (Lieven 1993).<sup>14</sup>

### 3.3 Baltic economic concerns about Russia

Trade with the Baltic countries is only marginally important to Russia. In 1999, Baltic trade comprised only 3 % of Russia's total foreign trade. Trade with Russia is still fairly important for the Baltic countries, which have been able to redirect their trade toward the West relatively rapidly and to compensate for the loss of the Soviet markets. By 1999,



trade with Russia accounted for about 16 % of the foreign trade of the Baltic countries, implying that a major part of the trade of the Baltic countries took place with Western partners. In terms of trade shares, Latvia is most dependent on Russian trade (24 %), followed by Lithuania (16 %) and Estonia (11 %) (Table 3.3.1).

The major Russian oil companies like LUKoil, Surgutneftegaz, YUKOS and others have taken advantage of the growing regional competition for transit freights and have been successful in playing off the Baltic ports against each other (Davydova 2001). As a result, they have been able to press down the transit fees to a low level. In addition, in exchange for giving guarantees for the continuation of oil supplies, they have been able to demand and acquire stakes in Baltic transport enterprises (Liuhto 2001). There is no doubt, however, that competition between the Baltic countries would not have improved the competitiveness of their respective transport sectors. The growth of the transport sector has been particularly strong in Estonia and seems to have originated from a strong productivity increase. The Latvian and Lithuanian transports sectors have grown slightly faster than the GDP, implying that transport sector shares of the GDP have modestly increased (Table 2 in the Statistical Appendix).

Table 3.3.1 Share of Russia's foreign trade directed toward the Baltics and vice versa in 1999]

	Russia	Baltics
Estonia	1	11
Latvia	1	24
Lithuania	1	16
The Baltics	3	16

The Baltic countries, being more competitive than the Russian suppliers of transport services, feel uncomfortable about the possibility of losing Russian transport deliveries just due to Russian security thinking. Without transit transports, the Baltic countries would be left with over-sized and idle capacities that are falling apart. The value-added share of GDP share of transit transport services accounts for 5 - 10 %.

According to the most often estimates, about 90 % of Latvia's, 70 - 80 % of Estonia's and 70 % of Lithuania's total transport volumes consist of transit transports. Based on Arkonsuo's and Latvian Ministry of Transport and Communications statistics, the transit transport share of total traffic is lower: the average figures for the years 1995-1999 are 56 % for Estonia, 87 % for Latvia and 66 % for Lithuania (See Table 2 in the Statistical Appendix).

However, available sources give differing information about the transit transports' GDP shares. According to some of them, the value-added contribution for Estonia was 10.5 % of GDP in 1996, 12 % in 1997 and 14 % in 1999 (about 0.8 billion dollars) (Financial Times 19.5.2000); for Latvia 16 % in 1995, 17.2 % in 1997 and 18 % in 1999 (or about 1.2 billion dollars) (HS 16.10.2000); and for Lithuania 8.9 % in 1996 and 9.3 % in 1997 (about 1 billion dollars in 1999) (Unibanka 1998). Even figures as high as 20-25 % of GDP for Estonia and Latvia in 2000 have been quoted lately (Bronstein 2001). The sources do not usually indicate the original source or methods of calculation, e.g., whether indirect or multiplier effects have been included and how. It may be noted in this context

that the gross transit transport revenues in Finland amounted to about 0.2 billion dollars and the value added 0.1 billion dollars, accounting only for 0.13 % of GDP, including a 0.03 % share of indirect effects derived from input-output tables (Arkonsuo 2000b, Saarto & Antikainen & Salanne 1995).

There are reasons to believe that these figure overestimate the importance of the transit transports. Arkonsuo, based on a fairly detailed and sophisticated exercise, concluded that the transit incomes in 1998 were in Estonia and Lithuania approximately on the level of 200 million dollars and in Latvia 350-400 million dollars (Arkonsuo 1999, pp. 96-99). Taking into account balance of payments information on gross revenues from transport services and other supplementary statistical information, it is possible to end up with slightly higher shares for 1999 of 350-500 million dollars for Estonia, 550-600 for Latvia and 300-400 for Lithuania, with corresponding GDP shares of 7-9 %, 8-10% and 4-6% respectively (See Table 2 in the Statistical Appendix). These estimates are optimistic, but match the expenditures of about 1.0-1.5 billion dollars a year, which Russia allegedly is "losing" by purchasing transit transport services from the Baltics.

## 4 The Game around Baltic Ports

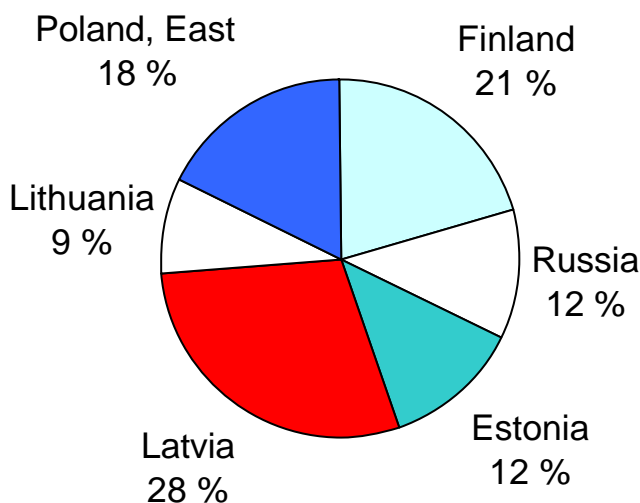
### 4.1 The ports

The port of Ventspils in Latvia is the leading port for traffic and transit traffic in the Baltics. Together with two other Latvian ports, Riga and Liepaja, it accounted for almost 30 % of the total Baltic Sea cargo volume in 1999 (Figure 4.1). The total volume of cargo of Ventspils more or less equalled the cargo of all the south coast ports of Finland, around 35 million tonnes, at the end of the nineties. However, the total cargo volumes through the ports of Tallin/Muuga in Estonia and the port of St Petersburg have been growing fast, whereas there has not been virtually any growth in Ventspils (Figure 4.2). The cargo turnover in Ventspils in 1999 was 34 million tonnes, 28 for St. Petersburg and 26 for Tallinn (Unibanka 2000).

There are several reasons for these developments. According to some estimates, 10 - 15 % of the total Russian oil exports and almost 80 % of oil transit via Latvia is transported through Ventspils. The capacity of the Ventspils port amounts to 50 million tonnes a year. Evidently, the Russian preferences for gradually diverting the oil transports from the Baltic countries towards St. Petersburg and later on through the new Primorsk terminal, Russian dissatisfaction with the treatment of the Russian minority in Latvia, and technical transport capacity constraints have adversely affected the growth of the Ventspils cargo turnover.

While out of the total traffic through the Finnish ports less than 10 % consists of transit transports, the share of transit transports through Latvian ports, and lately also the ports of Estonia and Lithuania, varies from 80 to 90 %. Ventspils takes a leading position also in oil transports: about three quarters or almost 25 - 30 million tons of the total cargo volume (in 1998) consisted of oil transit transports from Russia. There are plans to expand it further to 70-80 million tonnes a year by 2010.

