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ST. PETERSBURG – MANPOWER PROSPECTS AND ECONOMIC POTENTIAL

Jarmo Eronen

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Government Institute for Economic Research
Hämeentie 3, 00530 Helsinki, Finland

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ABSTRACT: During the Soviet period St. Petersburg was a major military-industrial and scientific centre, but these sectors have shrunk dramatically during the 1990s. The city's problems include de-industrialization and a declining population, but it is nonetheless acquiring new functions in Russian foreign trade and international relations. With Russia's largest ports, the city is well placed to attract infrastructure investments. St. Petersburg has some strengths (gateway location, technological potential, qualified labour, culturally rich milieu), which may attract foreign capital and business, especially if the investment climate in the country improves. Crime and rising social problems are among the most serious risk factors.

KEY WORDS: St. Petersburg, manpower, economy, industry

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TIIVISTELMÄ: Pietari oli neuvostovallan aseteollisuuden ja tieteen keskus, mutta nämä sektorit ovat supistuneet voimakkaasti 1990-luvulla. Kaupungin teollinen pohja on muutenkin kaventumassa ja väkiluku taantuu. Kaupungin merkitys Venäjän ulkomaankaupassa kuitenkin kasvaa, koska siellä on maan suurin satama ja alueella tehdään infrastruktuuri-investointeja. Pietarilla on vetovoimatekijöitä, kuten gateway-sijainti, hyvä tekninen valmius, koulutettu työvoima ja kulttuuriympäristö, jotka voivat houkutella ulkomaista pääomaa ja yrityksiä, kun investointi-ilmapiiri Venäjällä paranee. Merkittäviä riskitekijöitä ovat rikollisuus ja kasvavat sosiaaliset ongelmat.

ASIASANAT: Pietari, työvoima, talous, teollisuus

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1. INTRODUCTION - PURPOSE OF THE STUDY

Political and economic liberalization in Russia has also affected the status and roles of the cities and regions. Moscow has ceded power and functions to other centres, and in particular the significance of the former capital, St. Petersburg, has increased. During the Soviet period the city's scientific and military functions were emphasized but at the same time it lost much of its status as a bridge between Russia and western Europe.

Recently the scientific and military roles have lost in importance but the international functions of the city have been enhanced, not only because of the liberalization of business life but also due to the fact that Russia has lost major ports to other ex-Soviet states. This has increased the importance of St. Petersburg as an outlet for Russian foreign trade.

The new international role of the city has given rise to a great number of publications on business opportunities, development prospects and investment needs in the city. Much of this material serves immediate practical or specific sectoral purposes.

There is also a need for information on general structural changes and economic trends in the city. In autumn 1993 the Commission for Scientific and Technological Cooperation between Finland and Russia initiated this study on the manpower and economic potential of St. Petersburg.

The purpose of the study is to make forecasts and conclusions for the needs of the western business community and other cooperation partners based on aggregate manpower and sectoral data. The material used consists of Russian statistical data supplied by the city's bureau of statistics and a special report prepared by the Leontieff Centre as well as various studies performed by Finnish researchers, both for academic and practical purposes (reports by ministries, different cooperation bodies etc.).

Finnish publications on the city cover a wide range of subjects. Many of them are available only in Finnish, so the present publication helps to make their results known to interested foreign readers.

The availability and reliability of statistical data has always been a problem in Soviet and Russian studies. This was especially true under the Soviet system, but it did at least have the administrative means to gather information from provinces and organizations. In present day Russia where organizations are disintegrating and new companies are being created, the system of data gathering is poorly equipped to face the task. No wonder then that one often finds inconsistent economic figures in Russian sources. In the present publication official Russian figures are used but some caution is advisable, in particular when using or interpreting economic data.

This work was financed and supervised by the Working Group on Technology, Economy and Society of the above-mentioned Commission. The Bank of Finland provided the opportunity to work at the Unit for Eastern European Economics, where

the inspiring atmosphere and well stocked library greatly contributed to the accomplishment of the task.

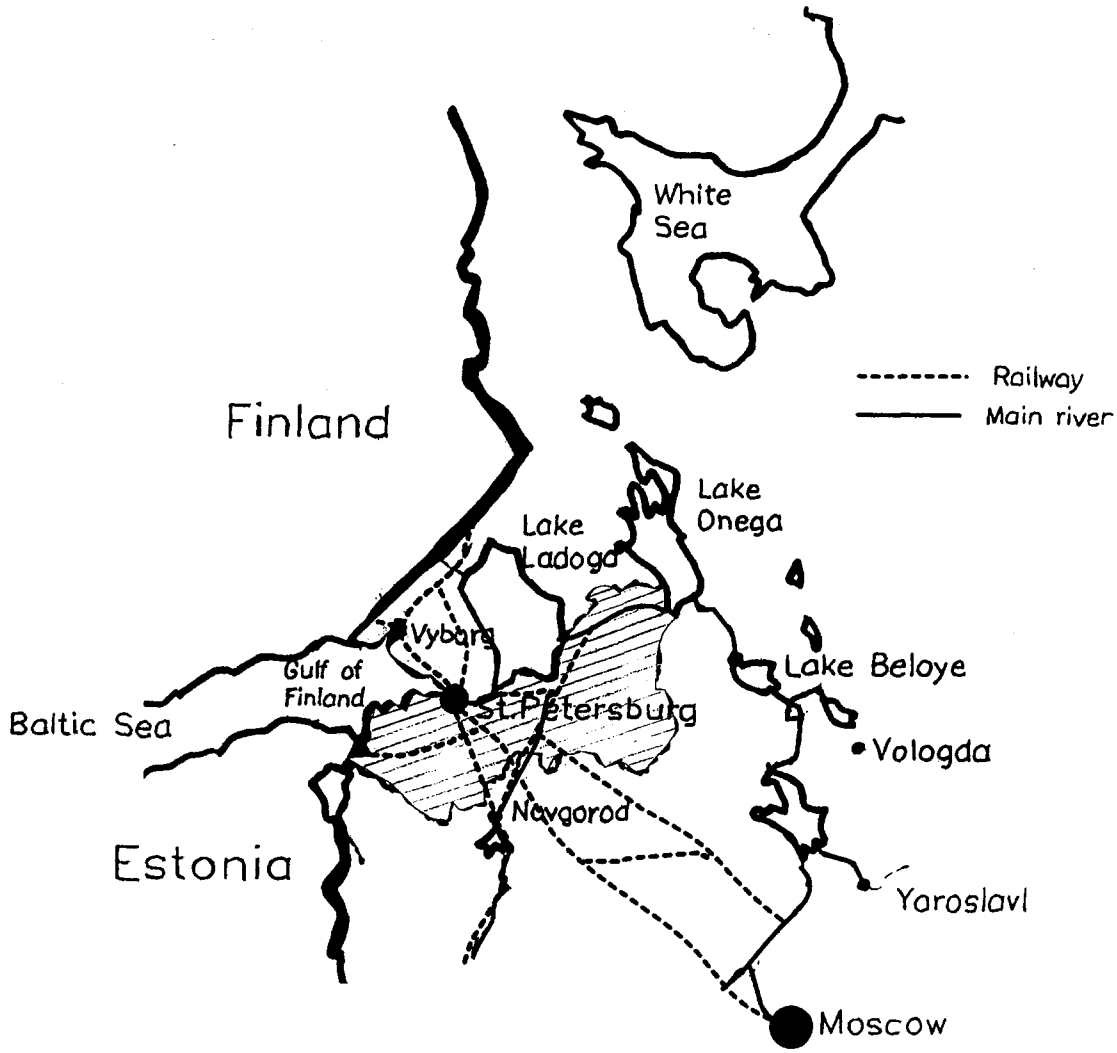
2. ST. PETERSBURG IN RUSSIA

The St. Petersburg urban conglomeration consists of the city itself plus eight minor towns, 13 workers' settlements and three resort settlements (see table 1). The population of the whole conglomeration amounts to five million, of which the city itself accounts for 4.4 million, or 88%. St. Petersburg is Russia's second city, with 3% of the population. This share has been maintained, and has even increased slightly in the past few decades. However, the city's share of the urban population has declined from the prewar 9% to 5%. The federal treaties of March 1992 strengthened St. Petersburg's position in the administrative hierarchy of the state. The city is subordinate only to the Russian government and has the same status as Moscow and other oblasts and krays. The city is administratively independent from the surrounding Leningrad oblast (1.7 mill. inhabitants), where some important industries are situated (nuclear energy, pulp and paper) but serves the city mainly as a source of agricultural products and recreation. The relationship between the city and the oblast has not been without problems and suggestions have been made to unite them (Lainela 1993, 8). This new unit would give more credibility to ideas of elevating the city to the status of a republic, which would further strengthen its autonomy.

Table 1. St. Petersburg Conglomeration

Towns	Population in 1993 1000 persons
St. Petersburg	4 387
Kolpino	144
Pushkin	95
Petrodvorets	83
Kronstadt	45
Lomonosov	42
Sestroretsk	35
Pavlovsk	25
Zelenogorsk (Terijoki)	14
Workers' settlements	
Metallostroi	23
Pontonnyi	10
Parlogovo	8
Pesotshnyi	7
Shushary	5
	4 923

Figure 1. St. Petersburg and Surroundings



The new Russian federalism has radically increased local power in relation to the centre, which has also had major implications for taxation. The new Law on Basic Principles of Taxation of 1992 envisages a unitary system, which has however been subsequently eroded by the aspiration of regions to bargain special taxation agreements. St. Petersburg is one region which has been able to retain an increasing share of the total revenue collected there. The city's share of all taxes collected in 1993 was 69% (100% of personal income taxes, 50% of value added tax, 50% of alcohol excise tax etc., Lainela 1993, 12). At the same time municipalities have had to assume a multitude of new tasks as many areas of social expenditure have been shifted from the state to the regional level and social services formerly provided by large enterprises are also falling apart.

