CHAPTER III

SPATIAL GROWTH OF ECONOMIC ACTIVITIES
At the time of Bolshevik revolution in 1917, Russia was not a totally undeveloped country. Industrialization in Soviet Union dates back to the reign of Peter the Great, in early 18th century, when he developed and implemented a systematic and comprehensive industrial policy. Later part of the 18th century shows Russia as one of the largest producer of pig iron. The most important Russian industries of the 17th Century were agricultural extractive and military. By the end of his reign, over 200 mills and other types of manufacturing enterprises had been built. From 1835 through 1849 the oil industry was operated as a state monopoly. After the regaining the regime this situation was changed in 1872.

Tsarist government started auctioning oil-bearing lands on a long-term basis in return for a lump sum payment and low yearly rental charges.1 Year 1890 had turned into a real industrial revolution under the direction of Minister of Finance, Witte. Donetz Coal Basin was opened and the iron and steel industry was established. These industrial efforts suffered temporary setbacks by incipient revolutions during the first decade of the 20th century, which prompted repressive measures from the Tsar that, were not conducive to optimum economic development. Tsarist authorities produced surveys of “large scale” manufacturing by province in a number of years between 1854 to 1915 excluding artisan sector.

Manufacturing industry was much more productive than agricultural and service sectors. 5% of labor force was engaged in manufacturing produced 20% of the 1913 national income.²

Pre-Revolutionary industry was concentrated in a few areas. Five regions accounted for 80% of the industrial output. One centered on Moscow was the oldest and largest. It included Vladimir, Kaluga, Kostroma, Ryazan, Nizhni Novgorod, Tula, Tver, and Yaroslavl. Textile industry was established along with other consumer articles,³ using local raw material, flax and then switching over to wool and cotton. The region developed from textiles to textile machinery, machine tools, and primary steel products, through dyes to basic chemicals though the production decline temporarily. Until late in the 19th century Moscow was one of the very few cities, this became a big market. Second area was Donbass, Crimean, and five Ukrainian provinces, developed by the Tsars.

Mining and metallurgical complex were established here based on the Donets basin coal field and the Krivoy Rog iron deposit, joined by rail over a distance of approximately 350 kilometers. Iron and steel industry developed in 1900 AD. The government encouraged foreign investment to speed industrial growth and provide modern technology. Agricultural processing complex in the western Ukraine came up. Kiev was the center of sugar refining based on local beet and tropical imports were processed at Odessa. Ukrainian mining and

metallurgy together with the beet sugar industry accounted for a fourth of Russian industrial output in 1890s. More surprisingly, the St. Petersburg area of the Northwest declined in relative importance by the value of manufacturing production up to the World War and Ukrainian’s production increased.

Third industrial region was located in the Baltic ports from Riga to St. Petersburg. Here the industries were based on imported raw materials including coal and iron. Other two were Transcaucasia (basically Baku and Chiatura) and the Urals. Transcaucasian industrial complex was dependent on petroleum and manganese. The charcoal based iron industry of the Urals had been founded in the time of Peter the Great. Cheap Labor, raw materials availability helped in the set up and expansion of many small ovens mostly employed charcoal smelting and water power. Railway connection from Krivoy Rog to Donbass coal in 1885 further expanded the production. The growth of Russia’s metalworking and machine manufacturing industries in the late 19th century was lesser than the textile industry.

By the 1900 century, 83 factories manufactured industrial and railroad equipment. There was no feeling for favorable or unfavorable land for the industrial development in the Tsarist time. They had no coordinated regional policy. Three factors played a vital role in the development of regional industries at this time were railroads, colonization and tariff. Military arsenals

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tended to be built in or near the capitals. Railroads were constructed for strategic purposes.⁷

Table 5: Production figures in 1913:

<table>
<thead>
<tr>
<th>Product</th>
<th>Russia</th>
<th>United Kingdom</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity (b.t.)</td>
<td>2.0</td>
<td>4.7</td>
<td>25.8</td>
</tr>
<tr>
<td>Coal (m.t.)</td>
<td>29.2</td>
<td>292.0</td>
<td>517.8</td>
</tr>
<tr>
<td>Oil (m.t)</td>
<td>10.3</td>
<td>-</td>
<td>34.0</td>
</tr>
<tr>
<td>Pig Iron (m.t.)</td>
<td>4.2</td>
<td>10.4</td>
<td>31.5</td>
</tr>
<tr>
<td>Steel (m.t.)</td>
<td>4.3</td>
<td>7.8</td>
<td>31.8</td>
</tr>
<tr>
<td>Cotton (b.m.)</td>
<td>1.9</td>
<td>7.4</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Note: b.t. = Billion Tons; m.t. = Million tons; b.m. = Billion Meters

Lenin propagated rapid industrialization, equal distribution of economic activity through out the country, production units to be placed near the raw materials and markets to minimize transport and specialized production were promoted. V.I.Lenin's "The Development of Capitalism in Russia (1898) stressed the spread of factories, market opportunities, prosperity and literacy to backward Russian provinces; he devoted hardly any space to the backward effect."⁸ By 1908 the Caucasian provinces showed 70,000 workers, mostly in petroleum, metallurgy, copper and textile industry.⁹

He initiated New Economic Policy (NEP) to rehabilitate the economy of the country to encourage peasants to sell in the open market and benefit thereby, subject to a government tax on what they produced; matched by small

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⁷ Spechler, n. 5, p. 424
⁹ Spechler, n. 5, p. 404.
scale "capitalist" production and commerce designed to get industrial products to the peasants and the peasant produce to the half starved towns. Heavy industry, transport, foreign trade and banks remained nationalized but small-scale manufacture got back to pre-war levels and the peasants and traders were benefited.

From about 1921 through 1928 the largest part of the Russian industrial economy remained under the direct state control although with considerable decentralization and de-bureaucratization. The fundamental problem of the NEP period was the inability of small-scale agriculture production for a free market to sustain the rapid industrialization that required to complete the development left unfinished in Tsarist times, particularly in the sphere of heavy industry.

