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paper 14

Conversion within the Context of Economic Reform: The Case of Nizhniy Novgorod Oblast

by
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May 1998

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**CONVERSION WITHIN THE CONTEXT OF ECONOMIC REFORM:
THE CASE OF NIZHNIY NOVGOROD OBLAST (NINO)**

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I. INTRODUCTION

There is reason to believe that economic and political power in Russia is concentrated in three or four monopolies, a few advanced financial institutions and several regions, which bolster the federal budget, raise and reallocate significant financial flows, and have a pronounced sub-national self-identification agenda. The Nizhniy Novgorod oblast (NiNo)¹ is among these leading regions, and is regarded as a model of reform in Russia. The level of development is puzzling, however, given that until recently this area was closed, heavily defense-dependent and—with the exception of automobile and chemical industries—practically isolated from the economy outside the defense complex. The latter is more depressed than other industrial branches in the modern Russian market, and usually adds to the problems rather than to the strengths of the region.

Nevertheless, it is widely accepted that the defense sector of the Nizhniy Novgorod oblast region has significant comparative advantages, especially with respect to qualified labor and the level of technical innovation. Both may serve as weighty factors of future development and growth. Efficient use of these comparative advantages, especially skilled and motivated labor, may be questioned, however, due to the existing gap between the requirements of today's Russian economic crisis, and its ability to place labor without substantial additional learning and retraining. Scarcity of resources to modernize and launch active restructuring needed to optimize the industry's size, structure and reduce costs, which also adds to the problematic use of available growth factors.

This report provides an analysis of the modern economic structure of Nizhniy Novgorod oblast and significant structural changes which took place after systemic reforms were launched with the special focus on defense industry and conversion. Niches for actual and potential growth have been identified at the regional level, and the former defense industry has to integrate with these growing segments of the regional economy. In addition, this report analyzes retraining demand of employees at defense contractors.

¹ For layout reasons we used the abbreviation NiNo which stands for Nizhniy Novgorod oblast in tables and figures.

The analytical tools used in this study are fairly simple. The author conducted several interviews at the defense enterprises, banks and small firms of Nizhniy Novgorod oblast in May 1997, to learn their views concerning labor adjustment and personnel policy, as well as concrete problems of the enterprises and estimates of the professional and qualification's scarcity with respect to the existing and potential problems. In addition, mostly Russian publications and information sources were analyzed and a statistical supplement on the basis of the official regional and federal statistical sources was prepared. Statistical support was provided by Dr. Maja Schuhgalter. As a rule, regional statistics are less detailed than the national data, especially in defense-related matters. As a result, some informational gaps in this report are unavoidable.

Box 1: General description of Nizhniy Novgorod oblast

The Nizhniy Novgorod oblast is located in the Volga-Vyatka economic region of Russia, and has a surface area of 76.9 thousand sq.km. The population in 1996 accounted for 3 732,000 people, among them 77.6 percent living in urban areas. Main cities are: Nizhniy Novgorod (1 372,100 people), Dzerzhinsk (282,900), Sarov (82,600) and Pavlovo (71,500). The city of Nizhniy Novgorod is the third-largest city in Russia (after Moscow and St. Petersburg), though the gap in population, economic potential and political influence between Nizhniy Novgorod oblast and the two larger cities is significant.

Nizhniy Novgorod oblast has a favorable location: It is situated at the intersection of significant transportation ways and oil and gas pipelines. It has an international airport, and is equally well accessible from Europe and distant Siberia. The transportation network is comprised of three river ways, seven railroads, six auto routes and airlines. It hosts the oil pipeline from Al'metyevsk to Yaroslavl and natural gas pipeline from Saratov to Cherepovets. Transportation turnover has, however, significantly declined in the last ten years along with the industrial decline.

The climate is relatively favorable (with the exception of the very northern agricultural region).

Nizhniy Novgorod oblast has no exportable primary fuel or raw materials and therefore cannot exploit advantages of rental, which has significantly improved the position of other leading Russian regions in crisis. Smart regional policies rather than the rental of land or raw materials contributed into the positive image and favorable entrepreneurial climate of this region.

The demographic situation is characterized by negative dynamics (mortality in 1996 accounted for 16.3 percent as opposed to 7.8 percent birth rate) and aging of population (24.5 percent of the region's population is above the labor age). Though the region undergoes high migration pressure: The number of migrants per one thousand of population is nearly twice as high as average in Russia (56 in 1996). A relatively unfavorable age structure limits consumer demand and ability of people to adjust to quick changes taking

place within the reform process. The ratio between the active labor force and pensioners is lower than average in Russia, which contributes to the growing difficulties of the local authorities to provide pensions. Ethnically, the population structure is 94.7 percent Russian. Political preferences are very segmented, and in the latest presidential elections 42.4 percent voted for the Communist party leader Zyuganov, while during the elections to the State Duma 34.8 percent voted for left-wing candidates, 32 percent for the candidates of 'democratic' orientation and 18.1 percent for the 'patriots'.

Social indicators of Nizhniy Novgorod oblast are close to the Russian national averages. The ratio between the average per capita income to the living costs accounted for 186 percent in 1996 (211 in Russia, 575 in Moscow) and the share of people living below the poverty level was 22 percent in 1995 (25 in Russia, 19 in Moscow).

Among Nizhniy Novgorod oblast's weaknesses is a division of this relatively small region into two sub-regions (north / south) with the strong climate, land, economic and even political contrasts. Another problem is the ecological situation, especially at old industrial sites.

Sources: *Predprinimatelskiy Klimat Regionov Rossii*, 1997; *Rossiyskiye Regiony Posle Vyborov*, 1997.

II. ECONOMIC STRUCTURE OF NIZHNIY NOVGOROD OBLAST

1. Regional economic policy pattern: Leadership in systemic reforms

Nizhniy Novgorod is considered an exemplary region, which demonstrated loyalty to the federal government by designing economic policy for accelerated reform.² This approach has already brought significant dividends to the region: support at the federal level, central government favors, positive international reputation and high rating as a region attractive for investors.

The starting position of the Nizhniy Novgorod oblast in 1992, when radical economic reforms were launched in Russia, was far from favorable. The region was highly dependent on food imports and the population was confronted with a higher than average degree of consumer deficits (it became famous for the ‘cigarette and vodka’ revolts). Dominance of oversized enterprises and decline of defense-dependent industry could have resulted in high unemployment, thus making tough restructuring measures politically unacceptable. Lack of primary raw materials did not allow the region to collect inflation tax and use export revenues as a substitute for the dramatically reduced federal transfers. The local newspapers in the early 1990s forecast social explosions, hunger, unemployment growth and infrastructure and industry catastrophes. This was the main concern of the regional government: It tried to accumulate excessive stores of so-called stabilizing products (bread, fuel) and controlled technological stay of enterprises and communal infrastructure. Fortunately, these forecasts did not come true, and the region escaped social explosion and has become known as a success rather than a catastrophe. The local government concentrated on the following policy instruments (Tsarkov, 1996, p. 39):

- opening of the region for international contacts, expansion of interregional and international links,
- transfer of social assets, especially housing, from industrial enterprises to the municipal authorities and
- liberalization of prices and income.

² Tsarkov. 1997, distinguishes between three types of regional economic policies in Russia: active resistance to economic liberalization and federal initiatives (Sakha, Bashkortostan), delays in reform and maintenance of the old systemic mechanisms of economic regulation (Ulyanovsk oblast) and quick reforms, often ahead of other regions and federal policies.

Having exploited these tools, the region won the reputation as a leader of reform in Russia. It is not easy to find criteria for a reliable estimate of the level of advancement of economic reforms. Successes are often relative and difficult to identify under the cover of general depression and crisis. The Expert's Institute of the Russian Union of Industrialists and Entrepreneurs attempted to measure the speed and quality of reforms at the regional level. The main criteria is the level of liberalization of the regional economy, measured by the share of subsidies to industry and agriculture in the regional budget, the level of privatization of trade and services and regional policies in price regulation. As Table 1 shows, Nizhniy Novgorod oblast is significantly ahead of the average Russian level in the level of economy's liberalization, thus proving that Nizhniy Novgorod oblast's image as a leading reforming region is justified.

TABLE 1: ECONOMIC LIBERALIZATION INDICATORS IN NIZHNIY NOVGOROD OBLAST

Indicators	Nizhniy Novgorod oblast	Russia (average)
Share of subsidies to industry in regional budget expenditures (1995) in %	11.1	13.7
Budget subsidies per 100 rubles of agriculture output, (1995) in rubles	8.2	10.3
Level of privatization in trade and services (mid 1996) in %	95.5	84.0
Share of products and services with regulated prices (1996) in %	15.1	15.3

Source: *Predprinimatelskiy Klimat Regionov Rossii*, 1997, p. 275.

Leonid Smirnyagin (1997) assumes that not only the formal instruments of economic deregulation, but specifically Nizhniy Novgorod oblast's approach to the way these measurements were carried out speaks in favor of the region's leadership. Thus, the pattern of small-scale privatization, especially in trade and service sectors, applied in Nizhniy Novgorod oblast, differed significantly from the general patterns applied in Russia. Instead of transferring entities to insiders for next to nothing, assets were sold to outsiders. The new owner was not burdened by the accumulated debts of the entity on sale and was not forced to keep the former employees, thus having opportunities to decrease costs and improve managerial efficiency. In addition, social support to the population was provided not through food prices subsidies (which is applied in many other regions, but is believed to have a strong inflationary effect), but through targeted transfers to the poor. Land reforms, carried

out as an experiment, helped launch transactions with the agricultural land and created a foundation for drafting federal legislation in this field. The issuing of regional bonds and their distribution among the local population and companies raised funds for the regional budget and investment.

Nizhniy Novgorod oblast was a pioneer in many reform experiments. For example, in April 1992, it hosted the first privatization auction, which marked the start of ‘small privatization’. Three years later all trade and 90 percent of services were privatized, and 80 percent of agricultural land was transferred to private owners. This helped to radically change the situation at the consumer market and put an end to deficits in supply (along with price and trade liberalization and opening of the region). The regional government was also one of the first to start regulating industry bankruptcies and eliminate insolvent entities from the market (as in 1993, when it launched the bankruptcy procedures of the plants Zvezda and Lazur). To assist conversion, the government experimented with a full tax exemption for several defense enterprises (see details in Section 2).

The regional government operates with the funds, which are collected through income and profit taxes, value added tax, property taxes and excise duties. Nevertheless, the regional budget is driven by four major enterprises: GAZ (automobile), NORSI (petrochemical), Nizhnovenergo (energy) and Nizhnovsvyazinform (telecommunication).

Nizhniy Novgorod oblast is a net contributor to the federal budget, having a per capita positive balance of financial transfers from the region to the federal level. Moreover, budget expenditures in the region are nearly half the amount collected through taxes. 68.4 percent of regional budget expenditures are spent on three items: education (23.0 percent in 1996), health care (20.7 percent) and housing and communal costs (24.7 percent) (see Table 2). Corporate and personal finances are in a much worse condition than the government’s: 37 percent of all registered entities are insolvent (Russian average is 43 percent), and average salary in Nizhniy Novgorod oblast accounts only for 74 percent of the Russian average level (790 thousand rubles in 1996) (*Predprinimatelskiy Klimat Regionov Rossii*, 1997, p. 268–272).

TABLE 2: FINANCIAL STATUS OF THE NIZHNIY NOVGOROD OBLAST GOVERNMENT

Indicators of NiNo governmental finances	Nizhniy Novgorod oblast	Russia average
Per capita tax collection in %	89	100
Per capita budget expenditures in %	72	100
Share of collected taxes in budget expenditures, in %	172	138
Share of federal subsidies in budget revenues, in %	7.7	14.3
Per capita balance of financial transfers from the region to the center, thousand rubles	+ 1334	+1086
Expenditures of the Nizhniy Novgorod oblast budget plan in %, including:		no data
Industry, energy, construction	2.5	
Agriculture and fishing	6.9	
Transport, roads, communication	6.8	
Housing and communal costs	24.7	
Health care	20.7	
Culture and art	2.9	
Education	23.0	
Security and justice	4.2	
Administration	3.3	

Sources: *Predprinimatelskiy Klimat Regionov Rossii*, 1997, p. 26; *Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 70.

Not all reforming initiatives of the Nizhniy Novgorod oblast government were of equal success. Thus, the privatization of large enterprises is slow and inefficient. The issuing of regional bonds solved short-term cash problems, but may have destructive consequences in the long run, since it increases the number of money substitutes, circulating in a region, where up to 90 percent of deals are paid in non-monetary form. A land reform failed to stop a decline in agricultural output. From 1992 to 1996, Nizhniy Novgorod oblast's decline in agricultural output was 8 percent higher than in its northern neighbor, the Kirovsk oblast, where climate and soil quality are much worse than in Nizhniy Novgorod oblast (*Segodnya*, 25 March 1997).

Nevertheless, it may be suggested that—notwithstanding an unfavorable starting position, scarcity of resources and a complicated political and social situation that collectively hinder the government from launching active restructuring—the Nizhniy Novgorod oblast not only escaped expected economic and social catastrophes, but became well-positioned among the Russian regions in terms of economic liberalization. This is considered to be one of the main strengths of the region. Yet, the depth of economic and especially industrial decline, very low living standards, structural imbalances and significant gaps in availability of market

infrastructure make the economic situation in Nizhniy Novgorod oblast very unstable and difficult for recovery.

2. Industry structure and dynamics

Nizhniy Novgorod oblast is one of the most industrialized regions in Russia with a diversified industrial structure. Per capita industrial output exceeds the average Russian level by 16 percent, practically all branches are represented in the region (as reflected in Tables 3–8). Of the Russian regions, Nizhniy Novgorod oblast holds the third place in engineering industry output (after Samara oblast and Moscow city) and the third place in light industry output (also after Samara and Moscow). In the Russian market it is especially heavily represented through its production of glass (84 percent of the market), lorries (59 percent) and rolled metal (42.7 percent) (see Table 3). It hosts the largest (measured in output) Russian automobile plant (GAZ) and the 11th largest chemical plant (Kaprolaktam). In reality, Kaprolaktam's importance is even greater, since it operates an integrated chain of nine chemical enterprises, located in Dzerzhinsk, at which 50,000 people are employed. Total industrial employment in Nizhniy Novgorod oblast in 1996 accounted for 531.9 thousand people (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997).