The following settlements have a population of less than 5000 persons: Aleksandrovskaya, Beloostrov, Levashovo, Lisii Nos, Petro-Slavyanka, Sapernyi, Tyarlevo, Ust'-Izhora.

3. POPULATION

The Russian revolution and the Second World War took a heavy toll on the population of St. Petersburg. The pre-war level was attained only in the 1960s. The population continued to increase until 1990, when it began to decline (Sankt- Peterburg ... 1993, 418).

The enormous human losses during the war greatly distorted the sex ratio, diminishing the male population. The sex ratio has since slowly evened out, but in Russia women still predominate by 53 to 47. In St. Petersburg the relationship is still more distorted - 55 to 45 - and the divergence is especially wide in the highest age groups as the life expectancy of women - 74 years - is ten years higher than that of men.

3.1. Ethnic composition

Ethnic diversity has always been typical of St. Petersburg, although Russians have made up the overwhelming majority of the population. Before the revolution St. Petersburg, the capital, was the most international city of the Russian Empire. Western Europeans (mainly Germans and French) and peoples of the Empire (Poles, Finns, Balts, Tatars, Jews etc.) were a visible element in the business and cultural life of the city, but after the Communist takeover the western presence soon all but disappeared. The Russian character of the city was further strengthened by the expulsion and extermination of the Finnish (Izhor) population from the surrounding countryside in 1937-45.

Table 2. Population and Ethnic Composition of St. Petersburg 1910 - 1993

	1910 - 1000 -	%	1939 - 1000 -	%	1993 - 1000 -	%
Russians	1569	82	2776	87	4445	89
White Russians, Ukrainians	87	5	87	3	245	5
Jews	35	2	202	6	100	2
Tatars	7	0	32	1	45	1
Poles	66	3	21	1		
Germans	46	2	10			
Estonians	25	1	15		160	3
Finns	18	1	8			
Others	53	3	40	1		
Total	1 906	100	3 191	100	4 995	100

(Staryi Peterburg, 1982, 12, Vsesoyuznaya perepis..., 1992, 63)

At present Russians account for 89% of the population, and Slavs as a whole 93%. Since 1865 Jews have been permitted to settle in the city and since the beginning of this century have played an important role in the intellectual life of the city. Their presence increased especially after the revolution, and in 1939 they accounted for 6% of the population. By the 1990s this number has been halved and their share has dropped to 2%, mainly as a consequence of emigration and assimilation.

3.2. Age structure

The active population of St. Petersburg (16-64 years) is 70% of the total. In terms of the age structure, the elderly occupy a higher and the youngest cohorts a lower share when compared to all-Russian figures (Table 3.). The average family size of 3.1 persons is also lower than the national average of 3.2 persons. According to the latest census in 1989, 36% of families consisted of two persons and families with two or more children accounted for a third of all families, but these figures do not include one-person households (Sankt-Peterburg v 1992 godu, 1993, 4-5).

Table 3. Age Structure of Population of St. Petersburg 1993

Age Groups	1000 persons	%	% in total Russian urban population
0 - 15	948	19.3	} 29.7
16 - 19	253	6.2	
20 - 29	718	14.6	15.5
30 - 39	828	16.8	17.6
40 - 49	676	13.7	11.2
50 - 59	585	11.9	11.8
60 -	912	18.5	14.2

(Osnovnye pokazateli ... 1993, 13)

Recent demographic trends concur with national developments, although certain negative phenomena have emerged in St. Petersburg two-three years earlier than elsewhere in Russia. Since 1990 the population of the city has been in decline both as a result of a falling birth rate, rising mortality and a negative migration balance since 1991. In the 1980s annual net immigration amounted to about 30,000 persons (Osnovnye pokazateli ... 1993, 49). The fall in fertility is related to several underlying factors: deteriorating living conditions, the growing instability of family life and the changing demographic structure. Undoubtedly, a worsening economic situation and uncertain prospects discourage people from starting families, although poverty as such does not lower the birth rate. The number of marriages has declined from over 11,000

in the late 1980s to 7700 in 1992, while the divorce total has remained fairly constant at 5700.

These factors undoubtedly explain much of the abrupt fall in fertility since 1990, but the changes in the demographic structure must also be taken into consideration. A demographic transition took place in Russia in the early 1960s when the birth rate declined radically. This has led to low numbers of women of the most fertile age since the mid-1980s. The whole age structure has naturally been affected: the share of elderly people is increasing, that of working age cohorts and children is declining.

Mortality has exceeded births since 1990 and the gap has been widening. The growth of mortality is also related to the increasing share of elderly people, but the worsening social situation is responsible for the sharp rise in deaths, especially of men of working age. Since 1992 alcohol, work accidents and murder have increased considerably as causes of death, mainly among the male population. Diseases such as dysentery, diphtheria and tuberculosis, which seemed to have been eradicated, have reemerged. The jump in mortality by a third in 1993 is especially alarming. Consequently, life expectancy, which had risen to over 70 years in the mid-1980s, declined to 68 years in 1992 (and to below 63 years for men). The difference between men and women is 11 years (Osnovnye pokazateli ... 1993, 31).

3.3. Future trends

All-Russian demographic trends (high and rising mortality, a falling birth rate and a rising divorce rate) combined with net out-migration have led to a gradual loss of population in St. Petersburg. This trend is set to continue for the foreseeable future as the age structure is inimical to high fertility. According to Russian forecasts the city's population will decline from 4.9 to 4.5 million in 1994-2000, which corresponds to an annual decline of nearly 50,000 persons. The age structure will shift in favour of working-age cohorts while the share of those under 16 years will diminish.

Table 4. Development of Population in St. Petersburg Conglomeration 1990-2000

	Population 1000 persons	% 0-15 years	Working age	Retirement age
1 990	5002	19.8	59.5	21.7
1994	4862	18.9	58.8	22.2
2000	4528	16.4	61.0	22.6

(Osnovnye pokazateli ... 1993, 12, 14)

The population of the city will decline considerably faster than that of the surrounding Leningrad province, which will remain at 1.7 million during this period. The population of "Greater St. Petersburg" including the city and the Leningrad province is estimated to decline from 6.5 to 6.2 million in 1994-2000.

3.4. Implications for western business

The demographic structure and trends have important repercussions for the demand pattern for a wide range of products. In St. Petersburg the high share of women and retired people stands out compared to the all-Russian situation. Lower-than-average incomes are typical of both of these groups but the overall impact of this factor on total consumption remains secondary. More important are the all-Russian trends of population decline, diminishing family size and ageing population. This means less need for housing and large apartments and reduced demand in the child and youth segments. On the other hand the markets are far from saturated and if per capita incomes rise demand will follow - despite the adverse demographic trends. However, if, as it seems, purchasing power continues to decline, recent demographic developments will tend to exacerbate the slump.

4. ECONOMIC BASIS

Leningrad had been assigned certain specific functions in the Soviet economy and society, which largely determined its employment structure. The city was above all a major armament-producing and scientific centre but other manufacturing industries (textiles, shoes, food etc.) also largely served the needs of the military. The same applied to 70% of the research work carried out in the city.

In the Soviet period the city lost its position as the capital and a natural gateway to the west. In foreign trade, for example, key decision-making was transferred to Moscow and only a few foreign trade-related activities remained in Leningrad. The Leningrad commercial port was of minor importance in export and import trade, and major trade flows were directed through other channels: pipelines, railways and other ports. The role of Leningrad in Soviet foreign economic relations remained marginal, including trade with the Nordic countries.

The dissolution of the Soviet Union and its aftermath will have a major impact on the employment structure of St. Petersburg. The transition from centralized to market economy, combined with radical cuts in military spending and the collapse of public finances, are having a major effect on the city's economy and employment. These developments have radically curtailed economic activity, especially in state-financed organizations and enterprises. This development is counterbalanced by the emergence of the private sector and small-scale business.

In 1993 total employment in the city amounted to half of the population, 2.4 million. Manufacturing industries employed a third of this, which was near the national average but the second largest sector was science and research, as much as 14%, over three times more than the national average. The building sector employed almost as many.

4.1. Manufacturing industries

Typical features of St. Petersburg's manufacturing industries, which consist of 500 enterprises and employ over 500,000 people, are large size and concentration on the engineering sector. During the Soviet period small enterprises were all but unknown but the recent privatization wave has led to the creation of small firms from within the old giants.

The engineering industries employ 70% of the industrial work force. Second in importance is the textile, clothing and footwear industry, followed by the food processing, chemical and forest industries (see table 5.). It is evident that employment data are a more reliable indicator than output figures, in which the distorted price structure has undervalued the role of the engineering industry and inflated the food, clothing and footwear industries.

Table 5. Industrial Structure of St. Petersburg in 1990

	By employment	By output value
	- % -	
Engineering and metallurgy	73	41
Textile, clothing, footwear	10	16
Food processing	6	17
Chemical	3	5
Forest-based	3	4
Others	5	17
	100	100

(Napravleniya promyshlennogo ... 1994)

The engineering industries have predominantly manufactured military hardware, but much of the output of clothing and footwear has also been destined for the military.

The whole Russian economy is faced with a profound transformation of centrally managed and owned, stagnant and inefficient industrial organizations into market-oriented, largely privatized, innovative enterprises. To this tremendous task is added the problem of conversion: how to develop civilian production with the capacity left idle after the military orders have vanished. In a city as militarized as St. Petersburg was this problem is especially complicated.

In 1994 Russian arms production was only one quarter of the 1990 level. The economic shock therapy has pushed the transformation ahead but the results have been predominantly negative. Industrial output and investment activity have declined radically and the capital stock is deteriorating. However, price liberalization and privatization have also introduced market elements into the economy, which is evident in the diverging rates of decline between industries. Gradually the most unprofitable enterprises and branches are being eliminated.