Figure 4.1 Distribution of total cargo turnover of 170 million tonnes in 1999 between ports of the Baltic Sea countries



Remarks: Baltic ports serving East-West-East transit between the EU15 and Russia have been included. West Polish, North German, Danish and Swedish ports have been excluded for this reason. The following ports are included:

Finland: Helsinki, Kotka, Hamina, Naantali, Turku

Russia: St. Petersburg, Vyborg, Kaliningrad

Estonia: Tallinn/Muuga

Latvia: Ventspils, Riga, Liepaja

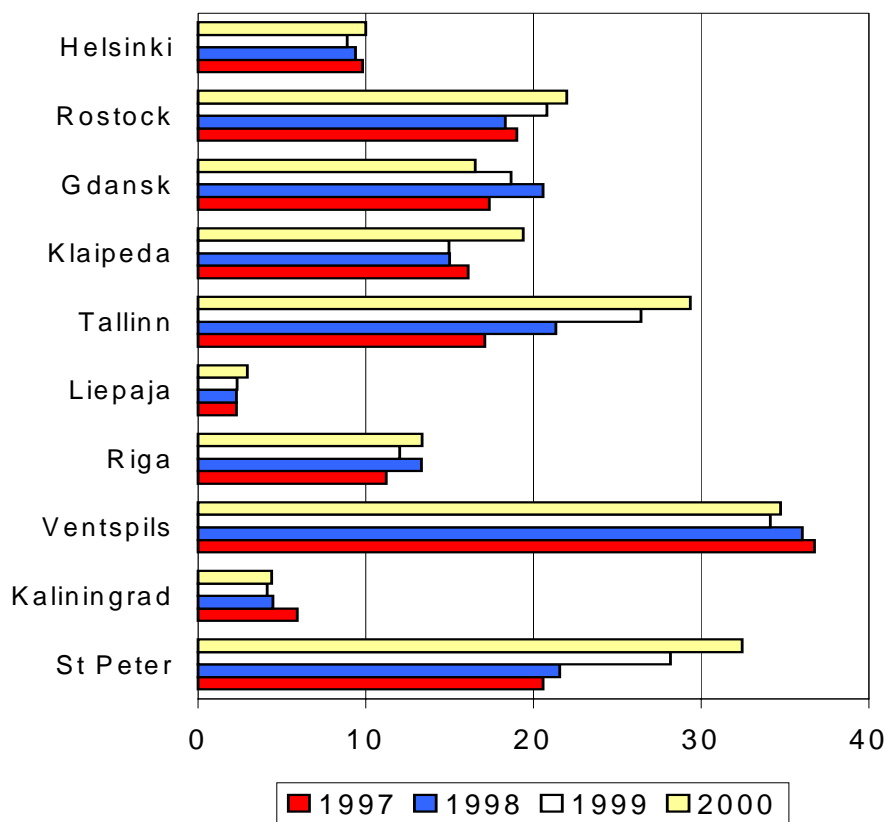
Lithuania: Klaipeda

Poland, east: Gdansk, Gdynia.

Note that the distribution of total cargo, not transit cargo, is shown here. For the distribution of transit cargo, see Figure 5.1

The port of Tallinn is the main competitor of Ventspils. Oil transports through Tallinn consist of less than half of its total cargo volume, or about 10 million tonnes, which equals a quarter of the ports of St. Petersburg, Klaipeda of Lithuania or Gdansk or Gdynia in Poland. The rest of the cargo volumes through Tallinn consist of general and bulk cargo. Helsinki and Riga, ports of about equal size, are purely general and bulk cargo ports with extensive handling of containers. The Finnish south coast ports and Tallinn complement the relatively low capacity of the ports of St. Petersburg. However, Russia has been expanding the ports of St. Petersburg. According to plans, the capacity will be doubled by 2010 and the investments are expected to amount to about one billion dollars by 2010.

Figure 4.2 Cargo turnover at the some major Baltic Sea ports in 1997-2000, million tonnes



Remark: St Peter stands for St. Petersburg.  
 Source. Ministry of Communications, Latvia

The transit transport volumes of the Lithuanian ports remain fairly modest, comprising only about 10-12 % of total Baltic regional transit and 7-10 % of oil transit including Russian Baltic Sea transports. The main port is Klaipeda, but for oil transports there is also the Butinge terminal. It is owned by the national oil company Mazeikiu Nafta (Mazeikiai Oil), which also owns the only oil refinery in the region with a designed capacity of 15 million tonnes a year. Its operations have been disturbed by the disagreements between the shareholders of Mazeikiu Nafta (the Lithuanian government and a U.S. company) and the potential Russian crude deliverers LUKoil, and more recently YUKOS, on the volumes and price of crude to be delivered on a long-term basis from Russia to Mazeikiu Nafta refinery (Scheel 2001, EIA Search 2001).

The transports between Russia and Kaliningrad have to cross the territories of Belarus and Lithuania, unless a longer route via Latvia-Lithuania is chosen. Possible transit via Kaliningrad to Russia also has to cross the territories of these countries. The port is being expanded to take 60 000 dead weight tonne tankers; however at least 100 000 dead weight tonne acceptance would be necessary to make it competitive. The development of port facilities is only one of the development needs in Kalinigrad, still faced with a politically and economically unresolved future.

## 4.2 Competition between the Baltic Sea ports

During the latter half of the 1990s, competition between the Baltic Sea ports for transit freights increased. All Baltic countries have taken measures to modernise basic port infrastructures, to provide modern superstructure (terminals), to increase sector privatisation and commercialisation as well as to improve transport logistics and storage facilities (Latvian MOTC and the World Bank, 2001). The major Russian oil companies have taken advantage of the growing regional competition for transit freights and have been successful in playing off the Baltic ports against each other and pressing down transit fees. In addition, Russia has increased its own direct sea transports through St. Petersburg and its other Baltic Sea ports, Kaliningrad and Vyborg.

The most striking development has been the phenomenal growth of Estonian transit by 20 % a year from 1995 to 1999 (see Table 4.2.1). The growth of the transport sector in Estonia has been particularly strong, which seems to originate from the strong productivity increase. The Latvian and Lithuanian transport sectors have grown slightly faster than their GDPs, implying that the GDP shares of the transport sector have modestly increased. This growth is mainly due to the increase of westbound oil transports of almost 40 % a year. The share of oil transit increased from 32 % of all transit via Estonia in 1995 to 70 % in 1999. For instance, in the case of Latvia, the corresponding share remained almost unchanged and was a little over 60 %, although the volume of Latvia's oil transit is still nearly twice the volume of oil delivered through Estonia. In addition, the non-fuel transit transports via Estonia have experienced a steep rise well beyond the Latvian and Lithuanian transit transports. The average shares in 1995-1999 of the east-west transit transports of all transports have been 56 % for Estonia, 87 % for Latvia and 65 % for Lithuania. The percentages might have been somewhat higher, had we included the transit between Russia and non-EU Europe in the transit transport figures. The total transports have grown slightly faster than the transit transport during this period. The shares of transit transports of total transports averaged 56 % for Estonia, 87 % for Latvia and 66 % for Lithuania in 1995-1999.

The success of Estonia in transit transport is based on improvement of railway transport and logistics, expansion of oil terminals (Muuga port) and on close co-operation with the Russian oil deliverers (LUKoil) in taking care of oil transports from the Kirishi refinery and other Russian sources. Improvements in cargo handling, storage facilities and efficiency, while keeping the costs down, have enabled Estonia to attract transit transport flows from Finland and, perhaps, marginally also from Latvia. The transit through Latvia and Lithuania has also grown, although at a rate well below Estonia's. Latvia has modernised the Ventspils oil terminal and attracted foreign investment there, but the pipeline and railway capacities as well as relations with Russia continue to cause bottlenecks.