TABLE 3: SPECIALIZATION OF NIZHNIY NOVGOROD OBLAST IN THE RUSSIAN DOMESTIC MARKET IN 1996

Product	Output	Share of Russian market (without imports), %
Glass, mln sq.m.	2.4	83.2
Lorries, thousand pieces	80.4	59.0
Rolled metal, thousand tons	148.6	42.7
Buses, thousand pieces	12.2	32.0
Paper, thousand tons	396	17.3
Steel tubes, thousand tons	514.6	14.7
Automobiles, thousand pieces	124	14.4
Oil processed products, mln tons	10.7	6.1
TV sets, thousand pieces	12.1	3.9
Metal cutting machines, pieces	428	3.7

Memo item: Nizhniy Novgorod oblast ind. output, bln rubles	32 132	2.7
Memo item: per capita GNP as % of the Russian average level (Russia - 100 %)		99
per capita industrial output		116
per capita net fixed capital investment		75
per capita retail trade		67
per capita agricultural output		87

Source: *Rossiyskiye Regiony Posle Vyborov*, 1997, p. 266.

The domestic market, however, is heavily depressed in Russia, and Nizhniy Novgorod oblast's economy became increasingly dependent on exports. Its share of exports in industrial output increased from 3.7 percent in 1990 to 18.9 percent in 1996 (Table 4). This growth, however, should be viewed critically since it reflects the growing role of the fuel and energy complex in the national and regional economies rather than a sign of recovery. Seventy percent of Nizhniy Novgorod oblast exports in 1996 were provided by four enterprises: stock holding LUKoil-NiNo (oil products), stock holding 'Volga' (paper), NORSIoil and GAZ. Processed oil is the main export product. The second position belongs to chemicals, fertilizers and paper (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 39). Furthermore, the export of products from the engineering industry (automobiles, shipbuilding and aviation) is higher than the average in Russia.

TABLE 4: SHARE OF EXPORT SALES IN TOTAL INDUSTRIAL OUTPUT, %

	1988	1990	1993	1996
Nizhniy Novgorod oblast export as % of industrial output	5.9	3.7	8.9	18.9
Memo item: Russian export as % of industrial output	5.1	4.1	12.6	16.8

Sources: *Ekonomicheskoye Polozheniye Regionov Rossii*, 1994, p. 243, 1995, p. 286; *Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 39–42; *Rossiya*, 1997, issue 2, pp. 200–212; *Predprinimatelskiy Klimat Regionov Rossii*, 1997, p. 251.

TABLE 5: STRUCTURE OF EXPORT (AS % OF THE TOTAL) IN 1992–1994

	1992	1993	1994
Cattle and animal produce	0	0	0.2
Vegetables and oil	0	0	0.1
Prepared food	1.3	1.3	0.2

Mineral products (mostly processed oil)	0.4	44.2	47.3
Chemicals, fertilizers, synthetic rubber	16.7	16.7	17.6
Timber	9.3	9.3	7.3
Textile	0.2	0.2	
Metal	0.3	0.3	5.8
Machines and equipment	13.6	13.6	10.1
Vehicles	13.0	13.0	9.1
Tools	0.2	0.2	0.2
Others	45.0	1.0	2.1
Total	100.0	100.0	100.0

Source: *Ekonomicheskoye Polozheniye Regionov*, 1994, pp. 245–251; 1995, pp. 289–295.

Analysis of the industrial structure of Nizhniy Novgorod oblast shows that the engineering industry in Nizhniy Novgorod oblast (represented mainly by automobile, aviation, shipbuilding, communication equipment and radio industries) is the leading segment of the regional economy, followed by electrical energy production and food-processing. It is remarkable that the share of electrical energy industry has nearly doubled in 1992–1996. This growth may be explained by the accelerated inflation of energy prices and relatively stable output dynamics. The engineering industry manufactures nearly half of the annual industrial output of Nizhniy Novgorod oblast at approximately one third of the total number of large- and medium-size enterprises. The decline in the role of fuel (see Table 6) may be explained by a regrouping in the petrochemical industry (which now is subordinated to the chemical complex) rather than by the structural downsizing of the entire fuel branch.

TABLE 6: SECTORAL INDICATORS OF INDUSTRIAL PRODUCTION IN NIZHNIY NOVGOROD OBLAST

	Structure of industry in %			Number of large and medium enterprises in 1996	Share of NiNo output in Russia in 1994 in %	Depreciation rate in 1995 in %	Output in 1996 as % of 1993 in %
	1992	1994	1996				
Total industry:	100.0	100.0	100.0	513	3.2	52.8	81.5
including:							
Electrical energy	5.6	8.8	11.8	3	2.0	51.2	88.3
Fuel	16.4	15.5	6.4	6	3.2	24.9	64.2

Ferrous metal industry	7.6	4.3	7.0	8	1.6	60.0	77.0
Non-ferrous metal industry	0.1	0.1	0.1	1	-	70.2	-
Chemical and petro-chemical	9.5	8.9	7.9	20	3.8	48.3	35.6
Engineering / metal-working	41.1	42.7	48.2	147	6.9	54.4	96.2
Timber and paper industry	3.4	3.4	4.1	65	2.3	54.7	81.9
Construction materials	2.3	3.6	3.5	45	1.6	61.1	63.7
Light industry	5.2	2.4	1.9	75	2.4	57.5	37.1
Food-processing	8.1	9.3	9.0	108	1.9	56.3	76.2

Sources: *Ekonomicheskoye Polozheniye Regionov*, 1994 p. 49–61; 1995, p 57–81; *Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 107, 16; *Osnovnye Pokazateli Raboty Promyshlennosti Respublik, Krayev, Oblastey*, 1992–1996.

Structural shifts, however, have been most dramatic in the engineering industry. As Table 7 shows, the share of automobile industry in engineering industries has grown from 64.3 percent in 1992 to 78 percent in 1996. Practically all other branches of the engineering industry decreased their relative share, with the most significant decline in defense-related branches. There is no precise data on the share of the defense complex in the engineering industry's output, though there is much reason to believe that a drastic decline in the share of 'other industries' took place due to a downsizing in the defense complex. Data from the Association of Enterprises and Organizations in the Nizhniy Novgorod oblast suggests that the share of the defense complex in total industrial output (both military and civilian) in 1996 accounted for 7.9 percent (*Ekonomika i zhizn*, Nizhniy Novgorod oblast regional edition, No. 8, 27 February 1997).

TABLE 7: STRUCTURAL SHIFTS IN ENGINEERING AND METAL-WORKING

	Share of	sectors %	in output	Share of sectors in the new net fixed capital investment in 1995	
	1992	1994	1996	R bln	%
Engineering and metal working industry, total	100.0	100.0	100	665.0	100
Diesel	1.3	0.7	0.8		
Lifting and transporting equipment	0.1	0.1	0.1		
Railroad equipment	0.4	0.4	0.5		
Electrotechnics	0.04	0.03	0.001		
Equipment for the chemical and oil industries	2.0	1.9	1.5		
Machine-tools and tooling	1.5	0.9	1.0		
Apparatus	4.0	2.4	2.1		
Automobile	64.3	74.6	78.0	565.4	85.0
Machines for construction and communal services	2.0	1.3	1.1		
Equipment for food-processing and catering, trade and light industry	0.8	0.7	0.8		
Other engineering industries, including:	17.7	11.5	10.2		
aviation				11	1.7
shipbuilding				5.4	0.8
electronics				0.4	0.06
communication				1.1	0.2
military production				23.5	3.6
Metal working	4.4	4.2	3.2		
Repairing	1.4	1.2	0.9		

Source: *Osnovnye Pokazateli Raboty Promyshlennosti Respublik, Krayev, Oblastey*, part two, 1995, pp. 375–383, 1996, pp. 371–379; *Ispolzovaniye Kapitalovlozheniy po Otrasyam Ekonomiki i Promyshlennosti Rossii*, 1995

The leading role of the automobile industry is especially visible in the structure of the net fixed capital investment. In 1995, as much as 85 percent of all new investment in the engineering industry were allocated to the automobile sector. Military production of the defense complex was the second largest recipient of investment among engineering branches, though it only accounted for 3.5 percent of new net fixed capital investment into the engineering industries (*Ispolzovaniye Kapitalovlozheniy po Otrasyam Ekonomiki i Promyshlennosti Rossii*, 1995). Though it should be noted that the total volume of investment in 1995 accounted for less than approximately US \$150 million, if the average market exchange rate is used. Therefore, more or less every large project may significantly change the sectoral structure of investment. In 1996, the largest investment projects in Nizhniy Novgorod oblast were the construction of a bus plant in Pavlovsk, the opening of an

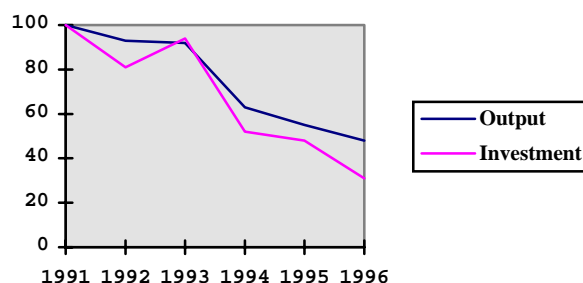
automobile engine enterprise in Zavolzhsk and construction of a new airstrip at the Nizhniy Novgorod oblast international airport (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 112). A recently closed deal between GAZ and FIAT for the joint manufacture of several new Italian car models at the GAZ facilities in Nizhniy Novgorod oblast is expected to become the largest investment project in the region and in Russia.

The growing concentration of output, investment and employment in the automobile industry is only one of the structural shifts at the sectoral level. There is evidence that the decentralization of the economy—one of the major goals of economic reforms—has not yet materialized. Industrial output continues to be concentrated at large- and medium-size enterprises (96.2 percent of industrial output in 1996), while 99 industrial enterprises (19.3 percent of their total number) are listed as monopolies (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 7, 21).

In the last six years, the regional industry has had a significant decline in output. In 1996, Nizhniy Novgorod oblast's industrial output accounted for only 48 percent of the 1991 level, and investment dropped to only 31 percent of the 1991 level (see Chart 1). This is, however, close to the average Russian figure, and shows that the decline stems from overall macroeconomic factors rather than regional economic forces. The only difference is that at the regional level, decline was most dramatic in 1993–1994, while at the federal level industry downsized mostly from 1992 to 1993. Furthermore, the decline is structured differently. The Nizhniy Novgorod oblast industry is deeply segmented in the depth of output decline. In the period 1993–1996, the chemical, petrochemical and light industries downsized most dramatically. As one can see in Table 6, only one-third of their 1993 level output was maintained at the end of the three-year period. Due to the recovery of the automobile sector, the engineering industry achieved relative stability. Although defense-related branches continued to reduce output (by 60 percent in 1993–1996, both defense and civilian, see details in Section 2) (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 20, 21; *Ekonomicheskoye Polozheniye Regionov*, 1994, p. 91, 1995, p. 106).

FIGURE 1: DYNAMIC INDEXES OF NIZHNIY NOVGOROD OBLAST INDUSTRIAL OUTPUT AND INVESTMENT (AS % OF 1991, CONSTANT PRICES)

	Output	Investment
1991	100	100
1992	93	81
1993	92	94
1994	63	52
1995	55	48
1996	48	31



Source: *Predprinimatelskiy Klimat Regionov Rossii*, 1997, pp. 252–253.

Low capacity utilization, excessive employment and low labor productivity are the immediate results of output decline. Among 158 main products, which are counted in the capacity utilization balance, only seven products were manufactured with the full use of production capacities. Uneven decline, however, has significant economic consequences for Nizhniy Novgorod oblast's future. Emergence of a clear leader—the automobile sector—changes priorities and effective demand landscape, giving the regional industry a chance to reorient itself to the needs of this expanding market. A lot depends on the availability of resources and learning potential to carry out industry modernization needed to keep its position in the dynamic, though crowded automobile market. As Table 6 shows, industrial capacities in Nizhniy Novgorod oblast have seriously depreciated, with the exception of the fuel industry. This is a challenge not only for the investors, but for the recipients as well, since modernization may become successful only in the new corporate governance and labor quality context.

At the micro-level, Nizhniy Novgorod oblast's economic structure is more diverse than at the sectoral level. In addition to the large number of financially distressed entities, a group of enterprises in different economic branches exists, which show growth in sales and employment. It is interesting to look at the list of entities, which had the largest sales turnover in 1996. Of Nizhniy Novgorod oblast's 15 leading enterprises, listed among two hundred largest Russian enterprises, eleven showed growth in 1995–1996, ranging from 19.8 percent at chemical Sverdlov plant to 132 percent at defense Krasnoye Sormovo. Though it is remarkable, that general sales' figures are relatively low (with the exception of GAZ and the railroad company), showing that the enterprises started recovery from the very low level of recent decline. Of the

largest enterprises, more than forty percent of their sales are carried out by automobile factories, followed by transportation and electrical energy entities. Only three defense plants appeared in the list of largest Nizhniy Novgorod oblast enterprises (if measured in output rather than employment). One third of listed companies are heavily dependent on export.