Table 6. Decline of Manufacturing Industries in St. Petersburg

	Output in 1994 as % of the 1990 level
Engineering	67
Food processing	49
Textile, clothing, footwear	47
Forest	64
Chemical	29
Metallurgy	2

(Napravleniya promyshlennogo ... 1994)

The engineering industry has fared remarkably well considering that disarmament might have hit it harder. Metallurgy has been almost eliminated, as has much of the chemical industry. In the consumer sector the poor competitiveness of clothing, shoes and food has been revealed as markets have been opened to imports.

Much of the collapse can be attributed to domestic factors. On the demand side the principal former client, the state, is nearly insolvent and has radically curtailed purchases both of arms and civilian products. Transactions are now mainly carried out between companies and organizations but many of them have solvency problems. The real incomes of consumers have dropped and former clients in ex-Soviet republics have vanished. Deliveries between enterprises are made but payment is delayed and mutual debt is increasing. In these circumstances a wave of bankruptcies is imminent, but the authorities and companies have avoided it as they are afraid of the social consequences. The most common solution to the problem has been to freeze wages or postpone paying them, often for months. Overly high levels of indebtedness and open unemployment can be avoided and those employees who are capable of seeking out more remunerative employment have begun to do so.

4.2. Scientific activity

The Soviet Union claimed to be building scientific socialism, which gave special status in society to scientific institutions and professions. Leningrad was the country's second scientific centre (15% of all research output) and the sector employed 14% of the city's labour force in 1990. Soviet science worked in a special institutional framework, which consisted of the following major elements:

1. The system of the Academy of Sciences, which was independent of universities and other research institutions and mainly performed basic research.
2. The university sector was concerned primarily with teaching, research opportunities were limited.
3. Branch ministries maintained an extensive network of research institutes, mainly of an applied orientation.
4. The military-industrial machine maintained an extensive research system. High secrecy and few contacts with other research institutes were typical.
5. Research activities at the enterprise level were only 5% of the total (Kaukonen, Khoreva 1994).

In Soviet science not only research results mattered but also ideological, symbolical and superpower considerations. Efficiency and innovation were not comparable with western research if measured in per capita output. When the Russian state no longer assumed the superpower and military role of the Soviet Union many research activities also lost their raison d'être and funding. The personnel of scientific institutions has been radically reduced, many have emigrated, real wages have shrunk.

In St. Petersburg research workers' salaries were 30% below the average level in 1994 (see table 8), whereas in 1990 their earnings were above average.

According to one estimate the ultimate number of scientists will decline to 30% of the original level (see Kaukonen, Khoreva 1994). In St. Petersburg more than 200,000 scientific workers would stand to lose their jobs. What this means from the point of view of human capital is obvious.

4.3. Banking

Russian economic reform has created an enormous demand for new forms of banking services not known in the Soviet system. The number of banks has proliferated especially in enterprise financing and foreign exchange operations. A major function of Russian banks has been to channel cheap financing from the central bank to state enterprises. Much of this has gone to maintaining current production, whilst the level of investment has been low. In the beginning foreign exchange was the most lucrative business for the banks but competition has since squeezed profit margins.

The number of commercial banks in St. Petersburg reached 37 in 1993, in addition to which several branches of banks based in Moscow or elsewhere have been established in the city. The number of branches of savings banks was about 300 and three foreign banks had started to operate there whilst several others had applied for permission (see Hirvensalo 1994, 28).

Tougher times are ahead for banks. When the privatization process nears completion bankruptcies will be inevitable and banks burdened with bad credits will be in jeopardy. In St. Petersburg two banks were threatened with closure in 1994 but several others had also incurred heavy losses (see Leontievskii tsentr 1994, 17-18).

4.4. Production collapse but high employment

Material output has declined by half in all major sectors: manufacturing industries, especially military hardware, and housing. State subsidies have dwindled in most sectors, especially in services. There have also been certain shifts in employment but they have not always followed the trends in output. The largest losses in employment have occurred in manufacturing industries, mainly military hardware, and research institutes. The former shed over 170,000 jobs in 1991-94 and research institutes almost as much. All major manufacturing industries have cut employment, most of all - both in absolute and relative terms - the defence industry (see table 7.).

Table 7. Employment in St. Petersburg's Manufacturing Industries 1991-1994 and Forecast for 2000

	1991	1994	2 000
		- 1000 persons -	
Metallurgy	9	8	8
Engineering, electrotechnical	537	405	380
Chemical	25	16	17
Forest	19	16	18
Textile, clothing, footwear	76	63	68
Food	42	40	42
Others	43	31	16
Total	751	579	549

(From Napravleniya promyshlennogo... 1994, Goskomstat ... 1993)

In other sectors the changes were marginal until 1993, for instance in the building sector employment rose even though construction activity had declined to the 1960s level (see table 8).

Table 8. Employment by Sector 1990-92

	1990	1992	%
	- 1000 persons -		
Manufacturing industries, incl. military hardware	836	730	32
Building industry	243	258	11
Transport, communication	233	234	10
Trade, restaurants, warehousing	207	201	9
Housing services, municipal economy	145	123	5
Health services, social security	155	147	6
Education	187	193	8
Culture, arts	34	35	2
Science, research	356	260	11
Banking, insurance	9	13	1
Others	94	107	5
Total	2499	2301	100

(Goskomstat 1993, 3)

Economic reform and privatization have started to create new jobs to compensate the losses experienced in the public sector. On the other hand privatization, if completed by autumn 1995, will also mean the elimination of non-competitive production. According to official estimates 20% of the city's enterprises are near bankruptcy, which has been prevented only by state subsidies and easy credit. Much of this will vanish after privatization and mass unemployment will become a real threat.

At the end of 1993 about 30% of the workforce of the city was employed in the non-state sector but the rapid shift in ownership has not affected much the employment structure of larger enterprises. Most changes have taken place in domestic trade and services, which have partly absorbed the excess of labour in the state sector. New companies have also proliferated in the banking and insurance sector but their share of total employment has remained below 1%.

In 1993 employment in manufacturing industries fell by 80,000 but 53,000 new jobs were created in trade, services and small private businesses. Open unemployment was only 37,000 but this does not include those working part-time or temporarily laid-off. Besides, most of those who work in the shadow economy do not bother to register as jobless. Hidden unemployment has rapidly increased, from 192,000 at the end of 1993 to 336,000 in July 1994 (Leontievskii tsentr 1994, 2).

The structure of employment is also changing. Highly educated people in scientific institutions and the defence industry are becoming redundant while demand for commercially educated people and blue-collar workers is growing.

This also affects relative wage levels. In 1990 industry and scientific institutions still paid above-average salaries but in 1994 these sectors and especially science lagged far behind the best-paying professions (table 9).

Table 9. Relative Wages by Sectors in St. Petersburg and Leningrad Oblast in April - June 1994

	% of average wage level
Industry	91
Transport	143
Communications	121
Building	126
Trade	84
Health care	79
Education	78
Culture	66
Science	70
Banking, finance	187

(Leontievskii tsentr 1994, 7-8)

4.5. Prospects for the economy

Russia's economic prospects do not seem especially bright. The decline in output has continued, in contrast to developments in a number of other transition countries like Estonia, Poland, Hungary or the Czech Republic. Ruling out chaos scenarios, a modest upturn can be expected in 1996 at the earliest. In manufacturing industries the growth impulse can only come through investment, which is long overdue and desperately needed to counteract the depreciation of the capital stock, which started in the final years of Soviet rule. The investment climate may improve somewhat as property claims are settled and a privately owned, growth-oriented industrial class is formed. However, it will take a long time before enough capital is accumulated for major investment activity. Nor do the city's industrial managers expect much from private domestic investors in the foreseeable future. They expect most investment funds to come either from the state budget or from foreign sources (Napravleniya promyshlennogo ... 1994,8).

The Russian state is unable to meet any major investment demand for the foreseeable future and foreign capital is also very cautious.

Investment levels will remain low. According to a Russian estimate the industrial output of the city in 2000 will only slightly exceed 65% of the 1990 level. Excess capacity is being dismantled, especially in arms production, whilst engineering enterprises are searching for new civilian products but this conversion will only partially compensate the losses. The engineering industry will lose most in absolute and relative terms of both capacity and employment up until the year 2000.

4.6. Municipal programme for industrial development

There is a general lack of consensus on how to develop the Russian economy. The process of reform and the creation of markets have caused so much hardship to consumers and enterprises that intervention by the state or other public bodies is often called for. Although citizens have to a large extent lost faith in the state hopes are still entertained that public authorities could save at least part of industry.

To meet these expectations the St Petersburg municipality has drawn up a programme of industrial development for the city. The programme aims at maintaining the key viable sectors and at securing basic industrial employment. The following priority targets have been identified:

1. Food industry: bakeries, milk and meat producers, breweries. The companies to be saved include Lenpish Chekombinat, Maslokombinat, Salolin, Aist, Nevskaya Kosmetika.
2. Children's clothes and shoes, cotton textiles, flax, chemical fibres, half woollen materials, knitted fabric, import-substituting clothes and footwear (Peterburgskii

Tekstil, Severnyi Tekstil, Nevskaya Manufactura, Vereteno, Vozrozhdenie, Eksperimentalnaya Trikotazhnaya Fabrika, Krasnoe Zname, Salyut, Skorokhod).

3. Research-intensive engineering branches, instrument-making, electrotechnical industries. These include the Sverdlov machine tool manufacturing combine, Poligrafmash, Vagonmash, Izhorskie Zavody, Leningradskii Metallicheskii Zavod, Nevskii Zavod.
4. Enterprises of the military complex with potential in the civilian sector. These include the shipyards Admirateiskie Verfi and Severnye Verfi, the project and design bureaux Baltsudoproyekt and the Krylov Research Institute, the engineering works Baltiiskii Zavod and Obukhovskii Zavod.
5. Companies in other branches considered vital (tram, trolleybus and furniture factories and the following pharmaceutical producers: Oktyabr, Farmakon, Medpolimer.