Table 4.2.1 Average annual growth of transit transport volumes through selected countries and average shares of westbound and oil transit in 1995–1999 (%)

	St Peter	Estonia	Latvia	Lithuania	Baltics	Finland	Total
Total transit annual growth (ag)	11.5	20.3	5.4	4.0	8.5	-8.9	8.2
- westbound transit ag	13.2	21.2	5.3	3.8	8.4	-8.2	8.6
- eastbound transit ag	2.8	15.4	7.5	4.9	9.8	-10.6	5.4
- westbound oil transit ag	-4.5	39.8	5.4	0.7	12.0	29.0	10.5
Westbound transit, % of total transit	84.0	86.0	96.0	83.0	92.0	66.0	91.0
Oil transit, % of total transit	28.0	61.0	64.0	29.0	58.0	9.0	50.0
Total transit, aver.95-99, mill.t onnes	15.7	13.2	41.1	9.7	63.9	4.3	83.9
All transports, aver. 95-99, mill. tonnes		23.4	47.2	14.8	85.4		
Share of transit of all transports, %		56.2	87.0	65.5	74.8		
All transports, ag		21.3	5.7	5.1	10.0		

Remark: For purposes of comparison, direct transports from and to Russia through the Baltic Sea are included in the table, although it does not represent, by definition, transit traffic.

Source: Arkonsuo 200a, Latvian Ministry of Transport and Communications and author's calculations.

As noted above, only Finland has been losing transit transports also in absolute terms to its competitors Estonia and St. Petersburg. Even the strong growth of oil transit transports did not help, because they accounted for only 9 % of transit transports via Finland (see Table 1). In view of the modest transit volumes that go via Finland – less than 2 % of total transit between Russia and the EU – even small diversions of transports or single major deliveries suffice to swing the percentage in one direction or the other. Finland seems to be preferred by those customers who are ready to pay for security and high quality of handling as well as storage of an amount that can be considered reasonable in relation to the high unit value of their deliveries to Russia (see Appendix Table 3).

### 4.3 Future plans

All Baltic countries, and Estonia in particular, have been active in making their transport systems more efficient by restructuring, privatising and modernising their management, logistics and infrastructure. Although the Baltic countries still suffer from a number of FSU legacies still reducing the competitiveness of their respective transport systems, they are currently more competitive than the remaining Russian ports and railways. The competitiveness of the Russian ports is reduced by high customs duties, by time-consuming and voluminous paperwork and red tape required by the customs authorities. The ports are run inefficiently and the local and federal governments have not been able to improve the situation (Dudarev et alia 2000). The pipeline transports are not necessarily beyond these problems - there have been cases in which the flow has been cut for weeks by Russian

customs due to problems in related documentation. There continue to be logistical problems and bottlenecks in storage and warehousing.

A precondition for the expansion of port capacities is that the ports are supported by adequate transport infrastructures. For instance, the development of the port of Ventspils has been suffering from the limits of pipeline and railroad capacities on both the Latvian and Russian sides. The growth of the transports between Tallinn (Muuga) and Kirishi is based on improvements of railway transports and related logistics. The further growth of Estonian transport, and also Latvian transport through Ventspils, will be challenged by the construction of the Primorsk oil terminal, accompanied by a major increase in pipeline capacities.

Already in 1993 a decision was made (Chernomyrdin 1993) to construct a 2400 kilometre-pipeline from the Timan Pechora fields of the Komi Republic in northern Siberia to the three planned ports of Primorsk (oil and gas terminal), Ust-luga (coal and general cargo) and Batareinaya (crude, oil products and liquid chemicals) on the Gulf of Finland. For that purpose a company, the "Baltic Pipeline System" (BPS), was established with the majority owner being Transneft, which transferred part of the pipelines to the new company's ownership as payment for the purchase.

The capacity of the Primorsk oil terminal is planned to be 40 million tonnes oil per year. Its completion is expected to take 10 years and the construction cost estimations vary from 4 to 5 billion dollars. The first stage, due to be completed at the end of 2001, is designed to carry 12 million tonnes of crude oil a year. The estimated construction cost of the first stage of about 460 million dollars is being collected through an oil export tax (EIA December 2000). In order to fully use the terminal capacity, also the pipeline capacities from the Kirishi refinery have to be increased and the final leg up until Primorsk has to be constructed. In the second stage the throughput of pipeline from Yaroslav to Kirishi will be increased from the present 17 million tonnes to 32 million tonnes.

The implementation of the BPS project means that most of the transit transports of oil will be diverted through Primorsk. Surgutneftgaz, currently supplying petroleum products to Tallinn, is known to be in favour of the BPS project and is likely to divert the transports through Primorsk, once the terminal is opened. The throughput of crude and oil products from Russia via the Baltic ports has been around 40-45 million tonnes a year and through Finland around 0.5 million tonnes a year. Thus the planned final capacity increase of about 43 thousand tonnes of oil a year (Table 3) would more or less compensate the tonnage of transit via the Baltic States. The construction cost estimations varies from 4 to 5 billion dollars.<sup>15</sup>

The progress of the port facilities development in the Leningrad region depends on the availability of financing. Transneft is financing the Primorsk port and Surgutneftegas the port of Batareinaya. Only part of the financing has been made available to each of them, and construction work has been launched on this basis. The government-owned Transneft may ultimately use its monopoly power to force oil companies to further finance Primorsk and the BPS. At the same time, LUKoil, originally interested in participating in the Primorsk terminal project, has already moved its interest to the Pechora Sea, where its new Varandey port has already commenced operations. At the same time, St. Petersburg has expanded its port capacities (Lomonosov), and Ventspils and the Muuga port of Tallinn have increased their capacities.

The Finnish company Fortum/Neste has offered the Porvoo harbour a supplementary plan so as to increase the efficiency and profitability of the planned Primorsk terminal and to reduce its environmental hazards. According to this proposal, the Finnish harbour of Porvoo (Sköldvik - Kilpilahti) would serve as a supplementary corridor, taking care of the Primorsk transports during wintertime, when the pack ice conditions would hamper port

operations in Primorsk. The shared transport would reduce the environmental hazards on the ecologically vulnerable Gulf of Finland, which is lively trafficked (Schmidt 2000).<sup>16</sup> If a crude spill were to take place at the Primorsk port and get mixed with the cooling waters of the Sosnovy Bor nuclear power station 45 kilometres away, a particularly critical situation might come about.

Russia has indicated that by constructing these ports they could win back the 1.5 - 2 billion dollars they keep losing every year when buying transit transport services from the three Baltic countries and Finland.<sup>17</sup> Questions have been raised whether the transport capacities necessary to adequately meet the rising Russian transport needs could not be implemented at a far lower cost by additional investments in the existing Baltic infrastructures. Raising the Ventspils oil transit capacity from 50 to 90 million tonnes, enough to meet any foreseeable increase in Russian oil exports, could have been implemented investments amounting to 10-20 % of the investments of those planned to be invested in the Gulf of Finland ports (Robinson 2000a). Primorsk will be iced up much of the year; the ice-breaking costs of over 1000 dollars an hour reduce the competitiveness of transports through its port. The high cross-traffic density between Helsinki and Tallinn, and inadequate protection against oil pollution spills on the shallow and narrow Gulf of Finland, make a major ecological catastrophe likely to happen sooner or later (Robinson 2000b, Perttu 2000). Also the World Bank, the EU Tacis program and the EBRD have considered the Primorsk project economically unprofitable and not eligible for financing. Instead, they have extended financing to modernisation and capacity extensions of the Baltic transport systems, and the ports in particular.