TABLE 8: NIZHNIY NOVGOROD OBLAST'S 15 LARGEST ENTERPRISES (IN SALES)

Name	Branch	1996 sales, US \$ mln	Growth rate (1995–1996)	Employment per 1,000	Share of export sales (1994, %)
GAZ	Automobile	1854.1	49.8	107.5	3.8
Gorkovskaya railroad	Transportation	1192.2	32.7	120.2	0
Nizhnovenergo	Electrical energy	738.4	29.9	11.2	no data
NORSIoil	Oil-processing	491.2	-30.5	5.8	27.6
Zavolzhskiy engine plant	Automobile	376.3	45.3	19.1	1.7
Viksunskiy metal plant	Ferrous metal	302.0	48.9	17.5	11.9
Volga	Pulp and paper	165.9	-22.0	4.8	53.6
Krasnoye Sormovo	Defense complex	163.1	132.9	11.8	85.1
Pavlovskiy bus plant	Automobile	153.5	57.6	9.2	0.9
Sverdlov plant	Chem. sector of ammunition and special chemicals	123.2	19.8	11.5	2.5
Nizhegorodsvyaz-inform	Communication	112.2	no data	no data	no data
Kaprolaktam	Chemical and petrochemical	108.9	-44.2	13.0	42.0
Borskiy glass plant	Construction materials	96.3	31.1	7.0	9.3
Arzamas machine building plant	Automobile	89.9	68.1	6.6	no data
Sokol	Aviation	no data	no data	15.6	8.2

Note: Only enterprises, which voluntarily responded to the questionnaire of *Ekspert* magazine, are listed. Average 1996 exchange rate R 5125 per US dollar was used to estimate sales in dollars.

Sources: 200 largest Russian enterprises, in *Ekspert*, 1997, 6 October, No.38, pp. 50–79; Data base of the State Committee for Statistics “Register of Industrial Enterprises”, 1995, Moscow

It should be noted however that not a single company, including the largest and most successful, may report to have optimal structure, organization and management. Practically all of them need

modernization, restructuring and improvement of the corporate governance. Moreover, the head of the industry department of the regional administration considers that “the core of the adaptation process is to gain cost efficiency and to stop waste of resources, robbery of enterprises by top managers and running through by the work collectives” (*Ekonomika i zhizn*, regional edition, 1996, No. 5, December, p. 5).

To stimulate positive changes, the regional government launched the 1997 pilot program for Nizhniy Novgorod oblast enterprise restructuring, aimed at “bringing discipline into product, personnel, financial and marketing management” (Vikhorev, 1997). The government assumed that the investment scarcity is only part of the problem, because the enterprises as a rule are not ready to present bankable projects in view of low economic and managerial efficiency and sub-optimal enterprise structure. Therefore, it has decided to provide ten Nizhniy Novgorod oblast enterprises with some privileges as an award for active restructuring reforms: transfer of social assets to the municipal authorities, shared funding of auditing and consulting firms’ services which are to prepare enterprise restructuring and product business planning, and delayed payment of taxes to the regional budget. Surprisingly, many problematic Nizhniy Novgorod oblast enterprises refused to participate in the program, despite its advantages. The administration explains this by a reluctance of enterprise managers to make their entities transparent.

Box 2: GAZ

GAZ, the largest automobile company in Russia, has become the leading enterprise of the Nizhniy Novgorod oblast. It created jobs accounting for one-fifth of all industrial employment in the region, manufactures 28,5 percent of the total industrial output and provides one fourth of the regional budget revenues. It has 107.5 thousand employees and additionally provides 350 thousand jobs in sub-industries.

The history of the plant and the main concept of its organization dates back to the 1930s, when Western technologies and managerial approaches played a significant role in this enterprise’s establishment. Until recently it was heavily defense-dependent: About one third of its output was manufactured at the shops producing special army lorries. Cuts in defense contracts and numerous macroeconomic shocks resulted in serious problems and called for active restructuring, cost saving and a search for new markets.

These problems were partly solved by the development of more than 20 modifications of a small kind of lorry (‘Gazel’), which were previously not produced in Russia and were expected to meet high demand due to the inflated fuel and energy costs. In addition, the company modernized the ‘Volga’ car and entered into a joint venture with FIAT at a new plant to be constructed especially for this project. Funding is provided through a loan from the EBRD,

several Western banks, Russian Avtobank, federal government and the enterprise itself. This project is considered to be the largest in the Russian engineering industry, and it has already received significant support from the federal government in the form of tax advantages and removal of import duties.

GAZ has been privatized and is pursuing the strategy of property consolidation by buying back its shares. In one year the number of insider shareholders decreased by 18,000. The controlling share of stock now belongs to the Russian Avtobank, Menatep, First Voucher Fund, Interregional Land Bank, Active Company and the western firm EEDF. All of these entities are represented on the board of directors.

Achieving stable growth, GAZ has itself become one of the few solvent regional customers for the local industry as a purchaser of materials, components and technologies. There is a lot of evidence that many enterprises, including defense-related, are reorienting their manufacturing programs to the automobile market in view of its potential to become a 'Russian Detroit', as local observers predict.

However favorable GAZ's position, the company still needs significant restructuring, modernization and an improved marketing strategy to stay competitive. In 1996, the social costs at GAZ accounted for 268 billion rubles (approximately US \$52.3 million), making cost structure highly inefficient. Debtor's arrears reached US \$200 million. The share of barter in sales turnover accounted for 56 percent in 1996 (compared with 92 percent in 1995). Less than one-third of its production capacity is utilized (81 thousand lorries of all types are manufactured, while capacities are planned for the output of 300 thousand lorries annually). The company faces serious sales problems, especially in distant regions, where high transportation costs make prices incompetent. To solve this problem, GAZ established assembly shops in the former Soviet republics and distant Russian regions to support sales, and restructures dealers' network to consolidate profits. More long-term restructuring initiatives are linked to the establishment of the financial-industrial group (FIG), which united 39 industrial, R&D, sales and financial institutions around GAZ. Among them 14 entities supply components for the GAZ and 14 are its clients. In addition, it has two firms which specialize in marketing and economic analysis. Nine participants of the FIG are located outside Russia. All entities are privatized. The goals of the FIG include the coordination of manufacturing and sales, raising of investment, optimization of financial flows, facilitation of payment among participants and representation of the companies at the international market. Development of the FIG is at the starting point, and is still blocked by low control, lack of equity relations, failure to run consolidated balance and to act as a consolidated taxpayer. Furthermore, a lot depends on the ability to raise capital for radical technical and technological modernization of the main and supplying companies, since success with the Gazel may be devalued by growing quality problems and competition with imported lorries. In the automobile market, the large-scale joint project with FIAT seems to define the company's strategy.

Sources: *Ekonomika i zhizn*, regional edition, 1997. No.17, 30 April; No.39. September 1996, p. 3; No.29, July 1996, p. 6; No. 3, January, p. 2.

3. Industrial infrastructure

The ‘hardware’ of industrial infrastructure (electricity, heating, water supply) is traditionally well-developed in Nizhniy Novgorod oblast, though the region is listed as energy deficient because it does not produce enough electricity for its own needs and is dependent on import. Some infrastructure, especially in the old industrial areas, needs significant modernization. Moreover, there is insufficient funding for infrastructure maintenance. Even shops which stay idle should have heating and electricity. The regional administration is especially concerned about the condition of old pipelines in need of repair but no new investments are made to have them replaced.

The traditional centrally administrated supply and sales infrastructure was completely dismantled in the process of systemic reforms, and this vacuum is still not filled by the new networks. Weak and inexperienced wholesale firms are not capable of servicing the needs of gigantic factories, which operate with thousands of suppliers and clients. Therefore, in 1996, 90.3 percent of wholesale trade with the investment products in Nizhniy Novgorod oblast was provided by the enterprises themselves, which in turn are still learning with respect to the marketing management and sales’ organization. At the consumer markets the wholesale mediators are more active. They provide 21.9 percent of trade turnover and show the clear tendency to expansion, while enterprises manufacturing consumer products are declining their absolute trade turnover and relative share of the market (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 43–45). In 1996, only one commodities exchange functioned in Nizhniy Novgorod oblast (agro-industrial), which does not make information about its activities public. The Nizhniy Novgorod oblast trade fair was recently reopened, and has been gaining credibility.

Retail trade has the tendency toward gradual decline. In general, Nizhniy Novgorod oblast has relatively low per capita retail trade turnover: only 67 percent from the average Russian level (136 percent in Samara region and in St. Petersburg, 444 percent in Moscow. (*Predprinimatelskiy Klimat Regionov Rossii*, 1997, p. 237). This trend may be explained by the relatively low living standards in the region. This limits local and industry’s opportunities to expand at the regional consumer markets. The data on retail trade should be regarded carefully since this activity is dominated more than other branches by ‘gray’ markets, where people work for cash and are not registered.

Enterprises are facing a scarcity of marketing management skills and a deficit of information about markets, potential partners and clients (especially with regard to financial solvency and reliability). Non-payment crisis made the knowledge about markets critical for the future industry's survival and development.³ The Chamber of Trade and Commerce was established in Nizhniy Novgorod oblast to fill this gap, though enterprise managers are complaining about its slow start and overpriced services. The Nizhniy Novgorod oblast administration, in its turn, views lack of managerial skill in marketing as a main weakness of the industry. According to A. Chachagov, deputy head of the investment department of regional administration, "directors sometimes do not know what happens in their surroundings, which neighbor needs his products and may offer supply."

The communication infrastructure in Nizhniy Novgorod oblast, as everywhere in Russia, is almost fully controlled by the federal authorities, especially the Ministry of Communication, which provides licensing, certification, and regulates tariffs and prices. There also exist so-called departmental communication systems which are, however, rarely available for the industry clients. With respect to the relatively new (to Russia) commercial communication means, Nizhniy Novgorod oblast is significantly behind such cities as Moscow, St. Petersburg, Ekaterinburg, Samara, Novosibirsk and Rostov-on-Don. By the end of 1996, Nizhniy Novgorod oblast had only 47 E-mail networks and 1,600 fax machines (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 39). Rural areas are very poorly supplied with communication infrastructure, with the exception of the regular mail network. With regard to the availability of communication infrastructure for the general population, Nizhniy Novgorod oblast lags behind the average Russian level. It has only 41 phones per 100 families in towns and 13 in rural regions, as opposed to 46 and 19 respectively in Russia (average) (*Predprinimatelskiy Klimat Regionov Rossii*, 1997, p. 264). Underdeveloped communication infrastructure may be viewed as a significant weakness of the Nizhniy Novgorod oblast's entrepreneurial climate.

Business infrastructure development was launched virtually from scratch together with the systemic reforms and made significant progress. This is particularly true of the banking system. From 1995 to 1996, the banking currency increased by 27 percent in current prices (inflation rate accounted for 24 percent). According to late 1996 data, 28 banks were operating in the region

³ Debtor's arrears to NiNo industry accounted in 1996 for 28.2 percent of the total industrial output with accounts payable of the industry for 42.8 percent of output (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblast*, 1997, p. 73).

with a turnover of 30 trillion rubles, though by law about 15 percent of bank capital is owned by credit institutions with very low balance liquidity (*Ekonomika i zhizn*, regional addition, 1997, 13 February, No. 6, p. 3). It may be assumed that the rapid development of the regional banking system has seriously improved financial transactions between local partners. Though in the crisis environment the financial flows are paralyzed by huge enterprise debts and the predominance of cash transactions between commercial partners. This may be explained by the fact that technically bankrupt entities (934 enterprises in 1996 made loss, *Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 71) avoid any payments to their accounts to prevent creditors to return debt. However illegal it is, this measure helps enterprise managers to keep their entity alive and pay at least modest salaries. Another problem, which limits development of the regional banking infrastructure is the pressure from the powerful Moscow banks, which enticed Nizhniy Novgorod oblast enterprises, especially those which are active at national and international markets.

The future of the regional banks is dependent on their ability to consolidate and offer their clients more sophisticated services. According to the Central Bank representative in Nizhniy Novgorod oblast Stanislav Spitsin, the regional banks should develop collateral security lending, strengthen export controls and promote the flow of capital into Nizhniy Novgorod oblast.

Other elements of regional business infrastructure (insurance companies, information and consulting services, business security organizations) are generally relatively weak, but are gaining reputation and experience.

Summing up this chapter, it may be suggested that Nizhniy Novgorod oblast underwent remarkable changes in the past five or six years and won a reputation as a dynamic region with an adequate and quick learning government. One of the signs of dynamism is the significant structural change at the sectoral level, which took place after systemic reforms were launched. There exist, however, serious weaknesses, which were either inherited from the past (excessive militarization, depreciated capacities and lack of withdrawal of outdated or loss-making entities from the economic turnover) or emerge from resource scarcity and low living standards (limited local demand, delayed industry restructuring). Some of these challenges—such as industry restructuring at the micro-establishment level and improvement of corporate governance—require principally new skills in the labor force.

TABLE 9: NIZHNIY NOVGOROD OBLAST: STRENGTHS AND WEAKNESSES

Regional advantages	Regional weaknesses
<ul style="list-style-type: none"> • favorable location at the convergence of transportation routes, close to new and old industrial areas • high level of science and technological development, innovative environment, skilled labor • emerging modern market infrastructure • balanced regional budget, independence from the federal subsidies • qualified administration and adequate regional industrial and general economic policies • availability of the strong industry leader – the automobile sector 	<ul style="list-style-type: none"> • NiNo has no fuel and raw materials to rent and lacks access to international markets for low value-added products • poor ecological situation • depreciated production capacities in need of radical modernization and scarcity of regional resources to launch it • high transaction costs, unhealthy fiscal status—proliferation of money substitutes and predominance of cash transactions among industrial partners • low living standards which limit demand and potential of the local markets, as well as reduce savings to raise local capital for investment purposes

III. DEFENSE INDUSTRY CONVERSION IN NIZHNIY NOVGOROD OBLAST

Nizhniy Novgorod oblast's defense dependency in the early 1990s was higher than average in Russia. The share of defense employment in the total industrial employment accounted for 35 percent, while in the R&D sphere it reached 66 percent (*Konversiya*, 1993, No.3). There is no solid data regarding defense employment in the late 1990s, although—according to the regional statistical agency—the share of the defense complex in overall industrial output accounted for 7.9 percent in 1996. It should be noted that although only 40 percent of Nizhniy Novgorod oblast's defense-related output is manufactured for the military this is double the average in Russia (20 percent) (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 21).