The programmes of support for these industries and the attendant social objectives ought to include the following measures:

- Creation of a fund to support the city's industries, which would
  -- identify uncompetitive enterprises and regulate their closure
  -- identify those unprofitable companies which are too important to allow them to go bankrupt
  -- find ways of rescuing them
- Creation of a regional bank for industrial restructuring
- Increasing the role of the municipality in placing orders with the city's industries (on a competitive basis)
- Developing conversion programmes
- Finding ways of attracting foreign and domestic investors
- Establishing comprehensive regional programmes for raising the product quality and competitiveness of the city's enterprises
- Developing social security for the unemployed
- Establishing export promotion programmes.

(Napravleniya promyshlennogo ... 1994, 12-14)

The programme contains elements of public intervention but also measures aimed at improving the market performance of enterprises. From the point of view of market efficiency the commitment to subsidizing certain industries and companies raises some doubts but so does the feasibility of the programme. It is clearly far too comprehensive to be fully implemented as there are no concrete plans for financing it. Neither the city nor the Russian state have the means to allocate significant funds to it in the foreseeable future. The city's industrial future will most probably be shaped mainly by market forces. What is important is that the programme highlights the most

urgent problems as perceived by the city administration and will help to allocate future aid and investment from foreign and domestic sources.

4.7. Employment prospects

There is serious latent unemployment in the St. Petersburg labour market. By normal criteria a large number of companies should be bankrupt but the government has been supplying state-owned enterprises with easy credit to avoid mass dismissals. The companies which have lost state orders and subsidies have maintained employment by paying minimum wages, which are losing their purchasing power, or by postponing payments, often for several months. Those who are able leave for better-paid jobs but the remainder are at least formally employed and in the absence of other opportunities remain at the enterprises. This explains why open unemployment was below 2% in 1993 although the level of economic activity was 40% below the 1990 level.

By 1994 unemployment has hit the military industry and research institutes hardest, the sectors with the most qualified workers. These sectors will continue to shed labour in the coming few years. The prospects for other sectors will to a large extent depend on how strong the revival in investment will be. If the investment climate does not improve soon demand for labour will also remain low in other manufacturing industries and the construction sector. A forecast by the Committee for Economic Development of the St. Petersburg municipality is quite optimistic. It foresees growth in all other manufacturing industries except military production in 1994-2000 (table 7). Total industrial employment is forecast to decline at the same rate as output, which implies no change in labour productivity.

If market reforms continue state financing has to be stopped one day and a wave of bankruptcies and mass unemployment are inevitable. If hidden unemployment becomes open the number of jobless will rise to nearly 400,000 (over 15%). The situation is alleviated somewhat by the demographic trends: the number of people of working age is declining. In 2000 there will be 100,000 fewer employable person than in 1994 (see Osnovnye pokazateli ... 1993, 14).

4.8. Emigration prospects

The labour market in the city is in a turbulent state. Shrinking real wages and rising unemployment are encouraging people to look at least temporarily for compensating incomes, even abroad, as Russian law has allowed citizens to emigrate freely since 1993.

By 1994 unemployment has become open only in certain sectors such as the military sector (research and arms production) but also civil research, due to the collapse of

state funding. The first wave of unemployment will affect the best-educated groups of the labour force. There seems then to be a pool of idle scientific potential possibly willing to work abroad. How strong is the attraction of the west, and how competitive would Russian scientists be in western labour markets? The pull of the west will to a large extent depend on the income gap between Russia and western Europe and also America (the preferred target areas) but also on attitudinal factors.

In anticipation of an exodus to be triggered off by the liberation of emigration the EVA Centre for Finnish Business and Policy Studies and the St. Petersburg Institute of Sociology conducted an inquiry at the end of 1991 into the willingness of the city's inhabitants to move abroad. 1096 people were interviewed by telephone and based on these the number of those desiring to leave for a shorter or longer period of time was estimated 800,000. The preferred target areas were Finland (16% of respondents), the other Nordic countries (9%), western Europe (23%), north America (19%), other countries or any country will to accept immigrants (33%). The number of would-be emigrants to the Nordic countries was estimated to exceed 200,000, but most of them were interested in temporary jobs with a duration of up to two years. The number of those considering a permanent stay in Finland was estimated at 20,000. (Suomi Pietarissa ..., 1993, 83-85).

Unemployment has hit the scientific community and the defence industry hardest. How willing would workers in the defence industry be to emigrate? A survey was conducted among more than 60 specialists in St. Petersburg in 1992 to explore their attitudes towards working abroad. (Voronkov, Osvald, Fomin 1993). It emerged that not a single respondent considered emigration as a solution to the undoubtedly serious economic problems. This may appear surprising in view of the economic situation and prospects but top specialists in particular, one fifth of the respondents, were confident that they would find employment and a livelihood at home, either in their old industry or in the expanding private sector. There were also misgivings about competitiveness in western markets, especially among those working in administrative positions. However, most top specialists were convinced that their professional level was up to western standards. On the other hand their conceptions of what adaptation to western working life would require from them were somewhat vague.

Fears of difficult adaptation to alien cultures were also common, which is understandable in view of the Russians' poor command of foreign languages. Some respondents also indicated patriotic motives and an unwillingness to leave the country in these difficult times.

The study also reveals that military specialists represented an isolated elite in Soviet society. Due to their position they were more isolated from foreign contacts than other groups of intellectual labour but in return enjoyed many material privileges. In such an atmosphere, which allegedly still prevails, the idea of emigrating and transferring military secrets to foreigners is alien to many.

To sum up, the top military specialists of St. Petersburg were not so concerned about their future in 1992 that they would have considered emigration. This conclusion cannot be generalized to cover other groups of intellectual work, though.

As a matter of fact, the brain drain from the Russian scientific and artistic elite has been quite extensive. In this context it is important to remember the prominent role of Jews in the intellectual professions and the fact that they were the first ethnic group to be granted the freedom to emigrate in the early 1970s. This is one reason why the Jews were denied the right to work in the defence industry: secret information could leak out through emigrants. Jews have concentrated on other spheres of intellectual work, which have then become more emigration-prone compared to Russian-dominated military research. Jewish emigration seems to have peaked in 1990-91, diminishing in subsequent years. The high proportion of Jews of total emigrants was typical of those years but it has since decreased so much that according to Russian observers emigration behaviour is no longer determined by ethnic affiliation.

Table 10. Emigration from St. Petersburg abroad 1988-92

	1988	1989	1990	1991	1992
Emigrants total	2500	6200	15400	8400	7500 (estim.)
of which Jews	..	..	14000	4600	..

(Fomin, Oswald, Voronkov 1993, 20)

Much of the brain drain from Soviet and Russian science has thus far been caused by Jewish emigration, which is ebbing. Will the willingness to emigrate in civilian science be different from what it has been in military research? A survey conducted among 52 top scientists (biologists, mathematicians, physicists, chemists) in St. Petersburg sheds some light on that. The respondents were chosen from the scientific elite of eight academic institutions. The scientific community has increasingly felt inclined to look for new sources of livelihood and self-realization: declining living standards and the disintegration of scientific schools due to top scientists' spending much time abroad. On the other hand there are also important pull factors which keep scientists at home. Most of them still are convinced of the superiority of Soviet-Russian science compared to the western level. Many still have apprehensions of their competitiveness in western scientific communities. Only one of the 52 respondents declared his readiness to emigrate permanently while all stressed the enormous attraction of professional trips or limited work contracts abroad (Fomin, Oswald, Voronkov 1993, 22).

The surveys cited revealed a widespread interest among the inhabitants of St. Petersburg in working temporarily abroad but only a small minority desired to leave Russia for good.

The two surveys conducted in military and civilian research revealed an almost complete lack of willingness to emigrate. However, some caution is advisable in

interpreting the results. The samples were relatively small and did not cover the humanistic and social sciences. Besides, if the situation deteriorates considerably the propensity to emigrate is likely to increase.

4.9. Implications for the west

Since 1991 the law has allowed Russian citizens to look for work abroad and in 1993 emigration was liberated. The Russian authorities see emigration as a way of easing the employment problem. Temporary work in an advanced western country is considered positive as it helps to introduce advanced technology, modern production systems and entrepreneurship into Russia. (Khalevinski 1994, 477). This, combined with the wide income gap, has created a massive potential emigration of Russian labour into western Europe. Emigration has increased, although it has not reached massive proportions. One evident reason for this is the west European labour market situation, where there is no need for an influx of foreign labour and restrictions on immigration have been tightened.

On the Russian side the push to emigrate is not as strong as might be expected considering the economic indicators. Russians are known for their endurance, and circumstances will have to deteriorate much further before they trigger large-scale emigration. Nor is the pull of the west so strong: an alien culture, where adaptation problems may be considerable. Many Russians also have doubts about their competitiveness in the western work culture, which has little in common with the Soviet-type attitude to work still common among Russians.

4.10. Living standards, consumption

The situation of the Russian consumer has radically changed since economic reform started. On the one hand inflation has considerably reduced the purchasing power of most. The majority of consumers are much worse off than they were in the late 1980s. On the other hand there has emerged a new class of the rich, which can afford a wide range of foreign luxury goods formerly available only to a small privileged group. The variety and quantity of imported consumer goods on offer has expanded rapidly and several foreign retailers have also established themselves in St. Petersburg selling almost exclusively imported goods. At the same time the supply of Russian goods has contracted, partly at least due to stiffer foreign competition.

The ordinary Russian has an unprecedented range of goods to choose from, while average incomes only allow the purchase of basic necessities. Declining purchasing power means that food swallows up a greater share of the family budget, accounting for almost 55% of gross money incomes. Comparisons with western data are

complicated by the fact that the cost of housing is still abnormally low in Russia (see table 11).

Table 11. Structure of Household Expenditure in 1992

	St. Petersburg	Finland
Food	60	22
Other consumer goods	26	13
Housing	1	22
Others	13	43
Total	100	100

(Statistical Yearbook of Finland 1993, 412, Goskomstat 16.2.1993)

Consumption of most basic foodstuffs had declined by 1992, with the exception of bread, eggs and vegetable oils. As foreign goods have penetrated the market choice and quality have improved. In several basic foodstuffs consumption levels in St. Petersburg and Finland are rather close (table 12). The Finns consume considerably more milk and fruit but slightly fewer eggs.