A fall in indigenous EU gas production is expected, together with a projected increase in the overall demand for gas. This would result in additional gas transports from Russia to Europe of about 230-250 million tonnes a year, which would require doubling the current export capacity of about 75-80 million tonnes and would lead to construction of 5-6 new major pipelines (Vuoria 2000). A new gas pipeline is necessary to transport the gas to the European markets. The gas and condensate field in the Barents Sea is one of the largest known gas fields in the world. The Russian gas company Rosshelf, - a subsidiary of Gazprom – has been negotiating with potential foreign partners about a production-sharing agreement, for the time being without results.

## 5 Transit statistics: transit transport flows by corridor

The total transit tonnage of 193 million tonnes in 1999 between the EU and Russia was distributed among transport corridors as follows: Ukraine – Slovakia 72, Belarus – Poland 46, Latvia 42, Estonia 20, Lithuania 10, and Finland 3 million tonnes. The percentage distribution is shown in Table 5.1. The transit transport tonnage from Russia to the EU was 94% of the total, leaving only 6% for eastbound tonnage. This reflects the pattern of trade between Russia and the industrialised economies of the EU: Russia exports mostly low unit-cost products such as oil, gas, raw materials and semi-manufactured industrial and investment goods. In exchange, Russia imports expensive investment or consumer goods, and major durables (cars, electronics, household machinery, etc.). The overwhelming share of fuels and raw materials in Russian exports to the EU tie Russian transports to a relatively heavy and fixed transport infrastructure (pipelines, oil terminals and ports). By contrast, the modest volumes of imported merchandise are deliverable in containers that can be fairly flexibly handled and routed using varied forms of transportation. This is portrayed by



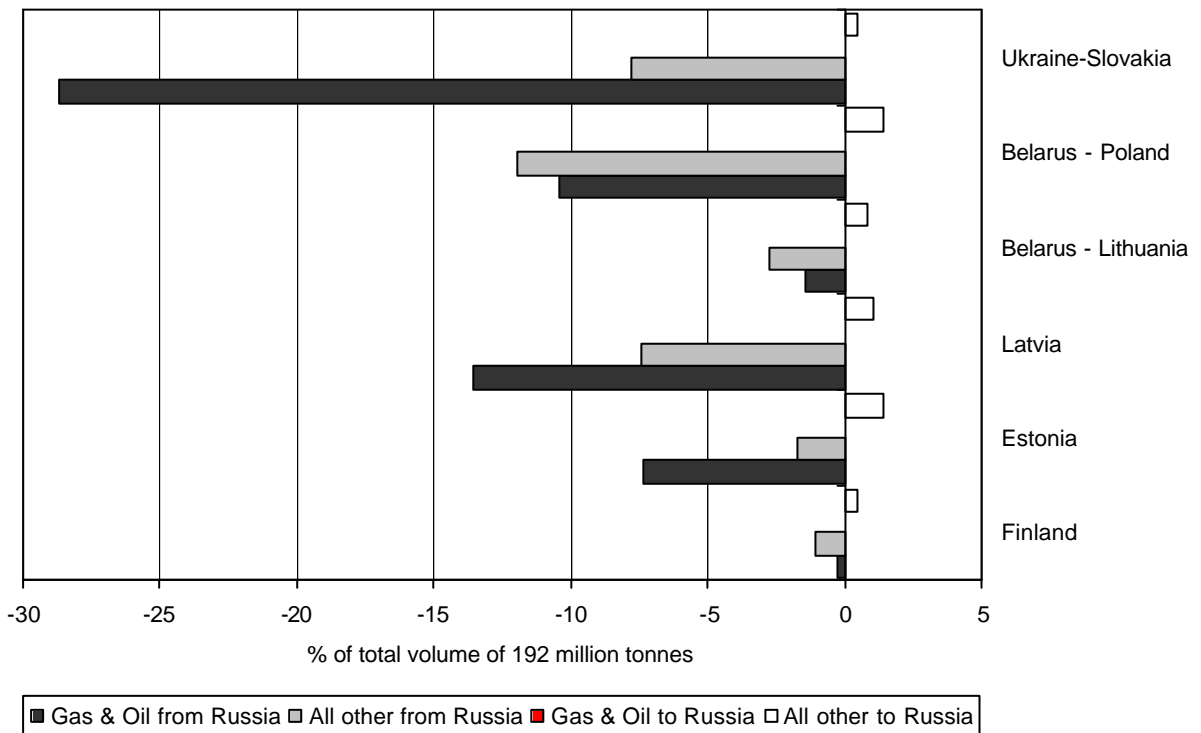
the more flat distribution by corridor of the volumes and values of the eastbound transit transports than the distribution of westbound transit transports in Figures 5.1 and 5.2.

Figure 5.1 Distribution of the EU-Russia transit cargo turnover of 192 million tonnes and value of 42.3 billion dollars in 1999 among transit corridors

	Volumes, %-distribution	Values, %-distribution
Finland	2	6
Estonia	11	9
Latvia	22	25
Lithuania	5	9
Poland-Belarus	24	38
Slovakia-Ukraine	37	14
Total	100	100
Total in mt, mUSD	193	42273

Source: derived from Table 1 in the Statistical Appendix

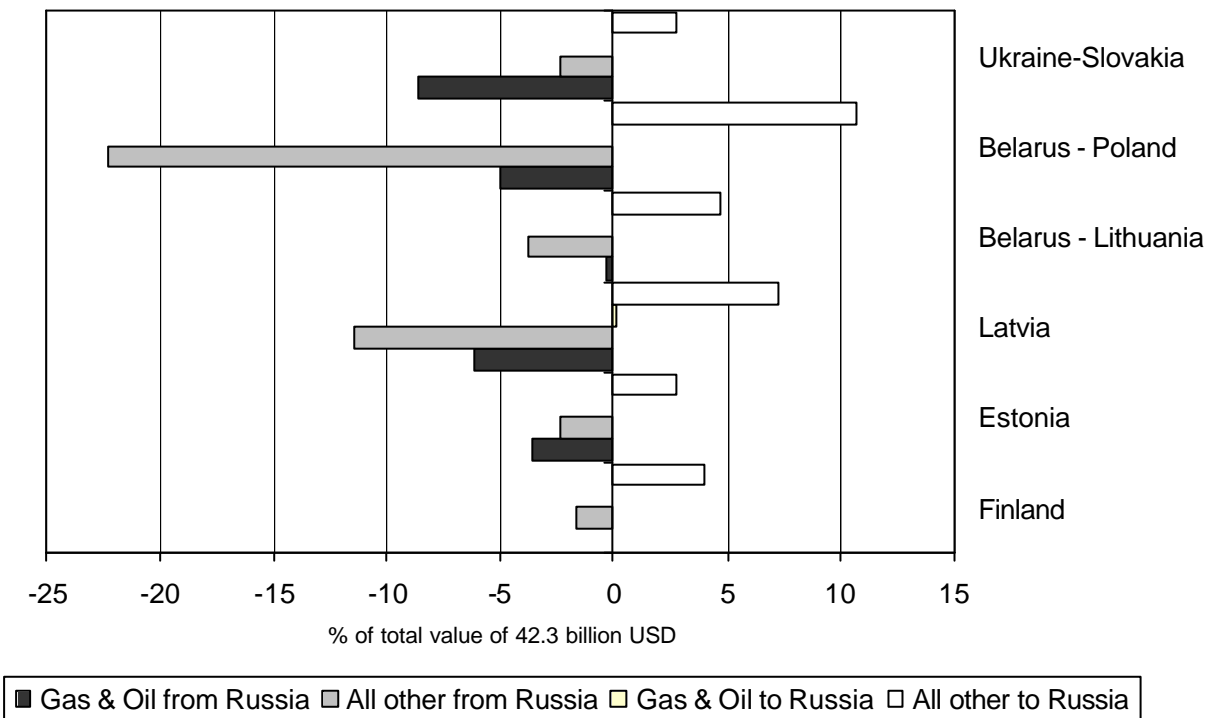
Figure 5.1 Breakdown of transit transports in volume terms by main corridor in 1999 (% to Russia and from Russia are shown to the right and left of the x-axis, respectively)