The analysis of the national data of dynamics of defense complex's employment and output in 1991–1996 shows that there is a significant gap between these two trends. With the exception of space and shipbuilding industries, output fell more than employment. In 1996, total output in Russia's defense complex accounted for 31.2 percent of the 1991 level, while employment accounted for 51 percent (*Rossiia*, 1996, issue 1–2, pp. 94–95, *Rossiia*, 1997, issue 1, p. 109). There is evidence that this gap is significantly higher in Nizhniy Novgorod oblast than at the national level. The calculation of cumulative employment at the 17 largest (more than 1000 employees) defense enterprises in Nizhniy Novgorod oblast shows that in 1994 it accounted for 132.1 thousand people, approximately one-fourth of the total industrial employment (see Table 11). Summing up, it may be suggested that although the defense complex in the region may be relatively insignificant in Nizhniy Novgorod oblast's new manufacturing structure, it still plays a decisive role in the labor market. A huge gap between output and employment dynamics resulted in the emergence of high latent unemployment, which is concentrated at the over-staffed, though often idle defense enterprises.

A comparison of the national and Nizhniy Novgorod oblast data on the defense complex's output dynamics shows that decline took place practically parallel. In the period 1991–1996, the Russian defense output declined by 69.8 percent, while in Nizhniy Novgorod oblast it fell by 71 percent (see Table 10 and Chart 2). Military output, however, declined much more than civilian output of the defense complex. In 1994, military output in Nizhniy Novgorod oblast accounted for only 30 percent of the 1991 level, while the 1994 civilian output was 93.7 percent of its 1991

level (Table 10). Moreover, until 1994 the Nizhniy Novgorod oblast defense complex increased civilian production, which may be estimated as a result of active conversion, while the average Russian figures show a decline—particularly in 1994.

FIGURE 2: DEFENSE OUTPUT DECLINE IN NIZHNIY NOVGOROD OBLAST AS COMPARED WITH THE RUSSIAN NATIONAL DATA (1991=100%)

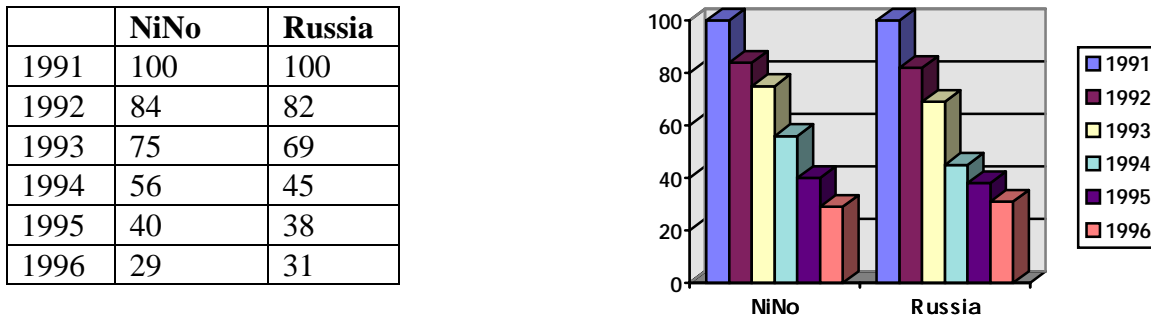


TABLE 10: DYNAMICS OF OUTPUT DECLINE IN THE NIZHNIY NOVGOROD OBLAST DEFENSE COMPLEX

	1992 as % of 1991	1993 as % of 1992	1994 as % of 1993	1995 as % of 1994	1996 as % of 1995	1996 as % of 1991
NiNo defense complex, total	84.2	89.6	74.5	71.6	72.0	29
incl. Military	63.4	75.0	62.8	no data	no data	no data
Civilian	105.0	103.5	86.2			
Russian defense complex, total	82	84	65	85	82	31.2
incl. Military	62	70	61	80	no data	
Civilian	93	89	67	87	no data	

Sources: *Ekonomicheskoye Polozheniye Regionov*, 1994, p. 93, 1995, p. 109; *Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 21; *Rossiya*, 1996, issue 1–2, pp. 94–95, *Rossiya*, 1997, issue 1, p. 109.

Unfortunately, data on the sectoral structure of the defense complex’s output and employment is not available. There is some evidence that aviation, shipbuilding and radio industries are particularly well-represented in Nizhniy Novgorod oblast. At the national level these industries have very different patterns of dynamics after 1992. Radio and aviation output fell from 1991–1996 by 73.5 and 77.7 percent respectively. Shipbuilding performed only marginally better in that general output declined by 58.8 percent, and civilian output by 36 percent (*Rossiya*, 1996,

issue 1–2, pp. 94–95). There is reason to believe that—with the exception of shipbuilding enterprises, reoriented towards civilian markets and partly to international defense markets—the financial and economic condition of defense enterprises in Nizhniy Novgorod oblast is very weak.

Analysis of the micro-establishment data, presented in Table 11, shows interesting results and compensates to some extent for the scarcity of sectoral data. This data includes enterprises which employed more than 1000 people in 1994. At four plants, employment exceeds 10,000, including two huge plants which are listed among 200 largest Russian companies in sales (shipbuilding enterprise “Krasnoye Sormovo” and aircraft “Sokol”). It is remarkable that the top five Nizhniy Novgorod oblast defense enterprises are still significantly dependent on defense contracts, and have a relatively large share of export in sales. It means that they have selected an adaptation pattern, which may be described as relying on government contracts and compensation of lowered domestic demand by expansion at the international market. Steel is represented as an important civilian product at the top three companies, which enables firms to exploit advantages inherited from the Soviet Union’s high level of internal production, whereby almost all stages of technological development were present at one company without major outsourcing. Yet, at the majority of enterprises listed in Table 11, civilian production in output is significantly higher than military (at three companies it even exceeds 90 percent), which makes their grouping under the umbrella of the defense complex questionable.

A study of conversion products manufactured at the largest Nizhniy Novgorod oblast defense enterprises reveals some puzzling results. For example, 6 companies out of 18 sell steel. This can be explained because they have readily available shops, labor, supply networks and demand at the international market—although they often exploit dumping. Furniture is reported as a civilian product in many enterprises, though it is really a by-product of joiner’s shops at practically all large enterprises, not a product of conversion. Food-processing and the manufacture of medical equipment is done at several factories because during the first conversion program (1989–1991) the government made relatively large investments available for these products. It is less clear why four enterprises from different sectors compete for a niche in the relatively small washing machine market. Local demand is very low, and the national market is crowded by imports. Another four entities compete in the very depressed television market.

TABLE 11: LARGEST DEFENSE ENTERPRISES OF NIZHNIY NOVGOROD OBLAST WITH MORE THAN 1000 EMPLOYEES

Name of the entity	Sector	Employment in 1994	Share of export in output in 1994	Share of civil prod. in output in 1995	Main civil products
NiNo machine building plant	Armaments	15.6	15.5	34.0	Steel, plastics
Sokol	Aviation	15.6	8.2	14.8	Steel, kitchen utensils, furniture, glass-plastics
Krasnoye Sormovo	Shipbuilding	14.0	85.1	27.6	Steel, washing machines, tools for metal works, equipment for food-processing industry, civil cargo ships, furniture
NITEL	Radio	11.7	32.9	39.8	TV sets, telephones, coffee machines, plastics
Sverdlov plant	Ammunition and special chemicals	9.4	2.5	84.9	Washing machines, machinery for the chemical industry, chemicals
Arzamas Tooling plant	Tooling	7.3	2.5	63.6	Tape-recorders, food-processing equipment, medical equipment
Arzamas machine building plant	Automobile	6.6	0	no data	Components of lorries and cars, garages, cross-country vehicles
Plant of radio apparatus	Radio	5.3	0	no data	Welded metal constructions
Hydroagregat	Aviation	4.7	3.0	45.8	Rolled steel, machine tools, furniture
Oka shipbuilding plant	Shipbuilding	4.5	28.9	87.6	Civil ships, furniture
Popov communication equipment plant	Radio	4.4	2.3	no data	Metal powder products, radio, medical equipment, toys, plastic
Teploobmennik	Aviation	4.4	24.3	90.0	Steel, gas ovens, tools for gardening, non-standard equipment
Hydromash	Aviation	4.1	18.5	68.1	Washing machines, tools for gardening

Orbita plant	Electronics	3.5	2.7	78.1	Lamps, toys, loudspeakers
Plant named after Frunze	Radio	3.4	4.8	75.5	Radio, black and white TV sets, toys
Rusich	Radio	3.3	0	no data	Radio, TV sets
Electromash	Radio	3.1	0	72.6	Equipment for the local telephone communication, medical equipment, welded metal constructions, furniture
Plant named after Petrovsky	Tooling	2.5	0	50.5	Tape recorders, radio
Era	Shipbuilding	2.2	0	76.5	Irons, medical equipment, electrical fire-places
Normal	Aviation	2.2	20.0	no data	Nails, spoons, folks, non-standard equipment
Nizhegorodsky teplokhod	Shipbuilding	2,1	2.5	no data	Rolled steel
Plant of radio components	Electronics	2.1	1.3	no data	Micro calculators, medical equipment, toys
Lazur Television plant	Radio	1.5	0	46.0	TV sets
Plant of radio measuring equipment	Radio	1.5	3.7	no data	medical equipment, tools, plastics
Volga Shipbuilding plant	Shipbuilding	1.4	50.9	99.9	Civil ships, yachts
Gorodetsk Shipyard	Shipbuilding	1.2	0	61.6	Boats, yachts, furniture
Bogorodsky machine building plant	Shipbuilding	1.1	0	94.6	Rolled steel, machine tools, microwave ovens

Sources: Data base of the State Committee for Statistics "Register of Industrial Enterprises", 1995, Moscow; *Otchet o Khode Konversii*, 1996, p. 1–24

On the whole, it appears that decisions concerning the choice of which civilian products to produce are often made based on random decisions rather than market studies. Enterprise managers do not have sufficient information about production at their closest neighbors from different industrial branches. In addition, regional cooperation among entities, affiliated with different branches, is practically absent. They are linked to national rather than local markets and

to the central rather than regional government authorities. It should also be noted that dual-use is predominant at many entities—especially shipbuilding and radio industries.

Nevertheless, there is some evidence that two expanding markets—automobile and fuel industries—attracted serious attention of the former defense enterprises, which try to plug in to their subcontracting networks. In the fuel and energy industry, it is known that enterprises manufacturing equipment for this sector, were located outside Russia, and after the Soviet Union dismantled, defense companies tried to replace their supply with more updated equipment. The most obvious customer—Gazprom—has interest in Nizhniy Novgorod oblast shipbuilding and communication products as well as equipment for natural gas pipelines and activities on the Barents Sea shelf. More than 90 enterprises in Nizhniy Novgorod oblast, including defense, participate in joint projects with Gazprom, which placed contracts in the region worth of 93 billion rubles (approximately US \$18 million). It is remarkable that natural gas rather than cash is used as payment (*Ekonomika i zhizn*, regional edition, 1996, No.36, September, p. 1).

The automobile industry is viewed by the regional authorities as a significant absorber of manufacturing capacities and labor, underutilized in the defense complex. It has adopted the program ‘City’s order’, which prioritized the use of local subcontractors for the automobile industry’s products, purchased at the expense of the regional budget. Several defense entities, for example the Research Institute for Measuring Equipment (which develops automobile electronics, have become subcontractors to the automobile industry rather than defense contractors. Substitution of traditional suppliers to the booming automobile industry by local defense companies is viewed in Nizhniy Novgorod oblast as a two-target strategy: On the one hand it should create demand for the defense enterprises undergoing conversion, and on the other help the automobile industry reduce costs and modernize.

Box 3: Sokol

The aircraft company Sokol is one of Nizhniy Novgorod oblast's leading enterprises. It employs more than 15,000 people, and is still partially defense-dependent. According to 1995 data, 14.8 percent of its output is manufactured for the military. Its main defense product is MiG fighters, though most of its revenues are earned through the modernization of MiG-21s for the Indian Air Force and the supply of components and spare parts to the traditional importers of Russian MiG fighters.

The defense draw-down resulted in a decline of military orders by 70 percent over five years. Employment fell by 45 percent (approximately 12,700 people), though no significant layoffs were carried out. Most people—mainly young, qualified and active—left voluntarily in search of better paid jobs. In early 1997, the average monthly salary at Sokol amounted to 600,000 rubles (US \$116).

Several conversion projects in civil aviation are carried out at the company, though the enterprise managers admit that these projects are not profitable and are supported in order to keep valuable R&D personnel busy. Among these projects are the light aircraft 'Gzhel', training jet 'Eskalibur' and multi-purpose amphibian air-cushion aircraft 'Dingo'. The Russian natural gas company Gazprom has ordered several 'Dingo' vehicles. A new transportation aircraft MiG-110 is being developed. In its non-core markets, Sokol sells furniture, kitchenware and some services, including commercial flights in military aircraft for US \$5,000 per hour.

It is not easy to predict the future of this plant, since the federal government has launched a restructuring program for the aircraft industry, aimed at radically reducing prime contractor companies, as well as the range of military hardware to be funded through the defense budget. The main question is developing around SU and MiG producing companies. Sokol did not join the military-industrial consortium MAPO-MiG, and pursues an independent strategy, though it is fairly difficult to compete against Moscow companies. Sokol's strength, namely the availability of capacities for serial manufacturing, has significantly reduced in value because of the small number of contracts both for the Russian and international market.

Sources: *Ekonomika i zhizn*, regional edition, 1997, No.5, 6 February, p. 1 and sources to Table 11

It is interesting to look at the policy designed by the regional administration to help problematic defense enterprises as they try to adapt. Industry subsidies and other direct financial support have practically been eliminated from the set of policy instruments.