Table 12. Per Capita Consumption of Foodstuffs in 1992

	St. Petersburg	Finland
	- kg -	
Meat	53	62
Milk	47	215 (liquid milk products)
Butter	7	7
Vegetable oil	7	8
Fish	13	16*
Sugar	24	36*
Potatoes	64	62*
Vegetables	53	54*
Fruit, berries	23	57*
Bread, bakery products	80	..
Eggs	224 pieces	202

(Goskomstat 16.2.1993, Statistical Yearbook ...1993, 403, MTTL 1992) *(1989)

Official production and consumption figures probably exaggerate the fall in living standards as an increasing share of economic activity has shifted to the shadow sector, beyond the control of the authorities and tax inspectors. The year used in table 12, 1992, was the worst for the Russian consumer; real incomes have subsequently improved. This favourable development does not mirror trends in industrial production, which has continued to decline (Leontievskii tsentr 1994, 8-9, 11).

Most people are still employed in the former Soviet sector, which although largely privatized has not reformed its working practices very much. This sector is in most cases unable to pay adequate salaries, which compels at least one member of the household to earn additional income in private activities like petty commerce, personal services and bond and foreign exchange operations. City dwellers have increasingly acquired private plots to grow vegetables, berries and potatoes. A common survival strategy consists of one family member working in the low-paid official economy to secure a certain basic income while the other breadwinner is engaged in more risky but potentially lucrative private business (see Piirainen 1994, 42-43). The most common sources of extra income are street commerce, repair and building work and teaching (see table 13.).

Table 13. Main Sources of Extra Income in St. Petersburg

Street commerce	42
Repairs, building work	25
Lecturing, private teaching, computer work	13
Producing goods for sale	6
Others	14
	100

(Napravlenia promyshlennogo ... 1994)

Cutting out unnecessary spending is naturally part of this strategy. This often involves the creation of networks of relatives and acquaintances to perform mutual services. Similar networks existed in the Soviet period but the present situation tends to encourage them (see Piirainen 1994, 46).

Sources of additional income from the market sector are not accessible to all, due to a lack of qualifications or aptitude, illness or old age. Most of those who depend solely on official salaries or transfer payments are doomed to poverty. According to a household survey in May 1993 28% of the inhabitants of St. Petersburg were found to be living below the poverty level (Piirainen 1994, 14).

5. LOGISTICS, COMMUNICATIONS

5.1. Transport

St. Petersburg is the focal point of the transport network in north-western Russia and a major gateway for foreign trade. The city is served by all modes of transport except oil pipelines. It has highway and railway connections to Moscow, the north, the Baltic states, White Russia and Finland. It has a major seaport and a river port connecting the city with the Russian inland waterway system. There is one major international airport and minor freight and military airports. The city is served by two gas pipelines, one from the east and one from the south. These lines continue to Finland and Estonia.

During the Soviet period the city was primarily inward-looking and had only a limited role in foreign trade and international transport. Decision-making and key decisions in foreign relations were concentrated in Moscow and major trade flows were channelled by pipeline or railway to central Europe through Black Sea or Baltic ports.

However, recent systemic and geopolitical changes have considerably affected the role of St. Petersburg in Russian transportation. Russia lost 4/5 of its Baltic Sea port capacity when the Baltic states declared independence in 1990-1991 (Melasniemi 1993,40), which immediately enhanced the importance of the St. Petersburg port. As Moscow has increasingly lost its power to regional centres St. Petersburg is actively assuming gateway functions and attracting foreign companies. This also makes new demands of the transport system, which except for the ports has so far mainly served domestic needs.

It is evident that the city's present transport infrastructure cannot adequately cope with the growing freight volumes. Bottlenecks are common. The city has suddenly become one of Russia's leading ports as the major port of the region, located east of Tallinn, is in Estonian territory. This and other Baltic ports handle transit traffic from Russia but the burden on existing Russian port capacity has grown to the extent that new ports near St. Petersburg are a necessity.

5.1.1. Seaborne traffic

The port system of the city region consists of the St. Petersburg freight port (capacity 12-13 million tonnes per year) at the estuary of the Neva near the city centre, a passenger terminal on the north side of the estuary and the inland waterway port in the south-eastern part of the city. Cargo transported via the port consists mainly of grain, timber, piece goods and containers. The other port is Vyborg with its outport Vysotsk (Koivisto), which has access to the Saimaa canal. These ports, which have an annual capacity of four million tonnes, handle mainly wood, coal and containers.

It was realized in the 1970s that the capacity of these ports was insufficient to meet the growing transport needs of the region. The location of the ports in the congested city area did not allow capacity expansion there and a new location was chosen east of Tallinn, where a new port was completed in the mid-1980s. The collapse of the Soviet Union showed that this was a short-lived solution. Russian foreign trade lost important Baltic ports, which had the advantage that in the winter they freeze over less often than the ports of St. Petersburg and Vyborg. In the early 1990s these two ports have been able to handle less than half of the seaborne traffic of the region, with the rest, about 30 million tonnes, going via ports in the Baltic states and Finland. The Russians have a keen interest in gaining control of the bulk of this traffic. Russian oil, for example, is still sold via the Latvian port of Ventspils.

There are several plans for expanding port capacity both at existing but mainly at new localities. The St. Petersburg port can be expanded to 18 million tonnes at an estimated cost of 60 million USD. Minor expansion of the Vyborg and Vysotsk ports is also possible, but the real solution is to develop new locations. Two principal alternatives have been proposed:

- A giant multi-purpose port at Ust'-Luga on the southern shore of the Gulf of Finland, 120 km west of the city. Initial capacity would be 32-35 tonnes of piece goods and containers; estimated cost 1.6 billion USD.
- One or two specialized ports for oil and liquid chemicals. The first alternative is Primorsk, 100 km north-west of the city, with an annual capacity of 45 million tonnes of oil, liquid chemicals and liquid gas. The first phase, 8 million tonnes, would cost roughly 400 million USD. An alternative to this would be Bolshaya Izhora 40 km west of the city on the southern shore of the gulf, with a projected capacity of 15 million tonnes of crude oil.

The new locations proposed already have road and railway connections but some improvements would be needed in order to handle heavy traffic. Oil pipelines could be constructed either from Kirishi or Velikie Luki.

The present bottlenecks, volume of transit traffic and transport forecasts (freight volumes to grow from 50 to 120 million tonnes) all speak for a substantial increase in the port capacity of the St. Petersburg region. The present investment climate in Russia has so far discouraged investors. Financing will be a major problem for the next few years, as investment outlays in the first phase of port facilities alone would exceed 2 billion USD. According to Finnish estimates major increases in port capacity will be delayed beyond 2005 (see A Study on the Transport ..., 1993, 70- 71). Transit traffic via other Baltic ports will thus retain and even strengthen its important position for the foreseeable future. The port of Tallinn, for example, has ambitious plans to increase cargo throughput by 700% by 2005, mainly consisting of transit traffic for Russia and Belarus (O'Dwyer 1994, 5). Which of the competing schemes get of the ground will ultimately be decided by the providers of finance.

5.1.2. River transport

St. Petersburg is connected by the Neva and a river port with the Volga-centred Russian inland waterway system, with access to the Baltic, White, Black and Caspian Seas. Part of the fleet consists of river-sea vessels which can operate both in the Baltic and Mediterranean Seas and on coastal waters of the North Sea, saving on reloading costs. The most common types of freight carried are fuel, wood, building materials and grain (Nikolskii et al. 1983, 64). The inland waterway system has some shortcomings, which is why its significance has remained marginal. It is slow and the navigation period is only about six months. Icebreakers can be used to extend the period but in 1993, for example, much of the Russian icebreaker fleet was laid up due to a lack of spare parts and fuel. In the city the bridges of the Neva are lifted only in the early morning for one hour a day to let vessels pass, which also limits the usability of this waterway. Foreign vessels have no access to Russian inland waterways.

The significance of riverborne traffic via St. Petersburg in foreign trade has been quite small although extensive use is made of the Saimaa canal area to serve eastern Finland. The capacity of the inland waterway system is deemed sufficient for the next few years and no major investments are foreseen (see A Study on the Transport ... 1993, 66-67).

5.1.3. Road transport

Long-haul bulk deliveries were typical of Soviet transportation, both domestically and in foreign trade, which favoured railways, pipelines and ships. Road transport accounted for only a minor share of total freight volumes. As the number of private cars has also remained low the need to develop the road network has not been felt to be very pressing. The quality of Russian roads leaves a lot to be desired, but it should be remembered that in large areas of the Russian plain gravel for road-building purposes is not available.

In the new market environment the situation is changing. Cost considerations make much of the formerly dominant long-haul rail transport unprofitable. The share of short-distance deliveries will increase and cargoes will get smaller, making lorries more competitive. This consideration is especially important for a city with an increasing foreign trade role. Road transport has expanded considerably, especially in inbound traffic, in which piece goods with short delivery times prevail. The road network of the St. Petersburg region has a key function in this trade as it is directly linked to the Finnish and Estonian road systems and serves as a gateway to Moscow and elsewhere.

In international traffic the role of the Europe 18 road connecting St. Petersburg with Helsinki, Turku and on to the order Scandinavian capitals is essential. To increase its throughput the road needs considerable improvement both on the Russian (e.g.

by-pass road at Vyborg) and Finnish sides. Faster connections with central Russia would require an outer ring road round St. Petersburg and a first category toll road to Moscow (Suomenlahden rannikkovyöhykkeen ... 1994, 24-25, A Study on the Transport... 1993, 42-43) but the problem is financing.