By 1921, Russia's industrial plant was producing at 13% of its prewar level. War Communism in the period from 1917-1921 in Russian industry, apart from its ideological significance, meant in many respects previous war time policies with stricter state control, more comprehensive labor mobilization and more drastic coercive measures. The period from 1914-1929 represented a kind of interim in the industrial history of Russia. By 1926 the share of the private sector in the national income declined from over 50%. Industry recovered to a pre 1914 level of productivity but this was inadequate to meet the demands of an increasing population, which had been given grounds for great expectations.

\[10\] Ibid., p. 423
Table 6: Industrial Production, 1913-1926

<table>
<thead>
<tr>
<th></th>
<th>1920</th>
<th>1921</th>
<th>1922</th>
<th>1923</th>
<th>1913</th>
<th>1924</th>
<th>1925</th>
<th>1926</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial production (Million 1926-27 Rubles)</td>
<td>1410</td>
<td>2004</td>
<td>2619</td>
<td>4005</td>
<td>10251</td>
<td>4660</td>
<td>7739</td>
<td>11083</td>
</tr>
<tr>
<td>Coal (M.t.)</td>
<td>8.7</td>
<td>8.9</td>
<td>9.5</td>
<td>13.7</td>
<td>29.0</td>
<td>16.1</td>
<td>18.1</td>
<td>27.6</td>
</tr>
<tr>
<td>Electricity (kwhs)</td>
<td>-</td>
<td>520</td>
<td>776</td>
<td>1146</td>
<td>1945</td>
<td>1562</td>
<td>2925</td>
<td>3508</td>
</tr>
<tr>
<td>Pig iron ('000 tons)</td>
<td>-</td>
<td>116</td>
<td>188</td>
<td>309</td>
<td>4216</td>
<td>755</td>
<td>1535</td>
<td>2441</td>
</tr>
<tr>
<td>Steel ('000 tons)</td>
<td>-</td>
<td>183</td>
<td>392</td>
<td>709</td>
<td>4231</td>
<td>1140</td>
<td>2135</td>
<td>3141</td>
</tr>
<tr>
<td>Cotton Fabrics (million Metres)</td>
<td>-</td>
<td>105</td>
<td>349</td>
<td>691</td>
<td>2582</td>
<td>963</td>
<td>1688</td>
<td>2286</td>
</tr>
</tbody>
</table>


From 1928-1937 all civilian industrial production in the Soviet Union increased at an annual average rate of about 11%. Capital investment has been concentrated in mining, manufacturing, and construction in the Soviet Union. This was especially true during the industrialization period of the early five-year plans between 1928 and 1936. Among different types of industries, capital stock is greatest in such things as electrical power production, coal, ferrous metals, and machinery of various kinds and food industries, except for one or 2 years. Production industries have always been the focus of the Soviet Union and the major portion of the capital was dedicated to the development of these industries. Consequently, the value of goods manufactured for the use of other producers has generally considerably exceeded that of goods manufactured for the use of individual consumers. This has been provided an expanding base for further production, but has been rather hard on consumers while the industry is being built up.

Stalin launched the first five-year plan in 1929. Stalin believed that only a rapid and comprehensive industrialization would prevent economic stagnation and provided a substantial base for Soviet power. Shortages of capital and
emphasis on speed of industrialization have led to the construction of giant industrial enterprises in the old centers of production at the expense of industrial dispersal.

The sixteenth Congress of the Communist Party (1930) initiated the extensive planned exploitation of the vast natural resources of the eastern areas of the USSR. Giants of ferrous metallurgy were built in the Urals and Siberia namely, Nizhni Tagil, Magnitogorsk, Kuznetsk, Chelyabinsk and Novosibirsk iron and steel mills. At the time of German invasion in 1941 the industries in Urals were neglected and new industries in eastern areas were growing rapidly. By 1948 the Soviet Union regained its prewar industrial level.

Under Stalin, remarkable changes occurred in the industrial sector. He scrapped off NEP and replaced it by his own economic policy. First Five Year plan for economic development was introduced by Stalin. Heavy industry received more investment than light industry. New areas were developed. Light industry retained its pre revolutionary character. Manufacturing tended towards a nodal distribution as transport investment focussed on a few trunk railways. "Historical analysis of the Soviet industrialization drive in the 1930s and 1940s point to the conclusion that it was a wasteful and exploitative method of promoting rapid economic growth. The Soviet statistician claims an average rate
Table 7: Achievements in First two Five-Year Plan Under Stalin:

<table>
<thead>
<tr>
<th></th>
<th>1927</th>
<th>1932</th>
<th>1937</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Income</td>
<td>24.4</td>
<td>45.5</td>
<td>96.3</td>
</tr>
<tr>
<td>(Billion 1926-27 Rubles)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Industrial Production</td>
<td>18.3</td>
<td>43.3</td>
<td>95.5</td>
</tr>
<tr>
<td>(Billion 1926-27 Rubles)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>5.1</td>
<td>13.4</td>
<td>36.2</td>
</tr>
<tr>
<td>(Billion KWhs.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal</td>
<td>35.4</td>
<td>64.3</td>
<td>128.0</td>
</tr>
<tr>
<td>(M.t.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil</td>
<td>11.7</td>
<td>22.3</td>
<td>28.5</td>
</tr>
<tr>
<td>(M.t.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron Ore</td>
<td>5.7</td>
<td>12.1</td>
<td>20.2</td>
</tr>
<tr>
<td>(M.t.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel</td>
<td>4.0</td>
<td>5.9</td>
<td>17.7</td>
</tr>
<tr>
<td>(M.t.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machinery</td>
<td>1822</td>
<td>7632</td>
<td>n.a.</td>
</tr>
<tr>
<td>(million 1926-27 rubles)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


of 11.9% yearly from 1928-1955 annual growth rate.\(^{11}\)

The new industrial economy took form, i.e., rapid industrialization and trade based developments. By 1937, the production of iron, steel and other ferrous metals had quadrupled the levels of a decade before, and also the output of fuel, electric power and chemical products. There was a vast increase in the production of machinery during the second five-year plan. In Stalin’s period, the planned industrial development took place, and was designed to organize and locate new industries on sound economic as well as strategic foundations, simultaneously continuing the old existing industrial centers. This involved the construction, characteristics of Soviet planning, of large industrial combinations linked to fuel supplies, raw materials and markets by enlarged railway lines. The aim was to consolidate as far as possible all phases of production and supply in one area, utilizing large factory units for the purpose of economizing – as a result the exhaustive new complex was built in the Urals. It was rebuilt on a grand scale. While older Urals industrial centers, such as Nizhniy-Tagil were re

\(^{11}\) Blackwell, n. 4, p. 127.
built, Magnitogorsk a whole new city of steel machine and armaments factories, arose out of the Urals countryside in the 1930s.

The reallocation of investment and taxation for the continuing benefit of heavy industry was repeated in the late 1930s, but funds were also allocated for the extensive build up of the war machine. Heavy industries in Ukraine expanded very fast. Industrial regions focused on ports suffer greater relative decline. Karaganda coal replaced Kuzbass coal partly as soon as railways could be built. The Second World War disrupted the emerging spatial pattern of industrial growth.

As the Germans advanced and the Russian armies began to collapse, entire sections of industries were dismantled, moved and reassembled in the Asian interior. According to Soviet figures 360 factories, most of them very large were carried by hundreds of thousands of railroad freight cars and trucks to the Urals, Western Siberia, Central Asia and the lower Volga region. A third of Russia's factory workers went with them. Such a powerful influx of labor and equipment accelerated the development of these eastern industrial centers.