Source: Russian State Customs Committee, Petroleum Economist, author's calculations based on material in Arkonsuo 2000a.

The values of eastbound and westbound transit flows between Russia and the EU are more evenly distributed than volumes. The total of 42.3 billion dollars (westbound plus eastbound) transit in 1999 was distributed among transport corridors as follows, in billions of dollars: Ukraine–Slovakia 5.8, Belarus–Poland 16.1, Latvia 10.6, Estonia 3.7, Belarus - Lithuania 3.8, and Finland 2.4. Eastbound flows accounted for about one third of the total value of transit flows in 1999 (see Figure 2). The Belarus–Poland corridor is the most important for eastbound transports, followed by Latvia and Lithuania, but the value of transit transports via Finland is also relatively high, considering the low volumes. In fact, the unit value of transit deliveries through Finland was the highest of all – 2107 dollars per tonne, which compares to 1677 dollars per tonne for eastbound transports through the Belarus–Poland corridor.

Figure 5.2 Breakdown of transit transports in value terms by main corridor in 1999 (% to Russia and from Russia are shown to the right and left of the x-axis, respectively)

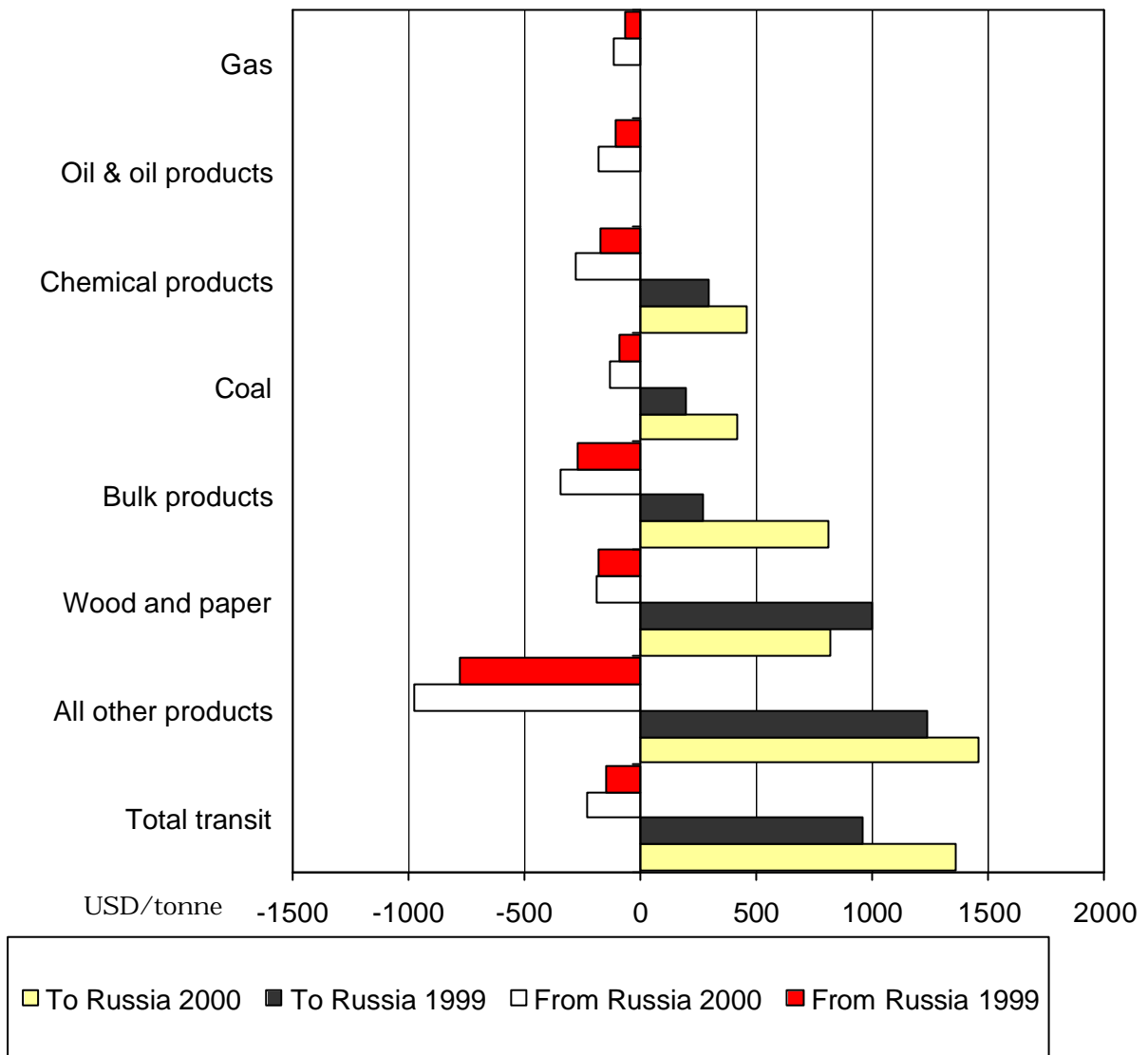


Source: Russian State Customs Committee, Petroleum Economist, author’s calculations based on material in Arkonsuo 2000a.

The statistics in Figure 5.3 show that the unit value of transit transports to Russia is higher – more than seven times higher in 1999 – than the unit value of transit transports from Russia. Again, the inter-industry character of trade between Russia and the EU explains the difference.

According to data of the State Customs Committee, the unit prices of all commodity groups increased in 2000, with the exception of wood and paper transported to Russia. Led by the oil price hike, the unit value of westbound transit increased more than the unit value of eastbound transit. The total value of transit in both directions increased by about one third in 2000 from 1999.

Figure 5.3 Average unit prices of main commodity groups in 1999 and 2000 (\$ per tonne)



Source: Russian State Customs Committee, author's calculations.

## 6 Summary and conclusions

The economic determinants seem to primarily precondition the political ones in the transit transports between the European Union and Russia. The location, adequacy, and distance of the energy reserves from the potential markets comprise the geo-economic background and determine the direction and volume of potential energy flows. Energy, as other resources, receives its value once extracted and refined into a consumable form, transported and delivered to the consumers. The construction and maintenance of necessary infrastructures is costly, and here the financial constraints step into the picture in the case of Russia. The capital costs of these investments together with the maintenance and running of the system will determine the competitiveness of Russian energy supplies, together with the world market prices of energy and changes in economic growth in the consumer markets.