5.1.4. Railways

Trains carry over half of the freight and a third of passenger traffic in Russia but investment in the railway network and rolling stock has been insufficient to maintain acceptable performance levels, e.g. the average speed of goods trains hardly exceeds 20 km/h (see Zotov, Ushakov 1990, 72). The collapse of the Russian economy in the early 1990s has led to smaller transport volumes. The growing cost-consciousness in the economy is also likely to eliminate some unprofitable long haulage, such as the transport by rail of wood or coal over several thousand kilometres so typical of the Soviet era. All this is likely to reduce freight volumes and relieve pressure on the formerly overstrained Russian railway system. Nonetheless enormous investment and development needs remain, especially at such important transport junctions as St. Petersburg, which is playing a growing role in Russia's foreign trade and transit traffic.

The city has railway connections with the Russian mainline network and also with Finland, Estonia, Latvia, Lithuania and Belarus. Connections with these countries are facilitated by the fact that they run on the same gauge. There are several projects, some already started but most still on paper, to improve the performance of railways in the city region. To speed up through traffic a bypass track and a new bridge across the Neva plus a new sorting yard are planned. Further terminals would be needed in the city, and at Vyborg and Gatchina. Bottlenecks at the Finnish border will be eased when the new Buslovskaya railway station is completed. The link with Estonia requires a station and road connection at Ivangorod.

To secure the competitiveness of rail passenger traffic speeds need to be raised considerably. This requires major improvement work, which can initially take the form of gradual upgrading, like that being carried out between St. Petersburg and Novgorod. The main passenger flows are between St. Petersburg and Moscow, 20 million annually. Compared to this the Helsinki connection (107,000 passengers in 1993, see A Study on the Transport ... 1993, 59, Suomenlahden ... 1994,36) seems modest but it is the city's principal international rail link.

There are ambitious plans for speeding up connections in both directions. The more realistic plan concerns the route to Helsinki, where a reduction of the present theoretical (non-stop) travel time of 4.5 hours to 2.5 hours is planned. Major improvements are needed in the competitiveness of rail as passenger volumes fell by half in 1991-93 while road traffic expanded to 700,000 passengers in 1993. The improvements needed include relaying track, new rolling stock and faster customs

formalities. A new Helsinki-Kotka-St. Petersburg coastal rail route is being considered but as yet there are no concrete plans to go ahead.

The Russians also envisage a high-speed train between St. Petersburg and Moscow which would reduce the travel time from the present 8 to 2.5 hours (speed 350 km/h). The estimated cost of 6 bill. USD (A Study on the Transport ... 1993, 59) is too high for the project to be feasible in the foreseeable future.

5.1.5. Aviation

The city's Pulkova international airport has an annual capacity of 12 million passengers. Domestic traffic has declined in the early 1990s so that there is room for an expansion of international flights, which hitherto have only represented a small proportion of the total. For this to happen passenger services would have to be thoroughly updated. There are also minor civil (Rzhevsk) and military airports in the vicinity of the city but they require rebuilding to meet current transport needs.

5.1.6. Future prospects

In the Soviet system the concept of combined transport with modern terminals to ensure timely deliveries to meet the customer's needs was not the prime function of transport organizations, which were mainly interested in freight volumes. As no specialized forwarding, terminal and distribution functions were developed short-haul deliveries were mainly taken care of by an enterprise's own lorries. In the new circumstances, as transport, distribution and warehousing functions are being privatized, new customer-oriented approaches to delivery are also emerging. The efficiency of the system can be raised if the whole logistic chain, including transport routes and equipment, terminals and forwarding functions is brought under control. If Russian companies adopt such an approach some of the present bottlenecks could be avoided without major investments.

However, the investments outlined above are necessary primarily to attract back to Russia part of the transit traffic now using Finnish and Baltic ports. How much capacity expansion will ultimately be needed depends on projected transport volumes through the St. Petersburg region. The economic collapse in Russia has reduced total freight volumes, but at the same time the loss of important ports has added to the congestion of the St. Petersburg transport system. It is reasonable to suppose that a recovery in the Russian economy will begin to get underway in the late 1990s. Its impact on the transport sector would be felt only gradually. Russian exports via the St. Petersburg region will hardly experience any upsurge as the resource base of the city's hinterland is not especially rich. Rapid growth in imports is also unlikely. The import boom of consumer goods in the early 1990s has been paid for mainly by selling fuel,

raw materials and state property, which will be scarcer in the future. When the Russians start to invest again machines and equipment will form a greater share of imports.

The city's transport infrastructure urgently needs new investment even if there is no significant growth in freight and passenger volumes. The main problem is the precarious situation in Russia, which has so far discouraged bankers and investors.

5.1.7. Logistic chain

Securing fast and dependable deliveries between St. Petersburg and foreign companies requires improved transport routes and expanded port and warehousing facilities. There is a further bottleneck in the logistic chain - the customs. Changes in tariffs and customs regulations have been frequent and often foreign exporters only learn of them at the border, causing them extra delay and costs. In addition, local customs officers sometimes ignore instructions from Moscow and apply rules of their own. These problems reflect the turbulent state of Russian society and the loss of Moscow's authority over local affairs.

5.1.8. Implications for western business

The accessibility and availability of varied transport services compared to most other Russian cities are major attractions of St. Petersburg for western businessmen. Still, the logistic structure of the city is insufficient, especially as far as ports are concerned, which has opened up good opportunities in transit trade for Finnish, Estonian and Latvian ports. They are now actively competing with each other and the St. Petersburg and Vyborg ports for Russian import and export cargo. The ports of St. Petersburg and Tallinn are actively seeking international finance for expansion. Finnish ports versed in modern logistics have enjoyed a good competitive position, which they are likely to maintain for a long time. The port of Tallinn may be a more immediate threat to the Finnish ports, as long as Estonian-Russian relations do not deteriorate dramatically. In the long run the Russians are likely to channel at least bulk cargo through their own ports.

Once initiated new projects in the St. Petersburg transport system will offer numerous job opportunities for western consultants, engineering companies, builders and technology suppliers. Much of the financing is expected to come from western sources, which will also improve the chances of western companies participating in the projects.

5.2. Telecommunications

Russia lags seriously behind the west in modern telecommunications. Although almost every household owns a radio and tv set only about 40% of urban families have a private telephone. The low level of communication technology is a major impediment to the development of market networks. There were only 2500 telefax subscribers in the whole of Russia in 1992 and optical cables accounted for only 1% of all cable lines (see Narodnoe khozyaistvo ... 1992, 569).

Telecommunications are one of the top investment priorities in north-west Russia and St. Petersburg. Making a direct-dial phone call from the city to Finland can take hours, even days, thus the business world urgently needs faster telephone services (Mobile services ..., 20, 1993). A joint Nordic-Russian consortium headed by Telecom Finland started installing a digital mobile telephone system in the St. Petersburg region in 1993 which is due to be completed in 1995. It will radically improve deficient private telephone services in particular, although the initial prices will be too high for most private clients.

5.3. Distribution, trade

5.3.1. Consumer goods market

There is no reliable way of assessing the purchasing power of Russia or St. Petersburg. At a rough estimate per capita incomes are at best one fifth of the west European level. St. Petersburg would thus represent the market potential of one million west Europeans.

St. Petersburg used to be one of the more affluent cities of Russia, mainly due to the strong presence of the privileged military industry. For the same reason the city has rapidly fallen into the middle-income category as the military sector is dismantled. The high proportion of retired people also reduces the mean purchasing power of the city.

The average figures conceal widening income differentiation: on the one hand increasing numbers of destitute people, on the other the growing numbers of the rich, who have been able to profit from the opportunities offered by the new freedoms, privatization and expanding foreign contacts. The new entrepreneurs have created considerable fortunes mainly by trading raw materials, fuel and state property, and by engaging in currency operations in the expanding banking sector. Organized crime has also entered these businesses. One lucrative new way of making money is to offer security services and collect protection money from domestic and foreign companies.

The situation of the Russian consumer has considerably changed since economic reforms were launched. The purchasing power of the majority has declined compared to what it was in the late 1980s, but at the same time a new class of the rich has emerged, whose consumption pattern is very western. Since imports were liberalized the range of consumer goods in the city has diversified remarkably. At the same time Russian manufacturing industry has declined, partly due to stiffer foreign competition.

The proliferation of foreign goods and even penetration by foreign retailers is a typical phenomenon of the St. Petersburg consumer goods market. People's propensity to consume has been high, whilst the average income level is too low to allow for major savings and the new rich are reluctant to invest in the current turbulent economic environment. They prefer to consume or keep their currency earnings in foreign bank accounts. Thus despite worsening economic indicators a lucrative market for foreign consumer goods has emerged, which a large number of western companies have started to exploit, in some cases by establishing retailing facilities.

5.3.2. Distribution channels

In the Soviet system the retailing, wholesaling and warehousing functions existed but the old economic system stressed production at the cost of distribution and storage. The present logistic system is not up to modern requirements (high perishability, unreliable deliveries). The old structures are still in place but new alternative distribution channels are emerging. For example, there are about 30 commodity exchanges, most of which operate like trading houses or retailers (Heikura 1994, 32). In the current turbulent situation companies have increasingly lost faith in the existing channels. Over half of all deliveries in 1992 were conducted directly between firms without intermediaries.

Most retail trade is concentrated in the downtown area but each suburb also has at least one supermarket, which are as a rule smaller than their western counterparts. There are 1500 retail shops in the city, 737 of which sell food, 572 specialized shops and 195 supermarkets. To these must be added the small kiosks, which have proliferated in the early 1990s. By the end of 1993 most retail trade had been privatized. No retail chains have yet been formed in Russia.

Wholesale and storage facilities are in most cases unsuitable for foreign suppliers, who often bypass them and supply retailers directly from their own warehouses or manufacturers in the west. When operations expand storage in St. Petersburg will become necessary.

Foreign exporters normally sell through the Russian distribution system but several western companies have also founded their own retail stores in the city. Finnish firms have been particularly active. In the grocery sector there were three Finnish and one Dutch supermarket operating in the city at the end of 1993 (see Seies 1993, 46). In

addition, there are a number of western-owned special shops (confectionery, sports equipment etc.).