By the end of the war the Urals had surpassed Ukraine in iron, steel and armaments production and important metallurgical and fuel industries had been firmly rooted in Central Asia and Siberia. The regions most affected (By Second World War) were along the Trans Siberian railway from the Volga region, to West Siberia. The post war years were largely devoted to rebuilding in the West.
Table 8: Production during fourth and fifth five-year plans:

<table>
<thead>
<tr>
<th></th>
<th>1940</th>
<th>1945</th>
<th>1950</th>
<th>1955</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Income (Index)</td>
<td>100</td>
<td>83</td>
<td>164</td>
<td>n.a.</td>
</tr>
<tr>
<td>Gross Industrial Production (Index)</td>
<td>100</td>
<td>92</td>
<td>173</td>
<td>n.a.</td>
</tr>
<tr>
<td>Electricity (Billion KWhs.)</td>
<td>48.3</td>
<td>43.2</td>
<td>91.2</td>
<td>170.2</td>
</tr>
<tr>
<td>Coal (M.t.)</td>
<td>165.9</td>
<td>149.3</td>
<td>261.1</td>
<td>38.9</td>
</tr>
<tr>
<td>Oil (M.t.)</td>
<td>31.1</td>
<td>19.4</td>
<td>37.9</td>
<td>70.8</td>
</tr>
<tr>
<td>Pig Iron (M.t.)</td>
<td>14.9</td>
<td>8.8</td>
<td>19.2</td>
<td>33.3</td>
</tr>
<tr>
<td>Steel (M.t.)</td>
<td>18.3</td>
<td>12.3</td>
<td>23.3</td>
<td>45.3</td>
</tr>
</tbody>
</table>

Source: Ibid., p. 20 & 22.

During the last years of 1940s and the beginning of 1950s the growth of heavy industry accelerated at a very high rate. By 1950, industrial production had exceeded the 1940 level by 40%. The main factors were that Soviet heavy industry not only continued to benefit from large-scale investment, but also was still in a process of recovery and the attainment of full use of capacities. The acceleration due to post war recovery was strongest and most continuous in sectors competitive with military goods in both supply and demand. For example, civilian engineering than consumer durable and made a much smaller more short-lived contribution to basic goods output growth. Although the base was broader, and output was increasing substantially, the growth rates for the principle heavy industries were much lower than those of the mid 1930s.

Stalin's planning remained erratic and imprecise. The continuing mania for gigantic, long-term projects was accompanied by a widespread reluctance to disrupt production schedules with new technology. Investments and innovations

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in the transportation system, such as oil pipelines, were long overdue. The slave camps were proving themselves wasteful and difficult to manage. Industrial administration was colorless and timid. On March 5, 1953, the Stalinist industrialization drive, the harshest and most dynamic phase of the industrialization of Russia, ended with his death.

Political motive and economic development ran parallel in Khrushchev's era. He wanted to strengthen his party. The large industrial ministries built up in Stalin's time was (25 of such ministries) dismantled by Khrushchev and bureaucrats were shifted to the provinces. The idea behind this act of Khrushchev was to avoid excessive duplication in component manufactures and supply organization, for example, river streamers owned by the ministry sailing back empty in their returned journey instead of carrying loads for factories under ministry B. 105 Territorial Economic Councils (Sovnarkhozy or Sovety Narokhoga Khozyaystvo) were set up designed to cooperate with local authorities in more efficiently attending to the peculiar and the general economic problems of particular regions.

"In November 1957, Khrushchev claimed that heavy industry had reached such levels that more resources could be diverted to light industry. At the 21st Congress of the CPSU in January 1959 he declared that the USSR was moving from Socialism towards full Communism and that the process would be complete when "we shall have provided a complete abundance of everything
needed to satisfy the requirements of all of the people. Communism is impossible without this.”

As was true of the GNP, industry has experienced a declining growth rate since about 1958. Total industrial output grew at an annual rate of about 10.6% between 1950 and 1958; between 1958 and 1961 it grew at an annual rate of about 8.6% and between 1961 and 1964 at an annual rate of 7.3%.

In 1959, Khrushchev introduced a new system of inspection agencies—Party Control Commissions— to keep closer watch on factories and localities and was expanded after three years. In 1962 Sovnarkhozy were consolidated into half their previous number, and new and powerful Central Agencies were created, with responsibility for important areas of the economy: construction, technology and planning. It was a failure and in 1967 reform Sovnarkhozy was abolished. The industrial output was very ‘untidy’ and confusing. It was observed that “metal cutting machine tools and forging and pressing equipment were made in enterprises of 20 ministries, equipment for the food industry in 18, equipment for livestock in 14... The share of many specialized ministries in the production of many items covered 60-80%, but for many products it was much lower: for washing machines only 38%, refrigerators 37%, plastic glass 38%.

Industries that increased the production between 1960-67 were the electric-power industry, petroleum products and natural gas, and civilian machinery, including electronics, considered as individual industry.

13 Pravda. 28 January 1959, p. 9
14 Blackwell. n. 4, p. 150
The causes of decline of industrial production in the early 1960 were, first, the reorganization of industrial administration along regional lines gave way to regional autarky. Confusion was created in the industrial supply system. This resulted in chaos and uncertainty. Second, great deal of investment capital shifted to the military and space program after 1958. Third, during this very period the quality of the labor force was diluted by the coming of the age of the ‘thin’ generation born during the Second World War and proved lower quality laborers. Fourth, the industries of chemicals, oil and gas, and complex machinery were in a period of transition to the introduction of new technologies and the production of more sophisticated products. Many of these new industrial plants were strange to the Soviet scenes, and therefore, Soviet workers with the processes that were demanded. Lastly, old confused bureaucracy, improper incentives and irrational prices whose effects because intensified as the economy grew more and more factors of industrial decline during the period of 1958-65.  

Until 1965 the output targets were geared almost completely to quantity of product, very often in terms of weight as the unit of measures. Firms attempted to produce heavy goods and disregarded needs of consumers adhering strictly to original planned targets. This resulted in the glutting of warehouses with unsaleable materials that were often already obsolete or unwanted by consumer. Soviet government under Khrushchev invested in many previously neglected industries. As it is evident that shifts took place in policies and pressures on

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natural resources, transport and labor. Likewise, many of the shifts in industrial output reflected the imperatives of resource location.

Earlier the exploitation was done close to the markets, such as the Volga-Urals oil fields and then that furthers away i.e., West Siberian Oil fields. Introduction with new technology made an old areas simpler for resource exploitation as it was done in the case of Kursk Magnetic Anomaly (KMA) iron ores, south of Moscow, which lay unattainably deep beneath water logged strata in the days before large scale open cast mining. Their exploitation came after a long-term eastward shift of iron mining, which had almost reached Lake Baikal.

In Brezhnev period, the economic growth was little better. There was increasing labor shortage where labor was most needed. The priority was given to unproductive expenditure on armaments. There was vast distance between the main energy resources and the areas of consumption.