The European Union countries could well do without energy imports from Russia, resorting to North Sea reserves and alternative sources, as disclosed by the trade figures. In contrast, Russia has to depend on its energy export revenues for years to come in order to finance its transition, implying diversification of its production and export structures. The substantial oil and gas pipelines from Northern Russia to Europe and the planned new ones also fix the constellation. Out of Russia's total foreign trade of around 65 billion dollars at the end of the 1990's, about 3/4 took place with the rest of Europe and almost 2/3 with European Union countries. In 1999, about 90 % of all trade between Russia and the EU15 plus North America was transit transport, with the North American transports comprising about 20 % of these combined transit transports. The rest, 10 %, represents Russian direct Baltic Sea transports mainly from St. Petersburg, Vyborg and Kaliningrad.

An effort has been made to assess the volumes and values of transit transports between Russia and the EU15 distributed among six transit corridors. The exercise confirmed the dominance of the Central European corridors (Poland-Belarus and Slovakia-Ukraine): 61 % in volume and 52 % in value terms of all transit transports between Russia and the EU15 was channelled through these corridors in 1999, whereas the corresponding percentages for the three Baltic countries were 37 % and 43 %. The low unit value of the Central European corridors in comparison with those of the Baltic countries can be explained by the fact that the gas pipelines are routed through Slovakia and Ukraine and large amounts of oil are transported also through Poland. The unit values of these transports are low in comparison with all other products. The highest unit values are in the eastbound transit transports via Finland (over 2700 dollars in 1999) and Poland-Belarus (1680 dollars); the weighted average of the eastbound transit was 1170 dollars. A major part of these transports consisted of electronics, cars, and household durables. At the low end are the unit values of the westbound transit transport with a weighted average of 158 dollars, with the Slovakia-Ukraine corridor having a weighted average of only 66 dollars.

The Baltics represent a case in which geo-economics is converted into geopolitics and the implications for transit transports. About 40 % of Russia's foreign trade is transited through Baltic ports, with all likelihood more efficiently and than would be the case through any Russian port. Still, Russia feels landlocked and insecure enough to consider constructing new costly bypasses, in this case the Baltic Pipeline System and the Primorsk terminal, aiming to divert a major part of transit from the Baltic countries to Primorsk in Russia. The earnings from the transit transport are important for the small Baltic economies. Taking advantage of this dependence, Russia has already in the past been restricting or cutting entirely the supply of transit crude through Baltic pipelines to fulfil non-commercial political aims, like protesting the unequal treatment of Russian minorities in Latvia and other countries. Russia is not in favour of the Baltic countries joining NATO,

because this would increase its insecurity as to the continuity of its deliveries to consumers, most of which are residents of NATO countries. This inconsistency leaves room for guesswork about the role played by geopolitical doctrines, like maintenance of Soviet-era spheres of interest, but also Russian regional policy rivalries.

The use of monopoly power as a sole source of demand for transit transport services can be considered more legitimate for attaining purely commercial aims. Cutting the gas or crude deliveries in cases of non-payment, part of deliverables disappearing en route or playing off countries to get transport tariffs lowered, may serve as examples. The Russian transport monopoly is, though, restricted by the fact that the deliveries are bound up closely intertwined with the existing transport infrastructures. Several statements of Russian high-ranking officials and politicians reflect also a feeling of inconvenience that Russia nowadays has to pay for transit transport services to countries through which the transports in Soviet times were free of charge.

The future will show to what extent the transit transports will be diverted or, assuming favourable growth in the world economy, that all pipelines will be filled. The financial requirements and the fiscal burden for Russia to maintain and create necessary new extraction and transport capacities seem insurmountable. Also national security policy and failure to agree on transition fees with the new independent neighbour republics, instead constructing new bypasses, may save some budget money now, but the capital costs will burden the budget in the future.

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## Abbreviations and conversion factors

### List of abbreviations

BOFIT	Bank of Finland Institute for Economies in Transition
BPS	Baltic Pipeline System
CEEC	Central and Eastern European Countries
CIS	Commonwealth of Independent States
CPC	Caspian Petroleum Consortium
EBRD	European Bank for Reconstruction and Development
EIA	Energy Information Administration
ETLA	Research Institute of the Finnish Economy
EU	European Union
EU15	European Union (including all 15 current member countries)
FDI	Foreign Direct Investment(s)
FSU	Former Soviet Union
FT	Financial Times
GDP	Gross Domestic Product
HS	Helsingin Sanomat (largest daily newspaper in Finland)
IEA	International Energy Agency
IMF	International Monetary Fund
NATO	North Atlantic Treaty Organisation
NIS	New Independent States
OECD	Organisation for Economic Co-operation and Development
OPEC	Organisation for Petroleum Exporting Countries
PSA	Production Sharing Agreement(s)
RC	Russian Customs (in this study)
SVOP Politike)	Council on Foreign and Defence Policy (Sovet po Vneshnei i Oboronnoi
US	United States
USD	US dollar(s)
WEO	World Energy Outlook
WEU	Western European Union
WTO	World Trade Organisation

## List of conversion factors

**Oil barrels a day have been converted into million tonnes (metric tonnes) a year and gas cubic metres into million tonnes using the conversion factors below. Primary energy, when given in BTUs, has been converted into million tonnes of oil equivalent.**

### Oil

1 million tonnes a year	=	20 000 barrels a day
1 barrel a day	=	50 000 tonnes a year

### Gas

1 billion cubic metres	=	0.73 million tonnes
1 million tonne	=	1.37 billion cubic metres

### Primary energy

$10^{15}$ British Thermal Units	=	25.21 million tonnes of oil equivalent
1 million tonne of oil equivalent	=	$0.039667 \cdot 10^{15}$ British Thermal Units
1 million tonne of oil equivalent	=	1.0309 million tonnes heavy fuel oil
1 million tonne heavy fuel oil	=	0.97 million tonnes of oil equivalent

### In statistical tables or Figures the following notations have been used:

1 metric tonne (1000 kg)	=	t
1 million tonnes a year	=	mt/y
1 barrel a day	=	bl/d
1 billion cubic metres	=	bln cm
1 million tonne	=	mt
$10^{15}$ British Thermal Units)	=	$10^{15}$ BTU
1 million tonne of oil equivalent	=	mtoe
mUSD and bUSD	=	million and billion dollars

**The growth rate** between two points in time (as at the end of the first year  $t_0$  and the last year  $t_n$ , for instance,  $t_0 = 1992$  and  $t_6 = 1998$ ) is calculated using the compounding formula

$100 \cdot (1/t_n - t_0) \cdot \text{naturallog}(v_{t_n}/v_{t_0})$ ,  
where v stands for values at  $t_0$  and  $t_n$ , respectively

## Statistical Appendix

Table 1. Supply and demand of energy in 1997-2000 according to scenarios of the IEA

	Mtoe		Shares %		Growth	
	1997	2020	1997	2020	% pa	times
<b>OECD Europe</b>						
Gas	344	650	20	30	2.8	1.9
Oil	686	815	40	38	0.7	1.2
Coal	342	301	20	14	-0.6	0.9
Nuclear	238	188	14	9	-1.0	0.8
Other	106	190	6	9	2.5	1.8
<b>Supply</b>	1716	2144	100	100	1.0	1.2

Industry	415	419	24	20	0.0	1.0
Transport	337	478	20	22	1.5	1.4
Other	462	636	27	30	1.4	1.4
Net Imports	502	611	29	28	0.9	1.2
<b>Demand</b>	1716	2144	100	100	1.0	1.2

	Mtoe		Shares %		Growth	
	1997	2020	1997	2020	% pa	times
<b>Russia</b>						
Gas	310	422	54	53	1.3	1.4
Oil	127	218	22	27	2.3	1.7
Coal	97	112	17	14	0.6	1.2
Nuclear	29	33	5	4	0.6	1.1
Other	13	18	2	2	1.3	1.3
<b>Supply</b>	576	803	100	100	1.4	1.4

Industry	162	207	28	26	1.1	1.3
Transport	52	106	9	13	3.1	2.0
Other	181	232	31	29	1.1	1.3
Net Exports	181	258	31	32	1.5	1.4
<b>Demand</b>	576	803	100	100	1.4	1.4

**Sources:** Scenarios from 1997 to 2020 for the OECD: (WEO or World Energy Outlook 2000, International Energy Agency or IEA and the OECD).