5.3.3. Wholesaling and warehousing

From the point of view of western companies warehousing has many drawbacks in St. Petersburg. The old system stressed production at the cost of logistics including storage. The growing crime rate also means that extra precautions must be taken with warehousing. Foreign firms have avoided these problems by delivering goods directly from their European warehouses or manufacturers. This requires larger stocks to be kept at the home base, and if the shipments ordered by customers are small distribution costs rise. When business expands companies will have to consider acquiring their own storage facilities. There are several ways to solve the problem:

1. Construction of purpose-built storage facilities or acquisition and refurbishment of Russian facilities. Investment costs are high as many building materials and equipment have to be imported. Most existing Russian warehouses need major renovation to meet western requirements.

The following steps are essential in the construction and operation of wholesale and storage facilities:

- solid construction materials such as steel
- round-the-clock security surveillance
- enclosed storage, guarded gates or gates closed at night.

Most warehouses hire armed guards, mostly former KGB or milice workers, who work in private security firms (Heikura 1994, 34).

2. Renting warehouses belonging to established western companies. Such facilities are in short supply and expensive.

3. Using warehouses on the Finnish side of the frontier. This solution offers several advantages: the risks arising from constantly changing Russian regulations or crime are minimal, security costs are also much lower. As the distance from the Finnish border to the city by road is about 180 km, deliveries within one day are possible provided that there are not excessive delays in customs (which there often are).

4. Using temporary customs bondage in St. Petersburg, where the buyer can collect the goods after paying for them. Western European exporters who only have occasional trade with the city often opt for this solution. Problems may be caused by customs bureaucracy.

5.3.4. Implications for western companies

Economic reform, including the liberalization of foreign trade in 1992, has created a new class of entrepreneurs, who by selling natural resources and state property have rapidly accumulated large fortunes while the impoverishment of the average citizen has continued. Western companies have been quick to tap the purchasing power of the new rich. The rapid penetration of western goods and retailers in the city has in a short space of time greatly enhanced consumer choice, even though western companies have mainly targeted only affluent buyers who can afford the high price level. At the same time domestic industry, which is suffering from a deep profitability crisis, has retreated from many markets.

For how long will the markets for western goods continue to expand in St. Petersburg? There are several hazards which may put an end to the seemingly promising boom. Macroeconomic stabilization has not been achieved by 1994, domestic output is continuing to fall in all sectors, the investment climate is not encouraging and real income levels keep declining. The floor may be reached in 1995-96, but purchasing power will remain low for the foreseeable future. This means that new market openings for western consumer goods will emerge very slowly as even low-priced western goods are too expensive for the average Russian. The most promising clients for western goods will be in the highest income groups. It is possible, however, that the wealth of the new rich may be gradually depleted. Privatization of state property is likely to make it more difficult to sell abroad as freely as has been the case hitherto. This also applies to natural resources, which could dry up unless investment is made in extracting facilities. Trading regulations such as export licensing may also change. Another possibility is that the new entrepreneurs will be able to continue their trading activities without any major changes. In any case it seems that the new rich are here to stay and they will be the major clients of western consumer goods suppliers and retailers for the foreseeable future.

6. FOREIGN INVESTORS IN ST. PETERSBURG

One of the basic ideas of perestroika was to open up the Soviet economy to foreign influences. The Russian authorities started to actively promote western participation in the modernization of the economy. Joint ventures, which were permitted in 1987, were seen as a way of attracting western technology, management and marketing know-how but still maintaining control of enterprises in Russian hands. Later on, limitations on western ownership were gradually removed. A growing number of operational forms became legal, especially after the Russian government launched radical market reforms in January 1992. At the same time, however, the disintegration of the Union created a chaotic situation in which the investment climate in the country deteriorated. Most foreign investors have hedged their bets and only committed modest investments. The inflow of foreign capital has remained far below expectations.

In the beginning, when joint ventures were the only possible form of foreign investment in Russia, Moscow was by far the most popular location. Since 1991 a more diverse pattern has started to emerge, with St. Petersburg becoming one of the favoured targets of foreign investors. The number of wholly or partly foreign-owned enterprises in the city and the Leningrad oblast totalled 4235 in November 1993, 46% of the total number in Russia (see Lesage, Bayon 1993, 38).

Table 14. Foreign Investment in St. Petersburg and Leningrad Oblast in February 1991 - August 1993

Country of origin	Number of companies	% of total foreign capital
USA	502	28.2
Italy	145	12.4
Germany	426	7.6
U.K.	134	6.0
China	154	6.0
Spain	32	5.9
Finland	433	3.2
Poland	235	2.6
France	74	2.5
Sweden	189	1.6
Others	1911	24.0
Total	4235	100.0

(Lesage, Bayon 1993, 38)

However, most such enterprises have registered, but not started operating. Of the operational joint ventures in Russia St. Petersburg accounted for 14% in 1993

(database prepared by M.J. Bradshaw, in Hanson 1994). Of those companies which are operational the average level of investment has remained low as most of them operate in business services, consulting, tourism and the catering business (Liuhto 1993, 14). Investment in the city by country is shown in table 14.

It is not known exactly how many of the above companies are operational. In the former Soviet Union less than 40% of joint ventures actually started operating after registration (see Management Development ... 1993, 4).

Greenfield investment in manufacturing industry has been very small. Examples include the American Otis Elevators and the Finnish furniture plant Finnraumamebel. Investment in existing facilities or acquisitions is more common, especially in the engineering industry.

6.1. Joint ventures and management cultures

Despite all the adversities there are hundreds of jointly managed Russian-foreign enterprises operating in St. Petersburg. One of the problems these enterprises encounter is the clash between two different business cultures within the same organization. Managing joint ventures between western partners is often difficult due to differing national cultures and attitudes. In east-west cooperation the situation is further complicated by systemic differences: the partners diverge not only in their cultural heritages but also in systemic backgrounds. Some of the alleged differences in values and working attitudes between western and eastern managers are shown in table 15.

The features typical of the east date from the Soviet economic culture, which is proving to be more resilient than the corresponding structures, which to a large extent have been dismantled.

Empirical research has also confirmed that integrating eastern and western managerial cultures into properly functioning joint ventures is a difficult task. A pioneer Finnish study into Finnish-Russian joint ventures was conducted in Moscow in spring 1991 (Liuhto 1991) when the Soviet work culture was still strong and the mutual learning and adaptation process was in its infancy. It is understandable that views on marketing and management accounting were divergent as those functions had only limited relevance in the Soviet system. Wide differences also existed in management styles. The Russians were authoritative and stressed the importance of written orders. This style was accepted by subordinates, who were used to it, but the Finns had different traditions. They were often criticized by the Russians for being too lenient towards subordinates.

Table 15. Differences in Value Systems Between Management in East and West

	West	East
Importance attached	Wealth, informality, competence	Equity, status
Emphasis on motivation	Individualism	Group unity
Education as investment	Personal development success	Prestige
Dealing with conflicts	Creative energy to be managed	To be avoided
Approach to output	Quality, sales marketing	Quantity production
Communication	Horizontal/vertical open, networking	Vertical closed
Responsibility/risk	Taking risks	To be avoided

(Management Development ... 1993, 4-5)

Russian executives liked to emphasize their status by means of a wide power distance. This manifested itself not only in a clear division between management and executive staff but also in a desire to withhold information and make decisions alone. This did harm to cooperation with the Finns, who believed in the free flow of information and problem-solving in managerial teams.

A common grievance against the Russians was that they were full of ideas in the beginning but were unable to make them operative. An ad hoc, unsystematic approach was also common, while the Finns stressed the importance of planning activities (Liuhto 1991, 90-94).

The study concludes that "Soviet-Finnish joint ventures have found it difficult to combine the managerial attitudes of the partners into a coherent managerial culture". They have" not been able to reach the synergistic opportunities and goals set and offered for it by the cooperation of the partners" (Liuhto 1991, 107, 116).

Much has happened since this study was performed to bring the disparate business cultures closer. Officially, Russia broke away from the Soviet legacy in January 1992 and committed itself to a market economy. The Russian business community has been actively acquiring skills needed in the new market environment, while western businessmen working in the country are showing more understanding of the Russian culture and way of life. Foreign investors have been very cautious about Russia, as in the past, but in many cases the performance of companies established in the country has improved. Much has been learned from the negative experience of shared Russian-western management in joint ventures. In many cases they have been

transformed into joint stock or wholly western-owned companies, in which the main responsibility is in western hands.

Whatever the ownership form the differences in business cultures are relevant, as Russians are indispensable for the day-to-day running of any foreign firm in the country. A more optimistic picture of western firms operating in north-western Russia is provided by a case study of four Finnish-Russian joint ventures, one of which operates in St. Petersburg (Liuhto 1993). This company was founded in 1988, the Russians provided the facilities and most of the manpower and the Finns provided the management.

The Russians take care of 90% of the day-to-day operations as only they can cope with the local bureaucracy and understand the informal networks created under the old system, which still play an important part in the economy. Management is firmly in Finnish hands, especially the financial management, as the Russians have had little grasp of costs, especially the cost of money (interest rates). The marketing concept is also unfamiliar to many of them. Independent activity and initiative are still rare among Russian employees, even in middle management, who are used to the authoritative style. Nepotism, the tradition of hiring one's relatives and friends, was common when the Russians had the major say in the selection of manpower. For these reasons the number of Finns has been increased in middle management, too.

On the whole the atmosphere in the company has improved since the first years, and mutual learning has brought the Finns and Russians closer to each other. The Russians are learning business skills, the Finns cultural skills, including modifying their formerly often condescending, even arrogant attitudes.

6.2. Prospects for foreign operations in St. Petersburg

Foreign operations can be classified according to the level of commitment to the market: non-investment forms like exports, modest forms of establishment like sales offices or warehouses and finally major long-term commitment with investment in production facilities. Most foreign companies operating in St. Petersburg have committed only modest investment there, if at all: small offices, minor inputs into joint ventures. The general investment climate in Russia has been too insecure for major projects.