The concept of Territorial Production Complexes (TPC) was adopted in the 1970s, to counter some attendant problems. TPCs are spatial concentrations of economic activity, usually based on energy production and energy-intensive industries but including also ancillary manufacturing and servicing, and industries intended to round out employment opportunities. Thus the complex centered on the Bratsk hydroelectric station includes aluminum smelting, a pulp mill, and factories producing air-conditioning complex costs, focus inter-complex transport, and concentrate population for food access to employment opportunities and cultural, educational and medical facilities.
The Urals remained developed on the favored heavy and defense related industries of the Stalin era. The Volga region steadily expanded its share of national industrial output. Its growth initially followed the opening up of the Volga-Ural oilfield as the "Second Baku." The region acquired many industries in addition to the original petrochemical, notably car and truck building.

Volume of sales became the primary criterion of success, although profitability was given some attention. At any rate gross output indicators as major obligatory targets were discarded. The plant manager's freedom to handle labor questions (hiring and firing) and acquisition of supplies and to make mid-year changes in the production mix was greatly expanded, although the centralized system of supply and assignment of wage funds was retained. A charge on state capital was established. And finally, the regional form of economic administration was abandoned and the branch line ministerial type of control was reestablished.

It was eventually realized that the Soviet economy was far too large and too complex to be handled in such a manner, and in September 1965 the decision was made to embark on a modified form of what has become known as Libermanism. It was a plan devised to eliminate "petty tutelage" from governmental agencies and create an incentive mechanism which would make the benefit to the individual coincide with the benefits to the national economy comprises between the profitability schemes and traditional procedures were made. Volume of sales became the primary criterion of success, although
profitability was given some attention. The plant managers' freedom to handle labor questions and acquisitions supplies and to make mid year changes in the production was greatly expanded. A charge on state capital was established and finally the regional form of economic administration was abandoned and the branch line ministerial type of control was reestablished.

Diversification, changing attitudes to the outside world and the choice of responses to changing natural resource and labor conditions constituted new influences on industrial location. Aleksei Kosygin announced reforms of 1965. They were calculated, realistic and prudently experimental moves to rationalize the existing Soviet industrial system. The main emphasis in the Kosygin reforms was decentralization. It was an attempt to provide more freedom, initiative and incentive at the local level. This meant specifically the industrial enterprise, but also in a more limited way, the collective farm.

The essence of the reforms by Liberman and Nemchinov was to shift control of factory planning, management and income from higher levels of the bureaucratic structure to the individual enterprise. This was done by basing plan performance, not on gross output, but on profits. The enterprise had a stake in its own development, not only through the use of these profits for bonuses and expansion but also by the payment of interest on capital invested in it.

Between 1968 and 1975, “Glavki” renamed as ‘Obyedinenmi’ or Industrial Association was established replacing Sovnarkhozy. This was the intermediate structure of administration. It was organized according to the product types. This period continued with low standard of living, restricted consumption,
diminishing rewards of technologists lack of incentives and lowest per capita income. In 24th CPSU meeting, on 30th March 1971, Brezhnev gave, for the first time priority to consumer goods over heavy industries. GNP growth rate fell to only 3.3% per annum between 1976-80.

From the late 1970s stagnation started to affect this economy as a whole including several key industries, like steel, coal and petroleum etc. Due to this appeal to science and technology started. An attempt to overhaul the economic management system was made taking environmental stress into consideration.

A new phase “The scientific Technical Revolution” in Brezhnev’s time took place. The impetus was given to refurbishing of the industrial plants since much Soviet.

Table 9: Soviet Economic Performances 1966-1984 (Average annual rates of growth in percentage)

<table>
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<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GNP (total)</td>
<td>5.3</td>
<td>3.7</td>
<td>2.6</td>
<td>0.2</td>
<td>1.7</td>
<td>2.1</td>
<td>2.6</td>
<td>3.0</td>
</tr>
<tr>
<td>Consumption</td>
<td>5.3</td>
<td>3.6</td>
<td>2.7</td>
<td>2.9</td>
<td>3.0</td>
<td>2.1</td>
<td>0.8</td>
<td>2.6</td>
</tr>
<tr>
<td>Investment</td>
<td>6.0</td>
<td>5.4</td>
<td>4.0</td>
<td>0.3</td>
<td>3.1</td>
<td>4.0</td>
<td>3.4</td>
<td>4.2</td>
</tr>
<tr>
<td>Industry</td>
<td>6.4</td>
<td>5.9</td>
<td>3.2</td>
<td>1.9</td>
<td>2.1</td>
<td>2.4</td>
<td>2.7</td>
<td>3.5</td>
</tr>
</tbody>
</table>


Industrial plant was outdated and poorly maintained. Investment was increased on retooling, modernizing, upgrading and renewing the enterprises. Other problems like cities with emerging water pollution resulted from the inadequate sewage facilities, were noticed.

Atmospheric pollution due to automobile, factories, was observed, but was not taken up seriously. Anti pollution legislation in the Soviet Union was fragmentary and toothless. Although the 10th 5-year plan of 1976-80, for the first
time, accorded high priority to environmental protection, little was done in the early 1980s to correct. What was taking shape as a disastrous disruption of the natural and human environment in large areas of the USSR. Although Soviet Industrial production had slowed in each successive five-year plan since 1950, the sharp drop in growth rates that occurred after 1975 was unprecedented and unexpected.17

Although the industrial slowdown can be attributed to many factors, its timing and severity stem largely from two related causes: one, the economy's unfavorable response to a decision to cut growth targets and the rate of investment sharply and two, widespread shortages of raw materials and energy, along with transportation bottlenecks, which were the legacy of past mistakes in investment allocations.

The cutback in growth targets, launched with vigor in 1976, was part of a radical new growth strategy designed to achieve a breakthrough in solving the economy's chronic problems of inefficiency in the use of resources and the production of poor quality products. The idea was to give the economy a breathing spell, so that managers could concentrate on the qualitative aspects of performance rather than on the traditional quantitative aspects, and could prepare for the inevitable labor crunch in the 1980s. But the new strategy failed badly. It caused large increase in the backlog of unfinished construction, shortages of construction materials and labor, growing imbalances and decrease

in the utilization rate of existing capacities. Reduced work effort, widespread alcoholism, rampant corruption, and a burgeoning underground economy was inherited by Gorbachev in March 1985.

Gorbachev's reform at first only followed long established tradition of the Stalinist: the factories, managers, and workers of the Soviet industry were to be subjected to exhortations exposures, inspections and discipline in the effort to increase production. There were to be radical new directions, as there would be in Gorbachev's later reform efforts, in terms of privatization, marketization, debureaucratization or improvements in the standard of living of Soviet industry workers, beyond some token gestures. Finally, like others he could not resist embracing the panacea of large-scale administrative reorganization.