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Table 2 Statistics describing the significance of transport and transit transport services supply for the Baltic economies

		1999	% 95-99
Estonia	GDP, mUSD	5130	5.6
	Transport sector value added, mUSD	607	12.0
	Transport sector, % of GDP	11.8	8.6
	Employment, % of total employment	10.2	0.5
	Output/worker, kroons	90.33	10.7
	Output/worker, transp/total*	1.27	4.5
	Gross transit transport freight, mUSD	350	
	Gross transit transport freight, % of GDP	7	
Latvia	GDP, mUSD	6664	3.9
	Transport sector value added, mUSD	938	4.3
	Transport sector, % of GDP	14.1	0.5
	Employment, % of total employment	8.5	-0.9
	Output/worker, lats	4.39	5.4
	Output/worker, transp/total*	1.91	1.3
	Gross transit transport freight, mUSD	550	
	Gross transit transport freight, % of GDP	8	
Lithuania	GDP, mUSD	6814	3.1
	Transport sector value added, mUSD	1007	5.5
	Transport sector, % of GDP	9.5	2.4
	Employment, % of total employment	6.1	1.3
	Output/worker, litas	25.70	4.1
	Output/worker, transp/total*	1.70	6.9
	Gross transit transport freight, mUSD	300	
	Gross transit transport freight, % of GDP	4	

Remarks: % 95-99: the annual average growth rate from 1995 to 1999; \*) Increase in labour productivity at the end of 1999, when at the end of 1995 = 1, and the annual average growth in excess of the increase in the total labour productivity.

Sources: IMF Country Reports; The Baltic Economic Trends, Introductory Issue, SITE; Balance of payments statistics from the Baltic Central Banks (Internet pages), author's calculations.

Table 3 Consolidated data on transit transport flows from (westbound) and to (eastbound) Russia by corridor to the EU15 and North America in 1999. Volumes in millions of USD and tonnes and unit prices (USD/tonne)

	Millions of US dollars in 1999		
	Westbound	Eastbound	Total
Finland	708	1686	2394
Estonia	2487	1162	3650
Latvia	7434	3140	10573
Lithuania	1747	2008	3755
Poland-Belarus	11550	4528	16078
Slovakia-Ukraine	4653	1171	5824
Total	28579	13695	42273
	Million tonnes		
	Westbound	Eastbound	Total
Finland	2.5	0.8	3.3
Estonia	17.5	2.8	20.3
Latvia	40.2	2.0	42.2
Lithuania	8.1	1.7	9.8
Poland-Belarus	43.0	2.7	45.7
Slovakia-Ukraine	70.0	1.7	71.7
Total	181.3	11.7	193.0
Direct trade	28.5	4.9	33.4
	US dollars/tonne		
	Westbound	Eastbound	Total
Finland	283	2107	725
Estonia	142	415	180
Latvia	185	1570	251
Lithuania	216	1181	383
Poland-Belarus	269	1677	352
Slovakia-Ukraine	66	689	81
Average, all	158	1170	219

Direct trade refers to Russian imports and exports transported directly via its Baltic Sea ports from to the EU15 and North America.

## Notes

<sup>1</sup> Note that transit goods are not purchased into the transit country, they are not cleared in that country's customs and they do not appear in its foreign trade statistics. Foreign trade statistics of a country do not readily provide information on transit transports through its territory. Usually the necessary data can be obtained from a departure or arrival country's customs administration. For this study, Russian customs provided us with data, which enabled us to calculate the values of transport flows. Apart from this, in assigning transit transport volumes among various corridors, we preferred to use data that Hannu Arkonsuo (2000) has collected from local sources in the Baltic states and Finland (ministries of transport, statistical authorities and port and railway authorities).

<sup>2</sup> In the Russian geopolitical terminology the “democratically minded pro-westerners” support the “Nordic Ring” consisting Europe, Russia, Japan and the North America, whereas supporters of the “Euro-Asiatic idea” consider Russia as a part of eastern civilisation, not compatible with Western ideas such as a market economy or private ownership. In addition, there are proponents of a “third road”, who would like to preserve the special qualities (“osobennosti”) and greatness of Russia. However, they do not have a very clear idea what it is or how to accomplish it (Senchagov, pp.67-68).

<sup>3</sup> Gazprom controls more than 95 % of Russia's gas production and about one fifth of the world's gas reserves. It also operates Russia's 141 000 km gas pipeline grid, and runs trading houses and marketing joint ventures in several countries. About 14 000 km of the gas pipeline grid with its 43 compressor stations is devoted to supply Europe with about a quarter of its natural gas production and the Russian budget with about one-quarter of its tax revenues (FT 11.8.2000).

<sup>4</sup> The largest oil companies are LUKoil, with an annual oil production of about 50 million tonnes a year and 100 000 employees, Yukos with 35 million tonnes a year, and Surgutneftegaz with about 33 million tonnes a year in 2000. The major Russian oil exporters and their export shares in 2000 were LUKoil 17 %, JUKOS 17 %, Surgutneftegaz 12 %, TNK 11 %, Tatneft 6 %, Sibneft 4 %, Slavneft 3 %, Rosneft 3 % and others 27 % (Mazalov 2000).

<sup>5</sup> Unlike Europe, Russia also plans to increase its coal production and nuclear power supply, both by 0.6 % a year. The nuclear energy program includes construction of 20 or more new power stations at a cost of 60-80 million dollars during the coming 15 years. About two thirds of increased electricity will be used domestically. The principal foreign clients for nuclear power-generated electricity are expected to be China, and in Europe, Germany and Finland (Andrianov 2001).

<sup>6</sup> For instance, at the end of 1998 the Brent price hit the bottom of 10 US dollars per barrel and hit the top of over 37 dollars per barrel in September 2000. During 2000 and the first quarter of 2001 the price has varied between 21 and 37 dollars per barrel. The world market price of oil is quoted in US dollars, and was 13.1 – 18.1 – 26.4 – 23.0 dollars per barrel in the years 1998 - 2001 respectively. The changes in the external value of the dollar have also affected oil prices in local currencies (Weafer 2000).