St. Petersburg has certain strengths compared to most other Russian locations to attract foreign companies:
- logistically advantageous location
- culturally attractive milieu
- highly skilled, partly idle manpower (science, military technology)
- several top universities, research and educational institutions
- idle industrial capacity, especially in arms production.

To these can be added the all-Russian low level of wages.

Factors discouraging investment have more weight. These are mostly connected to the general situation in Russia, including
- political instability
- economic instability, including high inflation and non-convertibility of the rouble
- frequently changing legislation, including unresolved property rights
- persistent deficiencies in transport and communications
- increasing crime.

Some comments are necessary on these points. The political instability is mostly connected with the increasing poverty and the deepening rift between rich and poor. This may one day erupt in unrest with unforeseeable consequences. Another issue is resurgent Russian nationalism with its roots in old slavophile ideology, which may easily turn into xenophobia. An anti-western mentality is spreading among the Russian right as many citizens connect their economic plight with the shock therapy advocated by the western advisors of the Russian government. There are also widespread suspicions of a Jewish-led international plot against Russia. If the economic situation does not improve anti-western attitudes are likely to gain ground, with adverse consequences for foreign companies operating in the country.

Russian government policy is key if investor confidence is to be boosted. If inflation is dampened the conditions for the convertibility of the rouble would improve a lot.

Constantly changing laws are undoubtedly a problem, but the situation is further complicated by the state's inability to enforce the laws, often allowing local officials to interpret them at will.

St. Petersburg is ahead of the rest of Russia in communication infrastructure development, although several major improvements (ports, ring road, rapid train connections) are still pending.

The concept of crime is in many cases fluid in the rapidly changing legal environment of Russia. The growth of serious crime (homicides, robberies) is, however, a major social problem and deterrent to foreign investors in Russia. The authorities have intensified anti-crime measures by extending the questioning and arresting powers of the police (Yeltsin's order of June 1994). Private firms have started to provide security services to foreign companies operating in the country. Organized crime also has a vested interest in protecting foreign companies as they may be a good source of income and often illegal organizations also offer security services to foreigners. The police force is too small and sometimes also corrupt to efficiently cope with this task. However, the proliferation of private security services has improved the situation and the risk that crime represents for foreign companies should not be exaggerated.

6.3. Subcontracting as an alternative: a case

Most western companies interested in operating in St. Petersburg are reluctant to undertake major investment in the present situation. Subcontracting is one feasible alternative as the risks involved are low and there is much idle industrial capacity and labour available. Engineering industries offer the best potential as they have the best technical and professional expertise.

One Finnish engineering company with long experience in the Soviet/Russian market started to look for alternative sources of components for its products. It had used Finnish subcontractors but wanted to find new suppliers who could guarantee the same quality and acceptable delivery times at lower prices. Several firms in St. Petersburg were screened and their strengths and weaknesses analysed.

The main strengths were the high technical level of the companies (which were probably among the best in the city). This applied especially to the machine tools, many of which were of western origin, and special equipment for heat treatment and finishing. On the other hand, the welding equipment was obsolete. The low wage level is a competitive advantage likely to be in place for a long time. Most workers were skilled and capable of good quality work when required and were properly motivated. The cost structure in the Russian companies is advantageous in the sense that all the capital stock has been paid for and they have normally no capital costs.

Table 16. Comparison of Finnish and Russian Subcontractors in the Engineering Industry

	Finnish	Russian (St. Petersburg)
Reliability	+	-
Efficiency	+	-
Quality	+	+ -
Delivery times	+	-
Experience in subcontracting	+	-
Flexibility	+	-
Skilled workers	+	+
Machines, equipment	+	+ -
Wage costs	-	+
Material costs	-	+
Capital costs	-	+

+ competitive advantage
- disadvantage

(Lanu 1994, 57)

The main weaknesses were the poor reliability of deliveries. Reliability is not one of the strengths of Russians but irregular deliveries are often also due to changing regulations and bottlenecks at customs. Quality requirements have tended to be lower in Russia, especially as far as finishing is concerned. A lack of experience in dealing with foreign partners is a handicap, but it will certainly be remedied later. Labour productivity is also low (one third of the Finnish level according to a Finnish estimate, see Lanu 1994, 63).

The assessment in table 16 is based on impressions and interviews made by the Finnish side and concerns the initial situation before any deliveries had been made from Russia. It is reasonable to assume that the differences will even out later when the Russians learn more about the rules of the game. The cost levels are also likely to approach each other, e.g. in materials. The first deliveries were received in Finland in July 1994 and they corresponded to the quality requirements of the customer.

7. FUTURE PROSPECTS

St. Petersburg was founded as the capital of Russia and as a window on Europe. It fulfilled these functions for over 200 years, but during the communist period lost its political and international roles to Moscow. The new political situation in Russia has given more autonomy to the city, which is consciously developing its historical role as a gateway between Russia and western Europe. To this end major investments in infrastructure are being made or planned. At the same time, however, industrial production, investment, real incomes and many social services have collapsed, and to most inhabitants of the city the economic reforms started in 1992 have meant only a lower standard of living and insecurity. The economic policy of the Russian government has certainly created new opportunities for many, but since poverty has increased dramatically social tensions are also mounting. There is as yet no sign in Russia of the economic turnaround that has already occurred in some transition countries like Poland and the Czech Republic. The future role of St. Petersburg will largely be determined by how Russia's economy and foreign trade develop, but the city's own strategies will also be very significant.

What is the outlook for the Russian economy? In the following, two scenarios are presented - an optimistic and a pessimistic scenario, together with their implications for the city.

7.1. Optimistic scenario

The Russian government will, after a period of half-hearted reforms, decline and rapid inflation, ultimately succeed in stabilizing the macroeconomic situation by radically reducing the budget deficit and curtailing easy credit to unprofitable companies. Inflation will slow and interest rates will fall. After privatization is completed in late 1995 the new owners will start investing as confidence is restored in economic policy. The emerging economic growth is accompanied by the disappearance of non-competitive producers, bringing bankruptcies and unemployment.

Companies gradually develop competitive products for world markets, the structure of Russian exports diversifies and the conditions for making the rouble convertible improve. Social tensions will increase as unemployment grows, but on the other hand the new entrepreneurial class will get richer.

For St. Petersburg this means that the conversion of the defence industry will succeed at least partially, while the scientific and technological potential of the city is converted into marketable production. The city's role in Russian foreign trade will be strengthened as investment is made in ports and other communication infrastructure come on stream. Banking, insurance and forwarding will be increasingly attracted to the city. Tourism will also be a strong growth area. The confidence of foreign

investors in Russia's economy will be strengthened and investment will pour into St. Petersburg. Russian capital is also increasingly repatriated.

7.2. Pessimistic scenario

The Russian government and central bank continue to yield to pressures from industry and the population and provide them with easy credit and social benefits, thus maintaining large budget deficits and high inflation. This will keep interest rates prohibitively high for investors. Easy credit to companies is largely explained by the necessity to maintain employment but it also helps to prop up the old, often uncompetitive production structure, thus postponing any real reforms.

The successful element of the reform process, privatization, creates a new class of entrepreneurs, who due to the adverse investment climate in the country show little interest in investing domestically. They continue to trade in Russian raw materials and fuel while industrial capacity continues to shrink. Much of the currency earned is transferred abroad. Unemployment rises, though possibly not as fast as in the optimistic, market-led scenario.

Social tensions mount. The economic elite, who control raw materials and foreign trade get richer while the living standards of the majority stagnate or decline further. Many essential public services formerly taken care of by the state or state-owned enterprises either start charging or vanish. The tax revenues of the public sector are only sufficient to cover part of the necessary expenditure. Especially hard hit are scientific research (largely financed from the military budget) and universities.

For St. Petersburg this means a gradual loss of its scientific and technological potential and further decline in manufacturing industry. Nonetheless the gateway functions of the city are developed as the infrastructural improvements create better conditions for foreign trade operations. The city and its surroundings are in a good position to capture a growing share of Russia's foreign trade flows, especially seabound. Auxiliary functions (banking, insurance, forwarding) are developed and major Russian export companies establish their headquarters and sales units in the city.

8. SUMMARY AND CONCLUSIONS

Since the collapse of the Soviet Union several negative demographic and economic trends have taken a turn for the worse in St. Petersburg. The city's population is declining due to a lower birth rate, rising mortality and migration to the countryside. The dramatic drop in industrial and building activity has, with a lag of some years, led to rising unemployment, which is likely to reach 400,000 (over 15%). Low consumer and especially investment demand, the shrinking role of the state and the army as well as the loss of many traditional markets have paralysed much of manufacturing industry, in which human and physical capital is becoming obsolete. Privatization is likely to bring about bankruptcies in the short run, but may later spur investment activity. However, de-industrialization is progressing, and how much industrial activity remains in the city is largely dependent on the success of the conversion of the military hardware producers.

Scientific research, which once employed 14% of the city's labour force, will also shed most of its employees as the state and the army have cut much of their former funding to science. On the other hand, the city's emerging gateway functions in Russian foreign trade are creating new opportunities and jobs. St. Petersburg has become Russian's largest port and international funding can be expected to be allocated to the region's transport and communications facilities. Private small business, the retail trade, banking, insurance and to some extent also tourism are expanding.

The city's efforts to attract foreign investment have not been very successful, and foreign companies have so far preferred Moscow and resource-rich regions. Greenfield investment in manufacturing industry has been slight compared to acquisitions of companies or shares.

The future of the city will largely be shaped by how the Russian economy and investment climate develop. Still, the city has some strengths such as a culturally attractive milieu, the presence of high-level educational institutions, a skilled work force and engineering capacity in addition to its gateway location, which may attract investors even if the overall Russian prospects remain uncertain. Among the weaknesses of the city, the infrastructural shortcomings, the possibility of social unrest and high criminality should be mentioned.

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