The reforms of Gorbachev, known collectively as "Perestroika," "Glasnost," and "Intensifikatsia (Intensification or an upsurge in efficiency) appeared in the realm of industrial reform in 1985 with a rather conservative approach. As a policy, glasnost (openness) in the beginning was far more limited in its implementation than it become as a growing movement for freedom of expression embracing the media and the art.

Among the policies, he has introduced, one of them was the effort to exploit "the human factor." It is seen that due to this there will be enhancement in the economic performance by inducing the labor force to work at rates closer

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to its potential. One of the strategies is 'discipline' measure, which was introduced in terms of anti-drunkenness, anti-alcohol campaign etc.\(^{19}\)

Due to the coverage of pollution and disasters in the media citizen protested frequently, anti-pollution drive. The 1980s, therefore, witnessed a tightening of legislation and an attempt and control pollution by levying penalties on offending enterprises. Under Gorbachev, the shock of the nuclear catastrophe at Chernobyl helped stimulate an environmental movement and some enterprises were closed in consequences. Gorbachev’s drive for increased labor productivity was small family enterprises were allowed to emerge, mainly in the service industries which the state had never operated efficiently.

Another important step was shift in the investment resources to Machine Building and Metalworking (MBMW). In June 1985, he called for a 'partial redistribution' of investment to MBMW, which accounted for 14% of the total industrial investment in 1984-85. The investment was done for the intention of rapid expansion of outputs of state-of-the-art technologies not the expansion of the output of the existing production lines. Accelerated replacement of current capital stock to modernize Soviet industry, was another important step taken by Gorbachev. It was decided to retire one-third of the obsolete equipment and machinery during 1985-90. He had the desire to enhance central control and to enhance initiative and responsibility at lower level.

More radical measures followed from 1987. By this stage the Gorbachev leadership had evidently come to the conclusion that the economy could not be expected significantly to improve its performance within the parameters of the existing, centrally planned system. Therefore, it opted for decentralization and the marketization was taking place. Consequently, ministries were expected to confine their activities to long term... this granted greater autonomy and financial responsibility to industrial enterprises.

Table 10: Production of Energy Sources:

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<tbody>
<tr>
<td>Oil +</td>
<td>546.7</td>
<td>542.3</td>
<td>569.3</td>
<td>568.8</td>
<td>554.9</td>
<td>576.2</td>
<td>461.1</td>
<td>395.8</td>
</tr>
<tr>
<td>Coal</td>
<td>391.4</td>
<td>395.2</td>
<td>414.7</td>
<td>425.5</td>
<td>410</td>
<td>395.3</td>
<td>353.3</td>
<td>337.2</td>
</tr>
<tr>
<td>Gas@</td>
<td>5.8</td>
<td>6.5</td>
<td>0.6</td>
<td>11.2</td>
<td>10.6</td>
<td>10.2</td>
<td>10.5</td>
<td>9.5</td>
</tr>
<tr>
<td>Gas*</td>
<td>254</td>
<td>462</td>
<td>544.3</td>
<td>489.8</td>
<td>615.8</td>
<td>640.6</td>
<td>642.9</td>
<td>640.9</td>
</tr>
</tbody>
</table>

+ million metric tons; = million metric tons of gross mine output; @ Gas condensate in million tons; * billion cubic meters.

The reforms of 1987-89 did not reconstruct Soviet industry and agriculture; only a timid beginning was made in the transformation from command economy into a market economy, although the Law on Cooperatives was producing results for a substantial sector of the consumer goods and services industries. Beginning in late 1989, soon after this reform, came on economic breakdown of severe proportions. This, in turn, contributed to a growing political crisis, which was culminated in the abortive coup d'etat of September 1991, the subsequent break up of the Soviet Union and the fall of Gorbachev.
Gorbachev's economic reforms failed to produce the expected result. An initial recovery over the period 1983 to 1986 (possible the result of the discipline campaign persuade after Brezhnev's death) was followed by economic downturn and raising inflation.

Collapse of Soviet Union in 1991 was disastrous for its economy, which adversely affected the industrial production. Output was declined, industrial workers were reduced in workweeks, hundreds of thousands were irregularly paid or unemployed. Considering all these factors Yeltsin initiated restructuring in the Russian economy.

The economic crisis essentially was a financial and monetary, although there were breakdowns of lesser dimensions in many other sectors of the Soviet economy. Desire for economic self-sufficiency promoted the development of mineral resources in remote areas, by use of forced labor and a disregard for the economic, social and environmental costs of industrialization. After the disintegration the former Soviet Union plunged into crisis. It is more, by the national policies towards the resource industries than by the absence of any effective northern development policy, which affected the regions.20

Yeltsin's commitment was to radical economic reforms at a time when 'radical' in Russia had come to refer to the substantial privatization of industry, particularly much of heavy and war industry, and a relatively quick transition to a market economy. He seemed more interested in the creation of a Russian capitalism. This radical economic reform tried to build on the significant

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precedents of the dynamic Russian industrial and commercial capitalism of the late tsarist period, as well as the age old Russian cooperative tradition reflected in the recent proliferation of cooperative venture. On the eve of collapse of the Soviet Union, Ukraine was the largest producer of iron ore, roughly 130 million tons annually, most of it is produced is Krivoy Rog deposit. Russia ranked second in iron ore deposit.

Table 11: Industry: Volume Indices of Industrial Production (In Percentage): (1990 = 100)

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<tbody>
<tr>
<td>Russian Federation</td>
<td>92</td>
<td>75</td>
<td>65</td>
<td>51</td>
<td>50</td>
<td>48</td>
</tr>
<tr>
<td>Northern Region</td>
<td>95</td>
<td>85</td>
<td>76</td>
<td>63</td>
<td>61</td>
<td>56</td>
</tr>
<tr>
<td>North Western Region</td>
<td>100.4</td>
<td>84</td>
<td>75</td>
<td>50</td>
<td>43</td>
<td>35</td>
</tr>
<tr>
<td>Central Region</td>
<td>97</td>
<td>75</td>
<td>66</td>
<td>48</td>
<td>42</td>
<td>30</td>
</tr>
<tr>
<td>Volga-Vyatka Region</td>
<td>99</td>
<td>87</td>
<td>82</td>
<td>55</td>
<td>48</td>
<td>39</td>
</tr>
<tr>
<td>Central Chernozem Region</td>
<td>97</td>
<td>85</td>
<td>77</td>
<td>58</td>
<td>57</td>
<td>48</td>
</tr>
<tr>
<td>Povolzhie Region</td>
<td>97</td>
<td>85</td>
<td>78</td>
<td>59</td>
<td>54</td>
<td>48</td>
</tr>
<tr>
<td>North Caucasus Region</td>
<td>97</td>
<td>78</td>
<td>66</td>
<td>46</td>
<td>41</td>
<td>31</td>
</tr>
<tr>
<td>Ural Region</td>
<td>98</td>
<td>81</td>
<td>70</td>
<td>54</td>
<td>50</td>
<td>44</td>
</tr>
<tr>
<td>West Siberian Region</td>
<td>96</td>
<td>81</td>
<td>72</td>
<td>60</td>
<td>56</td>
<td>51</td>
</tr>
<tr>
<td>East Siberian Region</td>
<td>96</td>
<td>83</td>
<td>73</td>
<td>61</td>
<td>57</td>
<td>50</td>
</tr>
<tr>
<td>Far East Region</td>
<td>97</td>
<td>83</td>
<td>72</td>
<td>55</td>
<td>46</td>
<td>40</td>
</tr>
</tbody>
</table>


The long term aim of the Yeltsin reform concerned the privatization of Russian industry, a process contemplated to extend in 1993-94 to all small industry and trade, much of which already was privatized. The privatization of
middle and large industrial enterprise was to be accompanied in the turn of this century.