Several instruments were exploited:

- regional conversion program
- creation of 'free economic zones'
- facilitation of international links
- launch of restructuring program
- promotion of arms export through the stock holding 'Nizhniy Novgorod oblast fair'

A regional conversion program was developed based on the hopes of funding from the central government. However, funding has not materialized, and the lack of resources has left many projects as concepts. The regional government created the Nizhniy Novgorod oblast conversion fund, which appeared to be more practical, providing relatively small easy-to-pay credits for conversion projects. The regional administration also helped to establish the Nizhniy Novgorod oblast financial-industrial corporation, which raised some funds through the sale of regional industrial bonds. This corporation invested into such projects as cutting diamonds, manufacturing automobile transmissions at the aviation plant, 'Sokol', and manufacturing components for solar batteries. At the initiative of regional administration, the Volga-Vyatka Certification Center was established, which helps to move conversion products on international and domestic markets (*Ekonomika i zhizn*, regional edition, 1997, No.3, January, p. 2).

Experiments with the creation of 'free economic zones' (formerly called territorial-industrial zones) at Nizhniy Novgorod oblast defense enterprises attracted a lot of attention, giving hope that an instrument was found, which may be applied nationwide to facilitate conversion. The first available results of this experiment, however, leave a lot of questions concerning this approach's efficiency unanswered. The idea behind this experiment was to link the interests of traditional big industry, regional government and new business entrepreneurs by granting significant favors to businessmen capable of launching small firms with the use of premises and equipment released from the military. The territory of the defense enterprise falls under the status of "special" and the basic entity withdraws equipment and premises which it is capable of utilizing, while the rest is split into stocks offered to the outsiders. All participants in the deal, including the basic enterprises, are released from the majority of federal and local taxes (in the form of a five-year tax credit) and enjoy advantages in payment of custom's duties. Thus, in 1997 the regional tax advantages cost the Nizhniy Novgorod oblast regional budget 40 billion rubles (approximately US \$7 million) (*Segodnya*, 12 May 1997).

In contrast to privatization schemes, outsiders receive significant favors inasmuch as they receive 'clean' assets not burdened by debts and social responsibilities. The only restriction was to be engaged in industrial rather than trade or mediating activities. Three defense enterprises were selected for the experiment: stock company Lazur (radio industry), Science and Industry Association Salyut and the Petrovsky Plant (tooling industry). They in turn attracted 23 business

partners, ready to utilize idle capacities (Nemtsov, 1995). Moreover, the regional government organized competition among consulting and auditing firms for the right to manage these zones (*Finansoviye izvestiya*, 1996, 11 January).

The Petrovsky Plant, which used to manufacture black-boxes for military aircraft and tape-recorders and radios for the civilian market, entered the experiment although it was heavily distressed financially and under arbitrage management. It hosted more than a dozen small firms within the ‘free economic zone’s’ experiment, whose total output in 1995 accounted for 4.5 billion rubles. One of the most successful products manufactured there—through a joint venture with DAEWOO—is an automobile, which was purchased by GAZ (*Ekonomika in zhizn*, regional edition, 1996, No.38. September, p. 3). Many observers, however, are skeptical of this experiment, viewing it rather as an opportunity for shadow capital to benefit from government favors, than a feasible conversion option.

The idea of tax exemptions for the defense enterprises is still dominant in the regional government. During President Yeltsin’s visit to Nizhniy Novgorod oblast in January 1996, the regional administration and the defense directors demanded that the federal government release defense enterprises, which have successfully achieved 70 percent conversion (i.e., have less than 30 percent defense contracts in turnover) from all taxes. Furthermore, the federal government was strongly advised to finance the transfer of enterprises’ social assets to the municipal authorities (*Kommersant Daily*, 30 January 1996).

Another policy instrument used to hasten the conversion process is connected with restructuring. In contrast to the federal government, which launched restructuring at the sectoral rather than enterprise level, the regional Nizhniy Novgorod oblast government works directly with micro-establishments. By the late 1990s, it had become clear that low elasticity of defense enterprises to investment and inadequacy of corporate management create serious barriers to effective conversion. Defense enterprises are often oversized, vertically integrated and diversified above optimal level and are burdened with high social and energy costs. They first need to undergo active restructuring aimed at cost-efficiency, to be able to offer feasible conversion projects attractive for investors. Therefore, the administration designed some advantages to the enterprises, which launch active restructuring after being consulted by established audit and consulting firms. Access to assistance was also conditioned by availability of feasible business plans.

One typical example of the way in which the government restructuring program works, is the NITEL radio industry enterprise. In 1994, it had 11,700 employees, nearly forty percent of defense contracts and a relatively large share of exports (see Table 11). In addition to large defense contracts, it had a large television set plant. This combination became inefficient after defense contracts were dramatically cut and the television market entered a long-lasting depression. High overheads, costly social expenses and excessive employment prevented this firm from being competitive in either the military or civilian markets. It was decided to have it restructured into the holding and separate several product-oriented entities (Rostel, Novitel, Proton and others). New firms will have operational independence, separate accounts, though their assets belong to the stock holding NITEL (*Ekonomika i zhizn*, regional edition, 1997, No. 21, 19 May 1997, p. 3).

Recovery and expansion in the television market in cooperation with the regional defense enterprises was selected as a main strategy. The entity received some customs duty advantages, making it possible to import components to increase technical competitiveness and raise cash. Large-scale investments are required to enter the market with a new generation of television sets. Some cooperation with foreign firms is foreseen (Philips, Thomson and the Turkish firm Vestel). Particularly interesting is how the financially distressed NITEL pays for imported components. It sells military hardware (radar) to Kazakhstan, which is paid for in oil—not cash. This in turn is exported to Turkey, and export revenues are transferred to the Turkish subsidiary of Telefunken—Vestel—which exports TV components to Nizhniy Novgorod oblast (*Ekonomika i zhizn*, regional edition, 1997, 16 January, p. 1).

NITEL's restructuring and modernization plans, as well as its readiness to become transparent and undergo international auditing, may look reasonable, though the Russian television market may not leave many chances for recovery. Television set output in Russia dropped 20 times from 1993–1996, and the share of domestic production in sales accounts to less than 5 percent. Of 4,5 million sets sold in Russia in 1996 only 100,000 were manufactured domestically (*Kommersant Daily*, 14 October 1997, p. 1). An adoption of high import duties and licensing of importers did not make technically outdated domestic television sets competitive. Therefore, there is reason to expect that transfer from one depressed military market to another depressed market area may not help the company in its bid to restructure and survive.

Promoted by regional administration, defense enterprise restructuring may solve only some problems. The majority of large entities are linked to the central defense authorities, and are vulnerable to decisions made in Moscow—especially in view of the recently publicized restructuring initiatives, which may result in a radical cut in defense prime contractors, industry consolidation and the withdrawal of any government support to entities which fail to be listed among prioritized by Moscow companies. It may mean that many Nizhny Novgorod oblast defense enterprises—which in the recent years balanced between defense and civilian, domestic and international markets and received some government support—will be subject to full conversion and will not benefit from any government support.

Unfortunately, nearly eight years of uncertainty concerning the military future of defense enterprises, numerous macroeconomic shocks and resource scarcity devalued many of the enterprise assets, which could have been more or less efficiently converted under other economic circumstances. Therefore, with respect to conversion, only labor may be considered a fully ‘convertible’ asset, while capacities, infrastructure, and technologies are in urgent need of modernization and investment. Even labor—however qualified and motivated—needs investment to facilitate the adjustment to the new market requirements.

Box 4: Arzamas machine building plant (AMZ)

Officially, this enterprise belongs to the automobile sector, which is not grouped under the defense complex. Until the late 1970s, it was a civilian plant. Nevertheless, since the beginning of the war in Afghanistan the enterprise was completely reoriented toward defense manufacturing, and the production of armored carriers was launched. Since the choice of manufacturing output was made, defense contracts were cut six times. Only small-scale production of armored carriers is being maintained for export markets (including UN peacekeeping forces, Turkey, Hungary and Uzbek republic). Employment of AMZ in 1994 accounted for 6,600 people.

The defense draw-down forced enterprise managers to search for civilian markets and reduce costs. AMZ was privatized and transferred most of its social assets to the municipal authorities. It adopted a conversion strategy by modifying their main product and adjusting it to the needs of industries which work under hard conditions in the regions difficult to traverse. Therefore, AMZ began to offer cross-country vehicles, amphibian carriers and other types of vehicles for energy companies, geologists, railroad and timber industry firms. Most of the customers (with the exception of energy and railroad) have no cash to pay for their products, though show interest in having such vehicles. A compromise was found for the timber industry: AMZ agreed to receive timber as payment for vehicles, and invested in a timber-processing production line to raise capital by producing lumber. In addition, AMZ launched the production of vehicles for security services, banks and police. A second conversion strategy focuses on AMZ’s traditional

specialization in the automobile market. Today AMZ's largest civilian client is GAZ, which buys components and special vans for the new small lorry 'Gazel' for more than R 10 billion monthly. Unfortunately, GAZ also pays in products rather than cash. Therefore, AMZ needs to expand its marketing service to be able to sell its goods. AMZ's second largest customer from the automotive field is the Russian lorry manufacturer, Kamaz .

Source: *Ekonomika i zhizn*, regional edition, 1997, 5 February, p. 3 and sources to Table 11

Summing up developments in the recently most prioritized defense sectors of the Nizhniy Novgorod oblast economy, several conclusions are possible:

1. This sector underwent drastic decline, however, it was structured differently across sectors and micro-establishments. This resulted in a deep segmentation of the defense complex and availability of different development perspectives.
2. The predominance of very large enterprises, which are still linked to the central authorities and defense markets, either domestic or international, makes them dependent on the restructuring initiatives of the federal government and leaves not much space for policy measures designed at the regional level. This hinders the development of regional integration and the cross-sectoral transfer of capital and labor. Nevertheless, one must recognize that the regional government designed some interesting initiatives to soften crises and to promote enterprise restructuring and small business development.
3. The relatively high level of employment in Nizhniy Novgorod oblast's defense complex and the gap between employment and output reduction creates a threat of inevitable large-scale layoffs in case restructuring measures are induced from above.

IV. NICHEs OF ECONOMIC GROWTH

The generally poor economic climate makes it fairly difficult to distinguish between hopeless and promising economic sectors, enterprises or products, because many potentially viable entities are significantly depressed and incapable of capitalizing on their comparative advantages. Using conventional tools for measuring success (like productivity and market or export expansion), it is fairly difficult to measure success—especially given that over 90 percent of deals in the regional economy are paid for through barter or various money substitutes. This reduces the transparency of economic activity. Nevertheless, one can use available data to find products, sectors and enterprises which perform better than others and show signs of recovery and growth. There is reason to believe that these relatively successful economic actors, as well as new emerging markets and activities will produce demand for labor with the new skills and qualifications. In addition, the most obvious economic constraints can be evaluated in view of the idea that acute demand may drive development even further than available supply factors.

Several growth opportunities may be distinguished for the entities, which face low demand and resource scarcity and should choose a new development path:

- orientation toward the demand and investment potential of expanding local sectoral leaders,
- search for the local niche markets, and
- incorporation of global financial partners and multinationals.

The analysis of available growing product markets (Table 12) shows that only a few sub-sectors grew after 1994. Among them are only the ferrous metal industry (with the rolled steel and steel tubes), automobile branch and some engineering industry branches (diesel), which are linked to the demand produced by the automobile industry. Although the ferrous metal industry may hardly become the regional locomotive capable of pulling other sectors toward development, it is reoriented to international rather than local demand and has few subcontracting connections. In comparison, the automobile industry has this potential.

The previous chapters showed that the automobile industry developed into the distinct sectoral leader in Nizhniy Novgorod oblast. The technological specificity of this branch results in the need for a diversified subcontracting network. GAZ and other automobile companies face the problem of radical technical modernization and cost optimization. Part of cost efficiency

measure is the development of new subcontracting networks, the substitution of low quality and imported supply or supply with high transaction costs by more advanced and reasonably priced components. If possible, locally manufactured goods should be used to avoid high transportation expenses. Evidence indicates that the regional administration and the powerful local Union of Industrialists actively promote the regional supply of automobile industry aimed at maximizing employment and value-added effects. Thus, this strategy gives chances to the local enterprises, including defense entities, to enter the new, expanding markets. Examples of entry to this market are already available: automobiles and parts, electronics and other components developed and manufactured at several local former defense establishments. Altogether 30 local enterprises are included in Nizhniy Novgorod oblast's automobile industry supply network through a regional program called 'NiNo's automobile'. The target is to increase this number to 70 enterprises (*Ekonomika i zhizn*, regional edition, 1997, No.20, 22 May, p. 1).

Some serious entry barriers exist, such as the lack of knowledge about the new market, the lack of established links with prime contractors and a deficit of experience with inter-branch cooperation. The weak economy makes market-entry difficult. Moreover, bartering is the dominant form of transaction with subcontractors, thus aggravating the already difficult financial situation of newcomers. There is reason to believe, however, that targeted learning may significantly help overcome some of these barriers

TABLE 12: POSITION OF PRODUCT MARKETS IN NIZHNIY NOVGOROD OBLAST INDUSTRY IN 1994–1996

Products	Output in 1996 as % of 1994
Fuel and energy industry	Declining, ranging from 33 to 81 percent
Ferrous metal industry	Stable
Steel, thousand tons	108.4
Rolled steel, thousand tons	106.0
Steel tubes, thousand tons	134.0
Chemical industry	Declining, ranging from 20 to 82.2 percent
Engineering and metal working industry (without military output)	Segmented
Diesel and diesel generators, thousand items	228.6
Car stereos, pieces	120.7

Automobiles, thousand items total	
Including: lorries	113.7
personal cars	134.1
buses	108.2
Heating devices, thousand kw	103.2
Timber industry	Segmented
Paper, thousand tons	131.8
Construction materials	Declining, from 3 to 97 percent
Light industry	Declining, with the exception of leather products
Food-processing industry	Declining, with the exception of dairy products and wine

Source: *Osnovnye Pokazатели Raboty Promyshlennosti Respublik, Krayev, Oblastey*, 1995, pp. 383–390, 1996, pp. 380–386

In addition to the automobile industry, potentially growing markets may be identified among depressed sectors, if one looks at the structure of new investment and labor distribution in Nizhniy Novgorod oblast. Table 13 shows that two sectors—transportation and housing construction—attract more than half of all new net fixed capital investment in the region. Moreover, their share has significantly increased from 1992–1996 (though the absolute amount fell dramatically). Output figures for these sectors are declining, although there is evidence that new investment would catalyze growth, especially if demand recovers.