<sup>7</sup> This “Prodi Plan” was to be elaborated by the European Commission into a “Green paper” suggesting to increase the energy dependency of Europe from about 50 % in 1999 to about 70 % in 2030. Europe would cut back nuclear power generation and increase the use of natural gas. The decision was also affected by the European commitment to fulfil the Kyoto Protocol requirements, obliging the parties to gradually reduce carbon dioxide (CO<sub>2</sub>) emissions. The policies assumed by the OECD-Europe to cope with these questions are to replace the coal and oil used in generating heat and electricity with natural gas. In contrast, during the past ten years the reorientation of foreign trade due to the dissolution of the Soviet Union increased the share of intra-industry trade of the CEE and Baltic countries, bearing evidence of the growing integration of their economies with the economies of the EU member countries.

<sup>8</sup> Transit fees are an important source of revenues, not only for the Baltic countries, but for Ukraine as well. Ukraine imports 88 million tonnes of gas a year and obtains 40 % of its own gas consumption in transit fees. Russia has been accusing the Ukrainians of illegally taking aside more than 7 million tonnes a year. Ukraine acknowledged to have taken about 1.4 billion dollars worth of gas, which raised Ukraine’s debt to Gazprom to about 2.8 billion dollars by the end of 1999. The continued siphoning led to the idea of constructing a gas pipeline through Belarus, Poland and Slovakia, circumventing Ukraine. Belarus warmly supported the idea, which would facilitate development of its own energy sector. The Polish government hesitated, at first not wanting to harm the Ukrainian interests, but decided then – in December 2000 - "to put the economic considerations ahead of political ones". Thus Poland agreed to the request by Russia that a new 600 km gas pipeline with a capacity of 44 million tonnes a year would bypass Ukraine through Poland. Ukraine has, in turn, tried to reduce its dependence on Russian oil by importing oil from Kazakhstan, gas from Turkmenistan and to increase its own transport capacities by constructing a large oil terminal near the Black Sea port of Odessa (EIA August 2000 and Interfax Poland 29.1.2001).

<sup>9</sup> Baltic Sea Business Summit 1998, p. 30. Unlike railways, ports and airports, the road sector in the FSU was always decentralised under local administrations and its quality remained inferior by any standards. Still, road transport fulfilled an important function in taking care of the local distribution of goods, whereas railways were in charge of the long-distance hauls. A fairly drastic change since the end of the FSU becomes obvious, if we measure the transport performance in tonnes, instead of tonne kilometres. For instance, while in the Soviet Union in 1940, the railroad provided 85 % and roads less than 2 % of all freight transportation, the respective figures were still 62 % and 7 % in 1975 in the Soviet Union but only 35 % for railways and 41 % for road transports in 1995 in Russia (Efimova & Sutyurin 1996).

<sup>10</sup> Gazprom (in charge of 95 % of the Russian gas production, WEO 2000, p. 182) expects gas production, which fell 2.4 % a year in 1992-1997, to decline further until 2010, unless investments in new gas fields do not occur. To maintain the level of gas production in Gazprom's declining fields, investments of 2 billion dollars a year are required. Estimates in power sector investments vary greatly. IEA sees them as being about 5 billion dollars a year from now on up to the year 2010, and thereafter 9 billion dollars a year up to 2020.

<sup>11</sup> Gazprom executive Yuriy Komarov, explaining why Gazprom was against the ratification of the Energy Charter Treaty during the parliamentary hearings in Moscow on 26 January 2001: “ --- the treaty opens up transit through Russian territory of gas from Kazakhstan and Turkmenistan, which is cheaper than Russian gas. As a result, Russian gas would become non-competitive on the European market (Interfax 26.1.2001).

<sup>12</sup> Kaliningrad does not perhaps differ too much from an average Russian region, but in comparing the surroundings, the social problems and bad economic conditions are striking. The infrastructures would need to be improved – there is a development plan to make the harbour accessible to 60 000 dead weight tonne tankers. Kaliningrad remains outside the Lithuanian-Polish railway network. There are direct flights to Lithuania, Poland, Germany and Belarus. The EU remains important to Kaliningrad, because more than half of Kaliningrad's trade is with the EU. The accession of Lithuania and Poland to the EU is expected to complicate the situation, because according to the Schengen requirements, Kaliningrad residents would need a visa to enter Russia or any of the neighbouring countries. On the other hand, there are now people in Kaliningrad who have visited Poland or Germany several times, but never Russia. More in Baxendale & Dewar & Gowan 2000), Trenin, and Joenniemi 2000a.

<sup>13</sup> The measures culminated twice against Latvia in a complete halt of oil supplies. The first time the reason was an ownership disagreement on the pipeline; the second time the purpose was to influence the treatment of the Russian minority Latvia in 1998. Mostly the measures include a strong political initiative or accusation, even if it lacks clear economic or commercial grounds (like the Primorsk - BPS project).

Russia has applied similar punitive actions also towards Georgia and Ukraine because of non-payment of gas deliveries and stealing gas. Dissatisfaction with Ukraine led Gazprom and Gaz de France to sign an agreement that provides for the construction of a pipeline from Tjumen and Pechora across Belarus, Poland, Slovakia, and Belarus bypassing Ukraine. In Slovakia the pipelines diverge and the northern branch continues through the Czech Republic to serve Germany, France and the Benelux countries. The southern branch crosses Austria to Italy. Due to this routing, Ukraine will lose and Poland and Belarus will together gain about more than billion dollars a year, once the pipeline is in operation.

<sup>14</sup> Lieven Anatol, *The Baltic Revolution. Estonia, Latvia, Lithuania and the Path to Independence*, Yale University Press, New Haven and London, 1993. Lieven refers to the stormy history of the Baltic countries, losing and regaining their independence and being confronted with the choice, whether to survive as nations, or to merge into larger nations. With thin experience of democracy and legalism and experiencing strong political and cultural cross-pressures, only a stubborn nationalism has helped them to survive. This nationalist resiliency, stubbornness with elements of intolerance, has contributed to creating three fairly different small nations with different cultures, languages, religion and character, which can be compared with an Estonia folklore monster-- the "Northern Frog" with the head of a giant frog, the body of an ox and the tail of a snake (introduction, p. xiii).

<sup>15</sup> The planned total investment costs of the Russian ports seem to be fairly high. One billion dollars would buy only about 10 million tonnes of new capacity. The equivalent amount would buy in Finland about 25 tonnes of new port capacity using the proposed new Helsinki port as a reference.

<sup>16</sup> Fortum/Neste has vessels available to handle transports in the most difficult conditions. The Porvoo/Sköldvik harbour has storage facilities and can offer access to vessels of 150 000 t in full cargo, equivalent to the upper limit for drought in the Danish straits. A refinery is located close to the harbour. Crude export volumes of 10-12 million tonnes a year would not require additional investments in the harbour or refinery. The main investment cost would emerge from the construction of the pipeline between Primorsk and Porvoo/Sköldvik. The plan was already approved in 1997 by Prime Minister Chernomyrdin and supported by LUKoil and St. Petersburg, but opposed by the governor

of the Leningrad region, Vadim Gustov. Since then, the project has been pending, to be taken up later on.

<sup>17</sup> The Russian President Vladimir Putin opened the discussion of the need to redirect transit flows from ports of the neighbouring Baltic countries and Finland to Russian ports. According to Putin, Russia loses to Baltic and Finnish ports 70 million tonnes of cargo, worth around 1.5 million dollars a year, due to the poor quality of Russia's port services. Unfortunately, efforts to improve the efficiency of the ports' administration and management have failed (BNS 4.8.2000). A more modest loss estimate of 0.6 billion dollars caused by the transit transports through the Baltic countries and Ukraine is presented by Aleksandr and Orlov (Aleksandrov & Orlov 2001).

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