Spatial Distribution of Economic Activities Region wise:

Dividing the country in different homogenous regions is necessary for the management, planning and development. Russia is no exception. The formation of region is a dynamic and continuous process. Different scholars, according to their priorities and nature of study have made numerous attempts based on several factors. The work on regionalization of Russia was carried out in 1880 by P.P.Semenov-Tyan-Shanskiy. It was an economic regionalization that took account of physical differences within the country. He divided the whole country in the 19 economic regions.

One of the widely accepted economic regions was by Paul Lydolph, a geographer. In devising the regionalisation scheme, three things have been taken into consideration:

a) There are reasonably well defined zones of agricultural production which are closely related to the natural environment

b) There are recognizable industrial nodal areas, which lie within and transgress the boundaries of the agricultural regions

c) There are traditional areas whose names have a real but unclearly defined significance in the minds of the Soviet people.

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He divided the region as follows:

- The Central Industrial Region
- The Central Black Earth region
- Povolzhye and the Lower Don
- The European West
- The European North
- The Urals
- Western Siberia, Eastern Siberia and the Far East

The Central Industrial Region:

This region emerged as an area of relatively dense population in the 13th century and Russia started expanding further keeping this region as center. Located in the forests zone among the head waters of Volga River System, the Central Industrial Region served as a major center as far as the water routes and defense from the Tatars were concerned. During the 17th and 18th century this area provided the basis for the beginning of the industrialization in the form of home industry. The population here provided labor and market. Hence, it emerged as a very important industrial center. This region constitute most of Moscow, Yaroslavl, Ivanovo and Ryazan oblasts and parts of the surrounding oblasts of Kalinin, Kostroma, Gorky, Tula and Kaluga.

The basis of the development of the first iron industry was the iron ore deposit in the south of Tula. The reserves here support other iron and steel industries, which developed later in Tula and Lipetsk. Industries began with the textile production in Moscow and surrounding areas. Ivanovo was another most important center of textile industry. With the development of the iron and steel industry in Tula, Urals and eastern Ukraine, machine building also developed.
Moscow became the primary center for this industry. Kolomna started manufacturing railroad locomotives, Kalinin is famous for railroad rolling stock. Gorky became the chief center of the ship building, automobile, air craft manufacturing and the automobile industry. South West of Gorky, city of Dzerzhinsk has concentration of chemical industries. Yaroslavl produces synthetic rubber and tyres. Tula produces heavy metallurgy.

Rapid development of natural gas and by products of oil refining, as a fuel, piped from the south and east, speeded the development of heavy industries in this region. Moreover, oil refineries in Moscow, Yaroslavl and Ryazan further enhanced the economy of the CIR. Rybinsk city developed ship building and wood working.

As it is known that this area was developed due to dense population and transportation provided by Volga River. Otherwise raw materials are lacking except few reserves which are important ingredients of heavy industries. Urban development took place between Volga River and its tributary, the Oka. This region depends on large imports of raw materials and foodstuffs from other parts of the country. Cotton and wool comes from the south east, grain, meat, butter and milk from the east, timber and fish from the Baltic republics, and sugar, coal, steel from the south.

The Central Black Earth Region:

This region comprises of Orel, Kursk, Lipetsk, Belgorod, Voronezh, Tambov, Tula and Penza Oblast of Russia, south of the central industrial region. The Oka River in the northeast and Don River in the south drains this region.
During 18\textsuperscript{th} and 19\textsuperscript{th} century it was one of the most agriculturally productive areas in the country. Wheat, grains, barley, oats were the major crops. The development of local mineral resources had been limited to small deposits of iron ore in the Tula and Lipetsk areas.

There was a small iron industry in the beginning of the 20\textsuperscript{th} century. Another development was the utilization of the Belgorod chalk, a thick limestone in Belgorod oblast, which provided the basis for an important cement industry. Lipetsk has half heavy metallurgy industries and half machine building. Chemical and building material industries are also important here. Its caterpillar tractor plant is outstanding.

After the large body of iron rich quartzite lying mainly in Belgorod and Kursk Magnetic Anomaly (KMA) in Kursk oblast, the scenario of the industrial development in this region has drastically changed. The KMA reserves were estimated approximately 50 billion tons. As it is lying at the depth of more than 500 meters extraction is easier.

The iron mining was started as well as the iron and steel industry in Tula and Lipetsk were expanded. The Novolipetsk plant was served as the largest single plant in the country, in size in 1950s and 1960s. Slowly other iron and steel plants were opened. The ore is shipped through rail to Donbass plants and coal brought from here to the Tula and Lipetsk steel plants. New transportation system developed. The development factors in this region are the intermediate location on the dense network of the railroads, large rural population for labor.\textsuperscript{23}

\textsuperscript{23} Lydolph, n. 21, p. 62.
Fuel is been supplied through the gas fields of the North Caucasus and eastern Ukraine region to CIR region. Here also it act as intermediate role between main producer and main consumer and has the benefit of getting fuel. This region tap these gas and oil lines to fuel new thermal electric stations and to provide for the conversion of synthetic rubber and products of other chemical industries from their original vegetable bases.

Voronezh has machine building, machine tools, chemicals, synthetic rubber and automobile industry. Half of the industries in Penza are concerned with the production of machines, i.e., equipment for ship building, extraction and refining of petroleum, chemical equipment, compressors etc. Kursk has machine building, chemicals and food industry. Belgorod has two third of its industries of building construction materials derived from the chalk escarpment in the vicinity. It was one of the main cement producing centers in the former Soviet Union.

The Povolzhye and the Lower Don:

This region stretches from the city of Gorky in the east and then south to the mouth of the Volga River on the Caspian Sea. Povolzhye means 'along the Volga.' It comprises of Gorky, Kirov, Mari, Chuvash, Tatar, Ulyanovsk, Kuybyshhev, Saratov, Volgograd, Astrakhan, Kalmyk and Rostov.

Earlier, in the starting of the 20th century, the factories were engaged in processing local agricultural product; flour milling, distilling, soap making, tanning and leather working. Other industries were ship building, cement and timber. By 1937, Volga still had no power supply of its own. The oil bearing
Volga-Ural region was discovered but exploitation was not started properly. Metal using industries were established in the late 1930s. Since 1940 this region has been one of the most rapidly developing regions in the country with factors like urbanization, growth of industrial production and trade.