Transportation infrastructure modernization has already started. For example, the construction of Nizhniy Novgorod oblast international airport was completed in 1996. According to the recent data, the Nizhniy Novgorod oblast administration, federal Transportation Ministry and European Commission have approved a large-scale investment project worth US \$1.2 billion, namely the construction of an international cargo transportation center. It is expected that an international tender will be organized for the joint design, construction and maintenance of this center. Last year the Russian government and European Commission agreed to open Russian river routes for international navigation, and Nizhniy Novgorod oblast was selected as a location for the headquarters for this project (*Finansoviye izvestiya*, 10 April 1997). It is possible that an increase in demand and investment in manufacturing and service sectors may be linked to transportation developments.

TABLE 13: STRUCTURE OF NEW NET FIXED CAPITAL INVESTMENT IN NIZHNIY NOVGOROD OBLAST (IN %)

	1992	1996
Industry	32.5	31.5
including automobile	7.0	10.9
Agriculture	15.5	5.0
Construction	1.7	5.3
Transport	13.3	25.3
Communication	0.9	
Trade, catering	0.7	0.2
Housing construction	20.1	25.5
Health care	2.6	2.1
Education, science, culture, art	2.5	3.0
Others	7.5	2.1
Total	100.0	100.0

Sources: *Ekonomicheskoye Polozheniye Regionov*, 1994, pp. 113–116; *Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 115; *Rossiyskiy Statisticheskiy Ezhegodnik*, 1996, p. 948

Housing construction reflects expected growth based on increasing investment in this sector and the generally very poor housing standard in Nizhniy Novgorod oblast. The housing quality is remarkably low in this region—even in the regional capital Nizhniy Novgorod—and this weakness significantly lowers the attractiveness of this region to outside investors. Evidence from regions, where the population has reached higher living standards shows that people rank availability of decent living conditions very high and invest in housing construction more actively than in other personal assets. If this assumption is true, then it might be expected that housing construction growth may create significant demand for the depressed sector of construction materials and numerous niche markets servicing housing construction.

A study of the employment structure and its dynamics in 1990–1995 is also instructive in the search for growth perspectives. Three main segments may be found: those with a drastic decline in employment (industry, agriculture and communal services), stable sectors (transport and communication) and those which underwent employment growth (forestry, trade and catering, health care, sports and social security, culture and art, financing and insurance and administration). Sectors which constitute more than one third of Nizhniy Novgorod oblast’s labor market, even under conditions of economic crisis, showed absolute and relative employment growth. It should be noted, however, that these figures reflect the number of jobs, rather than the number of people actually employed, since there is a high level of latent

unemployment in industry, and shadow employment in trade and service sectors. Therefore, it may be suggested that employment decline in industry is heavier, while growth in trade is larger than may be understood from Table 14. The decline in construction, however, may be questioned as informal employment is widespread in this sector.

The following conclusions may be drawn from employment data with respect to growth perspectives:

1. The redistribution of jobs from industry to trade and services is the main movement in the labor market, although it is not yet completed. Industry is still overrepresented as employers and services are seriously underrepresented.
2. The combination of latent unemployment with industry restructuring and legalization of shadow economy jobs with the growing enforcement power of tax authorities may lead to changes in the labor market.

TABLE 14: DISTRIBUTION OF EMPLOYMENT ACROSS ECONOMIC SECTORS

Economic sectors	1990	1995	1995 as % of 1990	Memo item: 1995 as % of 1990 in Russia
Total employment, thousand people	1935.2 (100%)	1768.4 (100%)	91.4	88.2
Industry	39.9	35.8	82.0	75.4
Agriculture	10.2	9.4	85.0	100.0
Forestry	0.4	0.5	111.5	108.8
Construction	10.3	7.2	63.9	68.8
Transport and communication	6.7	6.9	94.3	88.7
Trade, catering, material supply, sales	7.0	8.5	111.2	98.9
Information services	0.2	0.1	47.4	no data
Real estate	-	0.2		no data
Communal and other services to population	3.9	3.7	86.4	92.6
Health care, sport, social security	4.9	7.5	173.1	104.9
Education, culture, art, science	11.8	14.2	109.7	89.7
Finances, crediting, insurance	0.5	1.0	182.1	204.0
Administration	2.2	3.0	123.5	.
Other	1.9	1.9	90.5	86.4

Source: *Trud i Zanyatost v Rossii*, 1996, pp. 20, 258

Large enterprises still prevail in industry and there is reason to expect that small firms will—sooner or later—play a more active role in the economy. Currently, small business development⁴ in Nizhniy Novgorod oblast is lagging behind the average Russian level (Table 15): The relative share of small enterprises (SE) in industrial output is two and a half times lower than average in Russia, and twice as low in job creation. The total number of registered SEs in Nizhniy Novgorod oblast’s economy was only 11,362 in 1995, while, for example, in Moscow this figure reached 200,000, employing 32 percent of the city’s labor (*Ekonomika i zhizn*, regional edition, 1997, No.16, April, p. 5). This weakness in the Nizhniy Novgorod oblast economy does not allow it to use advantages of small business development as an unemployment absorber

TABLE 15: SHARE OF SMALL ENTERPRISES IN INDUSTRIAL OUTPUT AND EMPLOYMENT

	1992	1993	1994	1995
Share of SE ...				
... in industrial output in NiNo, in %	2.7	3.3	3.6	3.5
... in industrial output in Russia, in %	5.3	7.4	7.8	9.0
... employment in total industrial employment in NiNo, in %	4.5	5.5	6.4	6.9
... employment in total industrial employment in Russia, in %	9.2	12.0	12.7	13.5

Source: *Ekonomicheskoye Polozheniye Regionov*, 1994, p. 313; 1995, pp. 349, 353, 1996; Tables 15.2–15.4

Another important question is when the inevitable development of the service sector will take place. Today’s figure of annual per capita services to population in Nizhniy Novgorod oblast is very low (only 883,700 rubles in 1996, or approximately US \$172) and it continues to fall. This includes all communal, transport, health, legal and other services as well as everyday repairs.

An explanation for the underdevelopment of the service sector is evident: Nizhniy Novgorod oblast’s population is poor and many services are overpriced, while consumer demand for services is more elastic to prices and solvency of clients than other consumer markets. If income grows, the consumer demand usually quickly reorients toward services. Therefore, the generally underdeveloped service sector in Nizhniy Novgorod oblast is characterized by a concentration of services designed for high-income groups (like recreation, fitness clubs, prestigious medical and

⁴ According to the definition used in Russia, small firms in industry should employ less than 200 people, in R&D up to 50 people, in retail trade and catering up to 15 people. Only small enterprises, which report to the regional statistical agency are counted

sales services), while the majority of the population can hardly afford services such as dry cleaning, laundry, hair-dressing and sports. There is reason to believe that the economic recovery and recovery of middle class incomes may result in growing demand for services and the quick development of this sector, which will be in urgent need of personnel trained to meet this demand.

Enterprise level growth perspectives are even more difficult to forecast than sectoral. In previous chapters the general distress of Nizhniy Novgorod oblast's enterprises was shown. Not all news, however, is bad for Nizhniy Novgorod oblast. The region already has its first 'blue chips': professional traders from the capital market (mostly foreign and Moscow-based) and value shares of Svyazinvestform (telecommunications), GAZ (automobile) and Nizhnovenergo (electrical energy). Such Nizhniy Novgorod oblast enterprises as Volga-flot (transport), NORSI (oil processing), Topstroy (construction), Zavolzhsky Engine Plant (automobile industry) and Nizhniy Novgorod oblast Footwear Plant are also listed. In modern Russia, this is a sign of quality and value, since the majority of privatized entities do not risk entering capital markets (*Ekonomika i zhizn*, regional edition, 1996, No. 49, December, p. 3).

A recent study by the Expert Institute of the Russian Union of Industrialists and Entrepreneurs, which was aimed at finding the ten best enterprises in six main industrial sectors (called complexes) at the national level, brought puzzling results. Several selection criteria were used: total asset turnover ratio and trade turnover per equity capital (these criteria are quite reasonable because the main sign of enterprise activity in the modern depressed Russian market is the ability to maximize sales), as well as the balance between liquidity and debt. Among the top ten enterprises listed in the engineering complex, three are located in Nizhniy Novgorod oblast: two automobile entities - Zavolzhskiy engine plant (fifth rank) and Pavlovskiy bus plant (tenth rank) - and one defense shipbuilding - Krasnoye Sormovo (third rank). Moreover, Borskiy glass plant is also listed among top ten entities in the timber and construction materials complex. Only Moscow has more listed entities (six) than the Nizhniy Novgorod oblast (*Ekspert*, No.40, 20 October 1997, p. 41).

Thus, although it is possible to speak of the potential rather than real recovery at the sectoral level, selected micro-establishments show clear signs of rehabilitation. One question might be what role the pressure executed by foreign capital plays in this process. Among enterprise leaders practically all entities are linked either to international markets or finances. Krasnoye

Sormovo and Borskiy glass plant have a high level of exports. The Pavlovskiy bus plant is actively searching for international industrial links. It already reached agreement with MAN, Polish Autosan and some other firms to launch a large city bus manufacturing plant (*Ekonomika i zhizn*, regional edition, 1997, No.136, April, pp. 1–2). Though GAZ relies on the domestic rather than international market, it actively pursues a policy of internationalization by obtaining credits from international financial institutions and entering into the large-scale joint venture with FIAT.

Generally, figures for foreign investment and international joint venturing in Nizhniy Novgorod oblast are lower than could have been expected given its positive reputation and the high level of international attention this region has received. In 1996, US \$140,7 million was invested by foreigners (Table 16. Foreign direct investment accounted for only half of the total investment. This is a significant growth of 52.4 times the 1995 level. Foreign investments were channeled to 28 local enterprises, either in the form of direct or portfolio investment and contributions to the equity capital of joint ventures. In 1996, the total number of joint ventures in Nizhniy Novgorod oblast reached 140, which altogether produced 3 percent of the Nizhniy Novgorod oblast's GNP. Foreign equity in these ventures constitutes 87.7 percent. Joint ventures employed 7,620 people, and the average salary accounted for 11,181,000 rubles—nearly twice as high as the average salary in Nizhniy Novgorod oblast (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 40–41).

TABLE 16: FOREIGN INVESTMENT INTO NIZHNIY NOVGOROD OBLAST'S ECONOMY IN 1996

	Hard currency investment, US \$ thousand	Share of foreign investment, %	Local currency investment, million rubles
Foreign investment total including	140780.8	100	154024.7
Direct investment including:	71274.2	50.6	153679.7
contributions to by-law capital	70642.1	50.2	151686.2
credits granted by foreign co-owners	591.8	0.4	-
Portfolio investment	-	0	250.0
Trade credits	6011.8	4.3	-
Credits granted by international financial organizations	63000.0	44.8	-

Source: *Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 40.

The most significant direct investments were the result of the sale of the state shares of stock. The Volga paper factory received a large investment from Herlitz, and the chemical giant Kaprolaktam (Dzerzhinsk) manufactures and sells products under the ‘Wella’ brand name. According to the investment department head of Nizhniy Novgorod oblast administration, however, several foreign investment projects failed, including Korund and Orgsteklo plants (*Ekonomika i zhizn*, regional edition, 1997, No. 20, 22 May, p. 2).

The regional administration contributed to the improvement of investment infrastructure in Nizhniy Novgorod oblast by establishing an industry development fund in order to grant guarantees to investment projects. Within the pilot restructuring program, it finances international audit and consulting services to enterprises, thus helping them to present ‘bankable’ projects. Moreover, in early 1997, Nizhniy Novgorod oblast received a credit rating by Moody’s Investor Service Ltd and Standard & Poor’s, thus enabling the administration to raise funds on the European bond market (it was planned to raise US \$75–100 million). Nizhniy Novgorod oblast’s rating is higher than that of Romania or Turkey. Using Dutch government funds, the Regional Development Agency of Nizhniy Novgorod oblast’s Chamber of Commerce will enable enterprises to search for international partnerships and receive most updated information on European business networks.

Summing up the estimates of the actual and potential growth niches in the Nizhniy Novgorod oblast economy several conclusions are possible:

- In the current depressed market, few sectors show growth. The automobile industry is the obvious leader, and has the potential of bringing success to the regional level. The supply-side approach to growth has serious limitations, since comparative advantages are hidden under the cover of overall financial distress and numerous informal economic activities, not registered by conventional statistics.
- Several micro-establishment-level clusters of growth are identified, which display impressive development trends even in the general crisis environment. As a rule, these entities use a combination of strategies by following the international market’s demand, finances and technical expertise, exploiting niche market demand or the expansion in traditional markets through cost optimization, diversification and modernization.

- The optimal use of available resources and production factors in an economy with an unbalanced structure, weak market institutions and infrastructure and resource scarcity is hardly achievable. Therefore, focusing on opportunities or even constraints in search of development perspectives may look reasonable. If this is true, sectors such as telecommunications, transportation, housing construction, various service branches as well as small business development—all of which are weak and underdeveloped in Nizhniy Novgorod oblast—may offer significant growth perspectives and provoke creativity.

V. RETRAINING CAPABILITIES AND CHALLENGES

The analysis of economic structure, conversion of the defense industry and growth potential in Nizhniy Novgorod oblast showed the presence of significant strengths of and constrains to the regional economy. Realization of advantages and overcoming constraints are, however, possible only if Nizhniy Novgorod oblast is able to educate and accumulate human capital capable of fulfilling the dramatically changed requirements to labor. However high the initial competence of the local labor force, getting new knowledge remains critical for the reform's success. Thus, the former Nizhniy Novgorod oblast governor, Boris Nemtsov, referred to reforming failures in the region, and identified "the absence of personnel training and retraining systems" as a main reason for failures (*Selskaya zhizn*, 16 January 1997, No.6, pp. 2–3).