Due to oil and gas deposits and hydroelectric development this region has become very important. River Volga is playing a vital role for transportation. The Volga-Urals oil fields were producing more than 65% of the country's petroleum since 1956 for nearly next 25-30 years. Kuybyshev, Nizhnekomsk and Syzran have become important centers for oil refining. A major gas deposit near Saratov was developed during the second world war. Several pipelines were laid for the fulfillment of the fuel to other industrial regions e.g., to carry gas to Gorky, Ivanovo, Cherepovets etc. Due to this variety of chemical industries developed here, particularly producing synthetic rubber, artificial fibres, fertilisers and alcohol. Chemical fiber plant was installed in Volzhskiy and nitrate fertilizer plant at Togliatti. Deposits of phosphorites and limestone played an important in fertilizer industries of this region.

Kuybyshev was one of the chief refining centers of this region. It has machine building, oil refining and food processing industries. Kazan has oil refining, tanning, shoe making, machine building and chemical industries. In the late 19th century Volgograd became an important transshipping point between rail and water for oil, lumber, coal and fish. Later it also developed heavy metallurgy, machine building, chemicals and food industries. The caterpillar tractor and the Red October metallurgical works were famous. Other industrial
centers are Saratov, Kirov, Syzran, Astrakhan. Heavy machine building, fertilizers, food industries and chemical industries were developed in these cities. Reasons of the development of this region were locational advantages of accessibility to the national market, established infrastructure, comparatively low construction costs, less severe climate and higher productivity indices.

**The European West:**

It includes Bryansk, Kaluga, Smolensk, Kalinin, Novgorod, Pskov, Leningrad and Kaliningrad Oblast of the Russia. Mineral resources were limited to the bauxite deposits in Leningrad oblast, hence it did not support many diversified industries here. Industries like handicrafts on small scale were the common feature in the past. But the trend has changed rapidly. The Soviets began to locate relatively heavy machine industry and chemical industry in the area and to establish major power bases to supply electricity and fuels to these industries, oil refineries were built in Leningrad.

With the influx of natural gas, oil the chemical industry expanded in this region. In Novgorod a chemical complex was set up in 1967 with the supply of natural gas from the Moscow and Leningrad area. Most of the chemical industry produces mineral fertilizers. Super phosphate and potash plants have been established in number of cities, here, utilizing the local raw materials. One important thing has to be taken into consideration. In 1967, the old super phosphate plant in Riga, established in 1892, was closed down because of
rowing air pollution\textsuperscript{24} the first case with growing concern of air pollution. The machine building industry was important in this region.

Leningrad produced the first Soviet tractors in 1924 and synthetic rubber in 1930s. It has machine building plants, chemical industries, textiles, food processing and printing. All raw materials for the industry of Leningrad is brought from different parts of the country. Ship building was another important industry here. Kaliningrad has heavy transport equipment industry.

**European North:**

This region comprises of Karelian and Komi ASSR, Murmansk, Archangel, Vologda, Kirov and Kostroma oblasts.

The greatest known deposits of appetite in the world were found in the Kirovsk in the Khibiny Mountains in the Central Murmansk oblast. It served as the basis for the phosphate fertilizer industry in the former USSR and nepthalite for the production of aluminum at Kandelaksha, Nadvoitsy, and Volkov. Across lake Imandra and Penchenga important ores of nickel and copper lies. Iron concentrate is shipped from Olenegorsk and Kovdor to Cherepovets at the northern end of the Rybinsk reservoir for conversion into steel utilizing coal from Vorkuta. The coal mined in Vorkuta is used at Cherepovets to produce the steel for the Leningrad area and as fuel in the various cities of the European North.

\textsuperscript{24} Lydolph, n. 21, p. 135.
Murmansk has ship building and ship repair yards. Archangel oblast was the biggest producer of commercial lumber in the Soviet Union and the city of the Archangel was the most important lumber port of this region. Cherepovets has iron and steel plant, ammonia synthesis processes for the production of ammonium sulphate fertilizer from coke oven gases and a nitrogenous fertilizer industry that recently expanded to utilize natural gas from the Vaktyl field, east of Ukhta.

The Urals:

Perm, Sverdlovsk, Chelyabinsk, Orenburg oblasts and Udmurt, Bashkir, Krasnodar Kray, Stavropol Kray, Chechan Ingush Assr, Dagestan ASSR comprises together for the Ural Region. This area has rich mineral resources of great variety. Iron mining and smelting was one of the traditional industries here. During the reign of Peter the Great iron was smelted by charcoal furnaces utilizing local forest resources.

After 50 years it became the primary base for metallurgical industries in the Russian Empire and by the end of the second half of the 18th century it became one of the leading metallurgical areas in the world. Later on its importance was declined by the emerging iron and steel industry in Krivoy Rog. After 1930s the beginning of the construction of the Urals-Kuznetsk Combine based on the newly opened rich iron ore deposit at Magnitnaya and the large coking coal reserves of the Kuznetsk Basin in the Western Siberia.

By the advent of huge reserves of low grade iron ore in 1950s, this
industry developed rapidly. Areas like Kachkanar, north west of Nizhni Tagil and in the Orsk-Khalilovo district in the south along the Kazakh border, has promising reserves which helped in expanding iron industry in Urals. Other raw materials are also found in abundance e.g., manganese, nickel, tungsten and chrome. In 1964 nickel smelting began in Svetlyey and nickel cobalt smelter in Orenburg oblast. In the northern part of the Urals, the north Peschankamine began in 1968 to supply the Serov iron and steel industry with 45% magnetite extracted from the deepest iron mines in the Urals, which have shafts extending down to 800 meters. Urals is lacking in coal and it is shipped from other regions to cater industries e.g., from the Kuznetsk, Karaganda areas. Fuel problems in the Urals is solved by oil and gas, which lie in some abundance on either scope of the Urals and which can be piped in from the gas field of Uzbekistan in Middle Asia.

In the Urals region oil fields are concentrated particularly in the Ufa Plateau in the Bakshir Republic, to the west and south of the Capital city of Ufa. The Ishimbay fields lie south of Ufa and the Tuymazy fields lie to the west of it. Oil pipelines have been constructed and Ufa is a major oil refining center. Other oil refining area is Salavat. The Bashkir republic, to west and south of Ufa and the Tuymazy fields lie to the west of it. Oil pipelines have been constructed and Ufa is a major oil refining center. Other oil refining areas are Ishimbay and Salavat.

The Bashkir Republic is the second most important producer of the oil in the Soviet Union after the Tatar Republic to the west. Abundant oil and gas
supply enhanced the generation of electricity power in the Urals. Considering all these factors Urals has become one of the major and important industrial complex with diversified industries. Sverdlovsk city has concentration of a variety of machine building industries, particularly the electric machine industries and equipment for mining and metallurgy. Other important industries are chemical and wood working Chelyabinsk has machine-building, iron and steel industry and non ferrous metallurgy along with chemical and zinc smelting works. Perm has metallurgy, oil refinery, chemicals and machine building industries. Magnitogorsk has metallurgical plants, steel smelting industries, machine building. In fact Magnitogorsk is said to have the largest Metallurgical plant Combine. Major determinants of the location of the industry are the size and quality of iron ore deposits and coking coal, presence of skilled labor force.

**Western, Eastern Siberia and Far East:**

Siberia served as a land where, criminals, recalcitrance, potential, and real revolutionaries, many other falsely accused people were sent by the Tsars. Between 1880 and 1914; 4.3 million free migrants arrived in Siberia, out numbering exiles four times. Later the huge potential resources were realized.

The fall in the growth in the extraction of fuel and raw materials in the European west region made the Soviet authority to look forward and develop this land.

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It comprises of Kurgan, Tyumen, Omsk, Novosibirsk, Tomsk, Kemerovo, Irkutsk, Chita, Amur, Magadan, Kamchatka and Sakhalin oblasts. Krasnoyarsk, Khabarovsky, Maritime krais. Western Siberia is richly endowed with mineral resources in terms of coal, oil, gas, ferrous and non ferrous metals. The coming up of the Trans Siberian railroad in the 1890s connected the elongated string of settlements with the more populous west, and initiated urbanization. Whenever, the railroad crossed a major river a new town was established to handle the commerce. Flour milling, textiles and lumbering soon developed in the new towns. Later metallurgical industries became predominant as mining developed in the Kuznetsk basin.

Transportation developed with several parallel lines constructed parallel to Trans – Siberia. Oil and gas was piped here from Bashkir republics west of the Urals new refineries and chemical industries came into existence. The main industries of the area are the metallurgical industries based on local mining, machine building to serve local agriculture, and the railroad.

The most important mineral in Siberia and the Far east is coal. Some 70% of the total coal reserves of the Soviet Union lie in this area. About 2/3 of the coal produced in eastern Siberia comes from the Cheremkhovo deposit near Irkutsk. Other important coal producing basins in eastern Siberia are the Kansk-Achinsk, the Minusinsk and those in the Buryat ASSR. In the Far East, important producing coal fields are the Bureya coal field, situated in the upper reaches of the Bureya river 300 kilometers north of the Trans Siberian railroad and scattered coal fields in Maritime kray and Sakhalin Island.
The predominant reason of West Siberian growth is Tyumen oblast's emergence as a major oil and gas producer. It recorded the highest per capita industrial output level of any oblast level unit in the country in 1985-6231 rubles (or 2.24% of the USSR average)- and accounted for almost one third of West Siberia's industrial output.26

The oil fields of northern Sakhalin have been supplying about 1% of the Soviet Union's oil for the last 70-75 years, and it appears that they will continue to do so. At present there are only two small steel plants east of Lake Baikal. These are located at Petrovsk, just east of the lake and at Komsomolsk on the lower Amur River. Both of the steel plants depend on imported pig iron from the west, built is hoped that eventually full cycle plants can be established here utilizing iron ore deposits in eastern Siberia and the Far East.

Novosibirsk is a chief town having heavy metallurgical industries, chemical, and food industries. Omsk has machine construction and metal working, chemicals, food industries. It has an oil refining and chemical center of Siberia, utilizing oil brought in by five pipelines from the Volga-Urals oil fields, and one pipeline from the Surgut oil fields in western Siberia. Tyumen is the oldest city of Siberia, founded in 1585, now is very important. Its industries are concentrated on machine building, wood working and chemicals. Krasnoyarsk has variety of industries chief among them are machine building, metal working, lumbering, wood working, paper milling, textiles and food. Khabarovsk, and

Irkutsk also has the variety of heavy industries and others mentioned above. Other industrial cities are Vladivostok, Komsomolsk, Ulan-Ude and Chita.

During Gorbachev’s period East was looked as a source of fuels for the European part of the country. New major projects were started. Continued growth of West Siberian oil and production remains the most important development emphasis of the 12th five-year plan for this region.27

Presently, defense plants are converted into civilian production. Submarine yards in Komsomol’sk retooled to produce fishing trawlers and yachts for Japanese customers. Privatization drive is active and the ex-communist officials are getting benefit of it, for commercial opportunities.28 Kuznetsk Basin (KUZBAS) region and Zheleznogorsk further east near Lake Baikal, are the two major Siberian iron mining regions. Together their output was around 18 million tons in 1995.29

Russia in the present context:

Industrial output declined steeply and the sector lost employment by less than the decline in its output but by more than other sectors: the de-industrialization complained by Russian traditionalists looks real enough even when allowance is made for the decline of the economy as a whole. In short the mix of the economy through the movement of labor between sectors, albeit in a situation where recorded employment and production in total were declined

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27 Ibid., p. 495.
Coking reserves are abundant in Russia. Ferrous metallurgy in the post Soviet scene is secure with respect to adequate domestic supplies of essential iron ore and coking coal reserves in Russia.

Ferrous metallurgy is an integral part of the post Soviet industrial scene, but the output is much lower than the previous years. The concentration of plants around Moscow in the Central European Russia region reflects market orientation, since the bulk of the raw materials are imported from the other regions. The main center of iron and steel production are Tula and Lipetsk, while fabricating plants are found in most major centers in the region. St. Petersburg boasts a fair complement of steel fabrication plants.

Most of the steel comes from the Cherepovets mills which were built in the mid 1950s to supply the St. Petersburg and Baltic region. Located adjacent to the Rybinsk reservoir, Cherepovets is one of the country’s largest plants. It relies on iron ore from deposits in Karelia and the Kola peninsula, and coking coal from the Pechora region in the European North.

The iron and steel plants in the Ural region are now dependent upon both imported coking coal and iron ore. The iron and steel complex in the Kuzbass possesses some of Russia’s largest mills. Both the integrated iron and steel plant and the steel mill in Novokuznetsk rank amongst the world’s largest. Smaller iron and steel mills have been in operation for many years at Petrovsk-Zabaykalskiy near Lake Baikal and at Komsomolosk – na – Amure in the Far East. They convert local scrap and imported pig iron into steel. Much of the

Industries in Central Industrial region and St. Petersburg, is market oriented and relatively labor intensive. Still they are very important regions. These two regions have a disproportionate share of Russia's consumer goods industries. Industrial development in the Urals was given a fillip with the emergence of the Urals-Kuznetsk Combine in the 1930s.

The regions have shown substantial industrial development in last eighty years of economic development. Industries played an important role in Soviet economy. The shift from military productions to the consumer industrial production can be seen. Major part of the development was energy, metallurgical, chemicals and iron and steel industries.