Two groups in the society requiring retraining more urgently than others can be identified. The first is comprised of people who make decisions in corporate governance, both in the traditional industry and new emerging market institutions. The second is the group threatened by actual or potential unemployment. Both need to obtain knowledge, either critical for their personal competitiveness in the labor market or for the success of the adjustment and development processes in the Nizhniy Novgorod oblast economy. Conversion success is particularly conditioned by retraining: it requires knowledge how to improve corporate governance and how to deal with inevitable layoffs. It should be noted, however, that the structure of retraining demand excludes specific learning in the field of 'conversion'. Respondents from the defense enterprises showed interest in different aspects of business education, which are equally critical for the defense and civilian industry's managers and include knowledge concerning how to enter new markets, modernize, optimize costs, keep and motivate the most qualified personnel and so on. This chapter will examine the retraining demand and capabilities of the existing and new emerging educational institutes in Nizhniy Novgorod oblast to meet this demand. Published studies and interviews conducted in May 1997 at several enterprises in the city of Nizhniy Novgorod provide information for this chapter.

1. Overview of the existing retraining infrastructure

The Nizhniy Novgorod oblast is well-equipped with adult retraining facilities, which were established under the previous system and remain available despite current funding conditions.

This is the result of a high level of industrialization, which produced a high demand for qualified labor, and tough links to the federal center (which controlled key Nizhniy Novgorod oblast enterprises in which retraining played an important role). Retraining networks targeted at non-industry recipients (teachers, doctors and agriculture employees) are traditionally represented in all Russian regions, while the continuous improvement of skills and qualifications was obligatory, especially for people employed in health care.

The opening of the region for international technical assistance made it particularly attractive for different foreign courses and programs, offered to clients in Nizhniy Novgorod oblast both on a government and firm-by-firm basis. One positive side effect is the good links to advanced Moscow institutions, which provide qualified professionals for lecturing in Nizhniy Novgorod oblast. The existing network offers readily available premises, connections to industry clients and the regional administration, practical services (like inviting and accommodating students) as well as cooperative links to local universities and other schools of higher education. These aspects are essential for success. The majority of available schools have lecturers who are already trained to teach new disciplines, yet have not participated in retraining programs themselves. Nevertheless, the interview results were puzzling because they revealed an almost unanimous negative assessment of the experiences in the local and foreign retraining programs, which were offered in Nizhniy Novgorod oblast recently.

According to Kanakov (1997), the regional network is comprised of 27 special retraining schools; thirty traditional state-funded schools of higher and undergraduate technical education, which offer retraining services in addition to their regular activities; fifty newly established commercial schools; and 55 business consulting firms. An analysis of their curricula shows that one third of their efforts are devoted to disciplines, which are defined as 'management', 31 percent as 'market economics', 22 percent 'production and technology', and 14 percent 'legislation'. Funding sources for these schools are shared between the federal budget (22 percent), income received from teaching (67 percent), grants (4 percent), research activities (2.5 percent), business consulting (2 percent), cooperative ventures with enterprises (2 percent) and cooperative ventures with foreign retraining centers (0.5 percent). Half of the students who underwent retraining in the local network (estimated at 1,200,000) in 1990–1996 were small-business managers.

Thus, the number of retraining schools in the region, of which labor force made up only 1770,400 people in late 1996 (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 147), looks more than sufficient, and there is no evidence that Nizhniy Novgorod oblast is exporting its retraining services outside its borders. It is more difficult, however, to estimate the quality of the education offered, since no clear performance criteria may be applied to this sensitive field, despite government regulations for the retraining schools through registration and licensing. According to the deputy industry department head of Nizhniy Novgorod oblast administration, Victor Vikhorev, the regional administration tried to organize a competition between schools in 1996 to find the answer to this question, and to select reserves of capable industry managers and other economic leaders in the region. Several selection criteria were introduced: quality of programs and teaching, availability of equipped seminar rooms and reputation already gained through experience. Although no formal competition was conducted (only 12 schools applied), two ‘winners’ were identified: Nizhniy Novgorod oblast’s branch of the Institute of Privatization and Management and the MPIC. Among their strengths are established reputation, international links, availability of specialized premises and accommodation capacities. Shortcomings were also identified. In the case of MPIC, poor information and computer equipment and a deficit of local teachers was stressed.

With regard to specialization, two main types of schools are available: schools which offer general courses targeted at corporate managers (including basic knowledge on market economy, management, marketing, securities market, accounting and personnel policy) and specific vocational or professional schools. The Institute of Privatization and Management and the MPIC fall under the first category of institutions. Of the schools oriented toward specific economic branches and professional groups, several professions dominate: state and municipal politicians (of the Volga-Vyatka Academy of Civil Service), secondary school and higher level teachers (Nizhniy Novgorod oblast Institute for Development of Education), realtors, secretaries, bookkeepers and small-business managers (Nizhniy Novgorod oblast Institute of Economic Development), farmers and other agriculture employees (Nizhniy Novgorod oblast Regional Institute of Economics and Management in Agriculture), defense-related employees (Institute of Applied Economics and Defense Personnel), trade, catering and services (Nizhniy Novgorod oblast Commercial Institute), tax lawyers and tax planners (Personnel Training Center for State Tax Services) and many other specialists (Kanakov, 1997, pp. 8–10).

Despite both the acute retraining need in all economic sectors and the availability of a diverse and established network of retraining schools in Nizhniy Novgorod oblast, in recent years such institutions have faced a continued decline in the number of students and difficulties in selling their services. Moreover, the interviews conducted for this study showed definite skepticism of potential students regarding the efficiency, quality and practical applicability of knowledge offered by Nizhniy Novgorod oblast institutions engaged in adult education. Several different explanations for this emerged.

Opinion polls, organized by the Council of Directors of Retraining Schools showed that in 1997, 94 percent of respondents named the financial problems of their enterprises and high fees to be paid for seminars as a main reason for a low demand for retraining (growth from 63 percent in 1993), four percent of respondents selected study on their own as a more efficient way of gaining knowledge and two percent found the offered seminars irrelevant (Kanakov, 1997, p. 11). Criticism in the interviews focused on the quality rather than the price element, although the majority of respondents found the seminars overpriced (see Table 24). The former Nizhniy Novgorod oblast governor speaks about an absence of the retraining system in the region (see quotation at the beginning of this section). Undoubtedly, there are problems on both sides. On the one hand, potential recipients of retraining, especially from large traditional enterprises, sometimes underestimate new challenges in human capital formation, and rank their everyday problems higher than the need for retraining which could have had only long-term positive effect. Moreover, their expectations of positive retraining for enterprise performance are often too high. On the other hand, they have enough data to dispute the quality of retraining services offered by the local schools, which themselves are in need of learning and advancement.

With regard to retraining provided by foreigners within technical assistance and other government and private sector programs, there is not enough data to present a systematic overview of projects, since publications and interviews present only selected cases.⁵ There is only evidence that Nizhniy Novgorod oblast has hosted an over-proportional number of educational projects in comparison with other Russian regions. Recipients question the quality of seminars and their applicability to the real problems of Russian industry in transition.

⁵ Among them there are retraining seminars provided by such firms as Deloitte&Touche, KPMG, Business School of the Open British University, UK Ministry of Trade and Industry, Management Operation Ltd, BESO program of the British Corps of Experts, German Chamber of Handicraftsmen and many other cases.

In general, two types of retraining by foreign actors were offered in Nizhniy Novgorod oblast. The first is the firm-based retraining as part of larger projects, either within the joint development and manufacturing or technical assistance programs. In this case, retraining is combined with the firm's diagnostics and consulting services. Case studies, used in lecturing and games, are taken from the real life experience of the very enterprise, markets under study are familiar and technical language is understandable for both teacher and the student. Business trips to the West are often included in the educational programs. Our respondents value this type of learning very highly. They admit that the direct transfer of information and experience received during business trips is hardly possible under the current Russian conditions, though it offers significant complimentary knowledge and helps reassess advantages and weaknesses, develop partnerships and identify constraints.

The second type of retraining programs provided by Westerners tend to teach generic business skills. Publications and the interviews show rather diverse points of view on the practicability and value of this undertaking. The majority of respondents were very skeptical. Russian industry managers have grown suspicious of programs that teach generic market economy courses, which they find as dull and useless for their professional advancement as recently obligatory seminars on 'scientific communism'. They criticize the quality of lectures and lecturers, excessive focus on academic rather than practical knowledge, too little insight into the current problems of the Russian industry, certain snobbism and a 'colonial' approach to students. Poor logistics (and especially failure to overcome language problems) were also stressed. Nevertheless, people tend to acknowledge that their experience in participating in retraining seminars is rather short and insufficient for making conclusions on the irrelevancy of retraining programs provided by the Western teachers.

Even those attempts which they estimate as a failure, nevertheless had some value added—especially as an opportunity to network with colleagues from different enterprises and industry sectors, whom they met at the seminars. The fact that practically all the industry respondents want to take part in retraining seminars, however negative their previous experience was, is positive.

2. Retraining of industry managers

It is hardly possible to question the assumption that the educational background of Russian managers in the first years of reforms was rather weak with respect to the knowledge of how an enterprise is controlled under market conditions, especially the allocation of financial flows, entry to new markets and the use of accounting as a means of operational management rather than reporting to the fiscal authorities. The legacy of the command economy included low commitment to substitute centrally controlled managerial functions by actions of their own. Moreover, imperfect market, deteriorated by hyperinflation, structural imbalances and the low level of enforcement of corporate and other laws which were to regulate contracting discipline, did not reward 'perfect' behavior. Therefore, the first winners emerged not among industry directors who exploited conventional methods of corporate management improvement but among those who were successful in collecting inflation tax and capitalizing on unfairly distributed government favors.

However, in the late 1990s the situation radically changed. First, the macroeconomic environment improved and the market became more rewarding to qualified enterprise management, many gaps in institutional infrastructure were filled and the government seriously reduced federal financial flows to industry. Second, six years of 'learning by doing' resulted in the emergence of industry leaders, capable of converting acquired knowledge into recovery and growth. Detailed measurement of the share of these advanced managers remain elusive, though there is reason to believe that the factor of the quality of management became decisive for the emergence of growth clusters in the generally depressed Russian economy. Furthermore, a wide consensus developed that industry managers were in serious need of retraining and that successful implementation of learning could contribute to better growth and productivity performance. Thus, demand for retraining of industry managers emerged.

One important question might be, how this demand is structured, and which elements of this demand cannot be met by local schools. A study, carried out by Council of Directors of Nizhniy Novgorod oblast's retraining schools⁶, showed that at least six fields were prioritized by respondents to the questionnaire and are not represented in the current curricula at all. These are:

⁶ Methodology of pooling and a structure of respondents are not available. It is only known that the study was carried out by the NiNo branch of the Academics Institute of Sociology at the request of the Council of Directors of retraining schools of NiNo.

tax planning, profit maximization, stock-taking, factors of competitiveness and business evaluation. Moreover, as a rule the priorities of the clients conflict strongly with the priorities of schools (Table 17). Two explanations are possible: either industry clients are lagging behind the directors of adult education centers in their understanding of professional and qualification gaps which emerged as soon as systemic reforms were launched, or retraining schools offer courses which do not fit practical requirements of directors and their teams. Some of the different interpretations of the meaning and content of programs were clarified (program in management, for example) despite the fact that a common language of market-specific terminology is still to be developed in Russia—which is equally understandable for both the university professor and the industry manager.

TABLE 17: RETRAINING PROGRAMS: STRUCTURE OF DEMAND AND SUPPLY IN NIZHNIY NOVGOROD OBLAST

Name of the program	Demand rating	Supply rating	Number of programs offered in NiNo retraining schools
Tax planning	1	0	0
Finances and credit	2	8	3
Profit maximization	3	0	0
Stock taking	4	0	0
Pricing and competition	5	7	4
Management	6	1	28
Factors of competitiveness	7	0	0
Economics of the firm	8	4	14
Business evaluation	9	0	0
Personnel policy	10	3	16
Technology of personal work	11	9	1
Legal basis of business	12	2	18
Marketing	13	-	0
Advertising	14	6	9
Business foreign language	15	7	4
Computer skills	16	5	10

Source: Kanakov, 1997, p. 13

There is some evidence that clients and teachers view the aim of retraining differently. While schools are oriented toward their understanding of educational gaps by the industry managers, the latter view retraining demand based on the needs of enterprises in given economic circumstances, not as the personal professional requirements of top managers. Therefore, as

Table 17 shows, industry managers favor programs, which are closer to consulting than training and would be conducted by auditing, law and consulting firms rather than by teachers without sufficient practical experience. Yet, programs such as “management” or “economics of the firm” are offered in many schools and are not valued highly by the clients. The low ranking of marketing is puzzling since in interviews, respondents showed a high interest in the knowledge of this element of enterprise management. The role of technology in the entry to new markets was also a topic of interest, although the interviews were carried out mostly at defense enterprises, which face serious problems in demand for their traditional military and civilian products and are actively looking for new market niches. Low interest in foreign languages and computer skills is easy to explain: the first needs long-term basic education and it is easier to hire professional interpreters, the second is easy to obtain inside the enterprise.

Another study on retraining demand of Nizhniy Novgorod oblast industry managers, carried out by the National Foundation of Financial and Management Cadre’s Training (NFPK) in six Russian regions⁷, including Nizhniy Novgorod oblast, brought very interesting results and seemed to avoid misunderstandings in terminology (Afanasyeva, Pudenko, 1997). Each region was represented by 34 enterprises, each enterprise by three top managers: director, head of personnel department and head of marketing department. Nearly all types of entities from twelve industrial branches were represented: large and small, privatized, state-owned and mixed. One-third of the entities were financially distressed, one-fourth stable, and the rest positioned themselves ‘in the middle’. The majority of enterprises underwent significant changes in recent years (mostly diversification of activities, industrial output decline or growth). Three major groups of enterprise problems were identified by respondents as most acute: scarcity of funds (especially working capital and investment); low demand and high production costs; high competition, uncertainties, deficit of skills in modern management, quality problems. Interestingly, problems such as social tension at the enterprise, low motivation of employees, problems related to the selection of development strategy were valued as insignificant. Finally, top managers were, as a rule, represented by engineers (two-thirds of responders) and only 17,6 percent had education in the social sciences (economic or financial).

⁷ Altogether 204 enterprises from Moscow, St. Petersburg, Nizhniy Novgorod, Izhevsk, Novosibirsk and Vladivostok were studied. Two methods of obtaining information were exploited: distribution of a questionnaire (combination of multiple choice and extensive answers) and interviews.

The pool tested the degree of demand for knowledge (to be met either by hiring professionally educated specialists or retraining of available personnel) in different disciplines of management is. In general, they were ranked as following:

- financial management 16.5 percent
- marketing 16.0 percent
- sales' management 13.7 percent
- strategic management 10.3 percent
- production management 9.3 percent
- efficient management systems design 8.6 percent
- personnel management 8.3 percent
- supply management 5.7 percent
- management of innovations 5.6 percent
- operational management 5.1 percent

Another important factor is the potential retraining demand—as assessed by Nizhniy Novgorod oblast industry managers in view of the advancement of corporate management and personal professional growth in five different disciplines of management: general, financial, personnel, marketing and production. It should be noted that, for example, demand for training of personnel and production management is both low and poorly structured. Moreover, respondents had difficulties in answering questions about these programs.

**TABLE 18: RETRAINING DEMAND IN NIZHNIY NOVGOROD OBLAST:
SUMMARY OF ANSWERS OF NIZHNIY NOVGOROD OBLAST RESPONDENTS**

Field of knowledge	Top three topics, prioritized by NiNo respondents
General management	<ul style="list-style-type: none"> • decision-making • psychology • basic functions of management.
Financial management	<ul style="list-style-type: none"> • managing non-payment crisis • profit maximization • cost reduction
Personnel management	<ul style="list-style-type: none"> • selection and evaluation of cadres • motivation for efficient work • management of psychological climate
Marketing management	<ul style="list-style-type: none"> • market study • marketing strategy • new product development

Production management	<ul style="list-style-type: none"> • quality control • productivity growth • planning and control
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Source: Afanasyeva, Pudenko, 1997, p. 26

In order to better understand and update information concerning the retraining needs of the Nizhniy Novgorod oblast economy, 11 interviews at different entities of Nizhniy Novgorod city were conducted in May 1997. Among them there were 5 large manufacturing enterprises, one science and industry association, one small joint venture, three commercial banks and the industry department of the regional administration. The aim was to complement available studies with current points of view, expressed by institutions, which were not included in previous studies. Moreover, in industry the primary focus was on defense companies.

Another group of institutions—commercial banks—was included for two reasons. First, they represent one of the most ambitious, fast growing and solvent actors in the new Russian market and it was interesting to find out which constraints to human capital accumulation they face. Secondly, as a rule Russian banks do not have enough resources to fund huge industrial investment needs, and when they enter into associations (formal or informal) with industry they perform consulting rather than investment functions. If they invest, it is only under the condition that they actively participate in corporate governance. Therefore, the role banks could play in the retraining of industry managers, and in sharing skills concerning how to do business in Russia is interesting.

The respondents hold different positions—from deputy directors to heads of the personnel department—therefore their understanding of enterprise problems and knowledge of educational gaps is diverse. As a rule, the higher the position of the interviewee, the more interesting and informative the interview was. Though the economic and financial condition of enterprises is very different, a number of common problems were named. These ranged from difficulties in finding solvent markets for traditional products to constraints in gaining access to international markets, finding partners, carrying out restructuring, keeping the most valuable personnel at the enterprises, eliminating social assets and so on. As a rule, the respondents were not concerned about the retraining of potentially unemployed. They consider it to be a state problem, to be funded and solved at the state level. In addition, defense managers apply active employment

policies (lay offs) mostly to people who reached pension age, violate discipline or do not fit professional and qualification requirements, and do not feel responsibility for their retraining.

Therefore, retraining of defense industry managers at the top and mid-level was the focus of discussion during the interviews. It is remarkable that practically all respondents criticized retraining approaches used by Western consultants and local schools. The first were criticized for giving very generic ideology-driven knowledge, use of case studies of developed market economies, which are hardly applicable for the transition economy in crisis. The second were blamed for poor quality and general ignorance regarding specific problems of defense industries. Moreover, gaps in qualification and profession between the lecturer and students were often named as a barrier for effective learning. People with practical experience doing business in the West and extensive Russian economic insight rather than academics are prioritized among teachers.

Managers of enterprises undergoing conversion listed various fields, in which they need knowledge and retraining. Among them several topics were named in almost every interview:

- *Internationalization as a development strategy.* Problems of international market entry, certification, search for partners, promotion, pricing, joint venturing, etc. The medical equipment market, which was selected by many former defense enterprises in Nizhniy Novgorod oblast as an alternative to military production, may be a case for special analysis.
- *Organizational restructuring as an enterprise policy to optimize costs.* Benefits and disadvantages of associating in holdings and financial-industrial groups, management and control of conglomerates (including problems of consolidated balance sheets, syndicated crediting, estimation of contributions of participants). How to separate non-core business and reach the optimal level of diversification, how to get rid of excessive overheads and social assets. Non-equity joint venturing with the local partners.
- *Problems of science-intensive firms on the civilian market.* How to combine R&D and mass manufacturing, raise funds to commercialize innovations, keep and motivate key personnel.
- *Automobile industry as a potential locomotive of the regional economy and source of recovery and growth for the defense enterprises.* The status of the automobile market in Russia and worldwide. Markets of prime contractor and subcontractor type. Industry consolidation (advantages and constraints of grouping in financial-industrial holdings). Regional integration.

To sum up, it may be suggested that the demand for learning and retraining of industry managers from the defense complex in Nizhniy Novgorod oblast is very high, though rather targeted. They are interested in learning how to solve concrete problems of their enterprises and are not ready to invest time and money into general courses of macroeconomic studies. Very few requirements of defense managers are conversion-specific. As a rule, they need updated knowledge about different aspects of corporate governance, especially under the conditions of crisis, resource scarcity and low demand, which are critical both for the converting and traditional civilian firms. Knowledge on restructuring policy, however, had significant specificity in the defense complex, mostly because major restructuring decisions are initiated by the central government.

3. Unemployment in Nizhniy Novgorod oblast and retraining requirements

If the retraining of industry managers is targeted at the advancement of corporate management and solving transition, crisis or conversion problems through the acquisition of knowledge, unemployed people may require principally different approaches and skills. Generally speaking, they need to obtain new qualifications which fit the requirements of the growing segments of the Nizhniy Novgorod oblast economy.

Relatively low unemployment and a significant gap between output and decline in employment is the general Russian phenomenon, and can be explained by several factors: reluctance of industry managers to shed labor to avoid excessive social tension, reluctance of employees to leave voluntary and look for better-paid jobs even if they only earn a minimum-wage salary (US \$15 monthly) in order to keep the non-monetary social benefits provided by the enterprise, opportunities to combine the official job with informal activities in the shadow economy, and some other reasons. Nizhniy Novgorod oblast is not an exception in this regard.

Nizhniy Novgorod oblast's official unemployment rate is relatively low—merely 3 percent, which is behind the average Russian indicators (Table 19). By the end of 1996 as many as 57,100 people were officially unemployed. However, several factors call these figures into question. First, the methodology for counting unemployment conflicts with the one accepted by the International Labor Organization (ILO), which estimates real unemployment at double, approximately 120,000 people. Secondly, significant hidden unemployment is not taken into account, though there is a lot of evidence that it is dramatically high. People remain officially affiliated with their jobs, although they do not work and either receive minimum wages, are

forced to go on unpaid leave or are employed only part-time. According to the regional statistical agency, in December 1996 as many as 96,100 people (including 80,600 in industry) were working part-time involuntarily, while another 96,200 people were forced by enterprise administration to take vacations (37 percent of them without pay) (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 74).

TABLE 19: NIZHNIY NOVGOROD OBLAST UNEMPLOYMENT INDICATORS (IN BRACKETS - AVERAGE RUSSIAN FIGURES)

	Registered unemployment rate, in %	Unemployment rate, measured with the use of ILO methodology, in %	Number of unemployed per vacancy	Absolute number of registered unemployed	Absolute number of unemployed, calculated using ILO methodology
1992	1.0 (0.8)	4.0 (4.8)	4.6 (3.2)	20,000 (578,000)	80,000
1993	1.2 (1.1)	4.9 (5.5)	3.7 (3.1)	23,000 (836,000)	93,900
1994	1.9 (2.2)	6.0 (7.4)	6.1 (5.8)	38,000 (1637,000)	122,000
1995	2.8 (3.2)	7.8 (8.7)	7.3 (8.2)	54,000 (2327,000)	150,400
1996	3.0	6.3	7.0	57,100	119,900

Sources: *Rossiyskiy Statisticheskiy Ezhegodnik*, 1995, p. 553; 1996, pp. 758–752; *Predprinimatelskiy Klimat Regionov Rossii*, 1997, p. 253; *Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997.

The gap between officially registered and estimated unemployment represents hidden unemployment, which may materialize as soon as industry restructuring, the transfer of social assets from enterprises to municipal authorities and the legalization of shadow economy develop further. Moreover, the gap between output and employment decline also signals that latent unemployment is remarkably high in Nizhniy Novgorod oblast. (From 1991–1996, industrial output in Nizhniy Novgorod oblast decreased by 52 percent, while industrial employment fell by 30 percent.)

Another sign of trouble in the Nizhniy Novgorod oblast labor market is that two thirds of the registered unemployed are women (34,000 people in late 1996), who as a rule have worse employment perspectives than men. Moreover, in some regions of Nizhniy Novgorod oblast (mostly in the north) the unemployment rate is 3–4 times higher than the average figures. For

example, in the Navashinsky region the officially registered unemployment rate accounts for 13.9 percent, in Kulebaskiy 11.3 percent and in Vetluzhskiy 9.7 percent (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 75).

There is no data on the professional structure of unemployment, though figures on educational structure show that the unemployed in Nizhniy Novgorod oblast are, as a rule, educated: 9.4 percent have university degrees, 22.6 percent graduate technical qualification, 12.9 percent undergraduate technical degree and 37.9 percent finished secondary schools. In comparison, 17.2 percent did not finish secondary schools (*Sotsialno-Ekonomicheskoye Polozheniye Nizhegorodskoy Oblasti*, 1997, p. 76). On the one hand, the relatively high standard of basic education speaks in favor of retraining because the people are capable of learning. Though, on the other, overqualification sometimes makes it difficult to change a profession radically and apply for jobs in secure and growing, though less prestigious, economic sectors.

One question might be whether the available retraining institutions are ready for the probable growth in unemployment. As shown in previous chapters, even in periods of crisis, there are distinct growth niches in the Nizhniy Novgorod oblast economy, which are capable of recovery, development and are or will produce demand for labor. The expanding automobile industry, transportation, housing construction, services, international joint ventures will lead to regional integration, and will require new labor. There is also evidence that small emerging firms may absorb excessive labor from industry. To enter these potential labor markets, the applicant needs professional skills, which as a rule are well-represented among the Nizhniy Novgorod oblast retraining institutions. Though it may be suggested that complementary knowledge is needed, not on the professional side of retraining, but in technologies dealing with unemployment as a societal phenomenon and the unemployed as a social group which had not existed in Russia for decades.

VI. CONCLUSIONS

Nizhniy Novgorod oblast is one of the old Russian industrial heartlands, where development was pushed by defense procurement during the Cold War. This resulted in the emergence of a specific industrial business culture and certain dependencies, which were difficult to overcome as soon as systemic reforms were launched and military expenditures radically cut. Isolation of high-tech military production and R&D from more commercially oriented industries and its low integration into the local economy is one of the key qualities of defense dependency, which made conversion particularly problematic. A range of regional policies were developed to promote conversion and active restructuring of defense enterprises in Nizhniy Novgorod oblast, though conversion programs were not sufficiently funded, and active restructuring remains dependent on decisions of the central government and meets resistance from the side of industry managers. Industry representatives continue to view arms export as a best option to replace lowered domestic procurement. It is remarkable that several Nizhniy Novgorod oblast's defense enterprises were listed among top Russian industrial companies—and these are entities, which managed to find an arms export niche.

The defense draw-down contributed heavily to Nizhniy Novgorod oblast's industrial decline, especially in engineering industries. Though it should be noted that the defense complex also shaped the competitive edge of the region against less industrialized regions which had weaker infrastructure and fewer qualified workers. The combination of circumstances—shifting of priorities, changing role of industry and service sectors, rapidly emerging private business, survival capacities of local entrepreneurs, opening of Nizhniy Novgorod oblast, active regional policies, leadership in certain segments of economic reforms—shaped the modern economic position of Nizhniy Novgorod oblast.

This report showed that in addition to defense dependency Nizhniy Novgorod oblast has some built-in stabilizers which has increased the adaptability of the local economy. Among them is the availability of the new industrial leader, the automobile industry which capitalizes on state protective policy, high domestic demand and seeks modernization and internationalization. Nizhniy Novgorod oblast's defense complex is invited to join the supply network of the automobile sector, which needs import substitution, better cost and better quality suppliers and modernization. Other potential niches of recovery and growth may emerge due to the constraints

rather than strengths of the regional economic structure. Sectors such as telecommunications, transportation, housing construction, various service branches as well as small business development—all of which are weak and underdeveloped in Nizhniy Novgorod oblast—may offer significant growth prospects and provoke creativity and chances for the defense industries.

In the final chapter it is argued that retraining of industry managers is crucial for the competitiveness of Nizhniy Novgorod oblast's economy and conversion success. Unfortunately, knowledge is gained through learning by doing rather than through organized retraining institutions, which in general are well represented in Nizhniy Novgorod oblast. This study showed that defense managers are in great need of retraining, but would like it to be tailored to the acute problems of their enterprises. Services which may provide this specific knowledge are scarce both in Nizhniy Novgorod oblast and elsewhere, and in general are closer to business consulting than retraining.

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