

## RUSSIA'S INDUSTRY IN THE POST-REFORM PERIOD OF THE SECOND HALF OF THE 19th CENTURY.

**Aisha Begaliyeva**

*Independent researcher*

*History Faculty of NUUZ*

*Tashkent, Uzbekistan*

**Abstract.** This article examines the development of Russian industry in the post-reform period of the second half of the 19th century. It considers the main forms of production organization and shows the evolution of industrial relations, which was accompanied by a reduction in manual labor and a growth in the number of factories and plants. Particular attention is paid to the interrelationship between various forms of industry and their role in the country's economic modernization. The paper analyzes structural and quantitative changes in industry, including the dynamics of production, employment, and capital concentration. It also explores the significance of key sectors, as well as the influence of foreign capital on the industrialization process.

**Keywords:** post-reform period, Russian industry, industrialization, factory system, mechanization, concentration of production, industrial sectors, foreign capital.

In the post-reform period of Russia's economic development, the industrial sector operated in various organizational forms, the significance and balance of which transformed substantially as a new mode of production took shape. In remote and economically underdeveloped regions, so-called domestic industry persisted as an archaic form of economic activity.

The formation of relatively large workshops on the basis of small-scale commodity production reflected the transition to a higher level of industrial organization. Dispersed, fragmented production gradually evolved into simple cooperation.

As they evolved, these enlarged workshops introduced elements of the division of labor, leading to the transformation of cooperative work into a manufacturing model. Despite the continued predominance of manual labor, manufacturing operated within an expanded market, with significant capital investment and a larger workforce, which brought it closer to the subsequent stage of large-scale machine industry.

Manufacturing became widespread in key sectors of Russian industry, including textiles, woodworking, and the processing of animal products, mineral resources, and metals.

All these forms of industry were closely interconnected. The development of Russia's industrial sector can be divided into three basic stages: small-scale commodity production, manufactory, and factory-based (large-scale machine) industry. Their fundamental differences were determined, first and foremost, by the level of technical equipment used in production.

Small-scale production and manufactories were characterized by a predominance of manual labor. Although the division of labor in manufactories contributed to some improvement in

production processes, radical changes occurred only with the establishment of the factory system, which was based on machine technology.

The post-reform period saw a quantitative growth in the number of factories and plants. The development of large-scale machine industry was an objective necessity for the country's economic modernization.

After 1861, Russia entered a new stage of industrial development, characterized by significant structural transformations. In the latter half of the 19th century, a substantial increase in production volumes was observed across all sectors. Manufactories were gradually transformed into factories, the adoption of machinery accelerated, and large-scale industry promoted the concentration of the workforce, drawing previously dispersed cottage producers into the factory system.

With the spread of machinery, there was a steady decline in the proportion of manual labor in industry. The dynamics in mechanical weaving were particularly revealing: while in 1866 there were 13.221 mechanical looms operating at 35 enterprises, by 1879 their number had risen to 50.296 at 89 factories [1].

The development of machine production led to the displacement of small, non-factory forms of enterprise that were unable to withstand competitive pressure. Cottage industry, having lost its economic stability, gradually fell into decline. Settlements that had previously served as centers of the manufactory system (with its putting-out offices) were transformed into hubs of large-scale industry, concentrating large masses of former artisans and turning them into hired factory workers.

According to data from M. Tugan-Baranovsky, in 1866 there were only 42 mechanized cotton-weaving mills in Russia, whereas by 1876 their number had increased to 92. The number of people employed in cotton enterprises in European Russia also demonstrates significant structural shifts: in 1866, about 94.5 thousand people worked in factories and 66 thousand in domestic production; by 1879, the respective figures were 163 thousand and 50 thousand, and by 1894–1895, they had reached 242 thousand and 20 thousand, respectively [2].

It should be noted that statistical records often combined factory enterprises with extremely small artisan workshops employing one or two people, where production volumes remained insignificant. This practice complicates the interpretation of quantitative indicators.

The development of machine-based industry was accompanied by a deepening separation of industrial production from agriculture. This distinction was not fully realized within the manufactory system; only the establishment of a factory system based on machine technology led to the definitive separation of workers from the agrarian sphere, contributing to the formation of a distinct class of industrial laborers.

In the post-reform period, the mechanization of industry was accompanied by an intensification of production concentration, changes in its territorial structure, and a significant increase in output volumes. However, the pace of development remained uneven, both over time and across different sectors.

For instance, between 1887 and 1900, the total number of industrial enterprises in Russia increased from 30.888 to 38.141. The value of industrial output grew from 1334,5 million

rubles to 3005,9 million rubles, and the number of employed workers rose from 1318,0 thousand to 2373,4 thousand people [3].

At the same time, the output of the small-scale commodity sector grew at a significantly slower pace. Within industry, the branches focused on producing the means of production demonstrated the greatest momentum, which indicates the formation of an industrial base.

The pace of industrialization in Russia during the period under review surpassed that of leading European countries - England, France, and Germany. Specifically, from 1860 to 1900, the volume of industrial production in Russia increased more than sevenfold, whereas in Germany it increased nearly fivefold, in France approximately 2,5 times, and in England slightly more than twofold. However, despite such high growth rates, the absolute scale of Russian industry remained relatively small, resulting in low per capita production figures.

Parallel to the increase in output volumes, the processes of industrial concentration intensified: the number of large enterprises grew, the use of steam engines expanded, and the average number of workers per enterprise increased, among other developments.

Overall, as a result of the significant industrial upswing in the first three decades following the reforms, the country's volume of industrial production increased approximately sevenfold [4].

The textile industry held a key position in Russia's economic development, particularly in the formation of the domestic market. The evolution of production relations in the cotton industry was accompanied by the transformation of manufactories into factories and the widespread adoption of machinery. For instance, while there were about 11.000 mechanical looms operating in the industry in the 1860s, by 1890 their number had reached 87.000 [5]. At the same time, the development of the textile industry, including its cotton segment, in the post-reform period was characterized by alternating phases of growth and recession.

The metallurgical industry also played a significant role in the country's economy. During the first decade after the reform, it experienced serious difficulties, largely due to the industry's previous reliance on serf labor. Following the abolition of serfdom, a significant portion of workers left the plants and returned to agricultural activities, which had a negative impact on production figures.

The level of pig iron smelting achieved in 1860 was not restored until 1870. In the pre-reform period and in the first years after the reform, the Urals remained the leading metallurgical region, but its position subsequently weakened due to the accelerated development of the southern industrial regions.

The Southern metallurgical center actively attracted foreign capital, especially in the 1890s, which spurred its rapid growth. By the early 20th century, it accounted for over half of the country's total metallurgical output. Iron ore extraction in the region also grew substantially: while in 1870 its share was only 2,8% of the national total, by 1890 it had reached 21,6%, by 1895 35,2%, and by 1900 57,2%.

In the ferrous metallurgy industry, labor productivity was largely dependent on the degree of production concentration. The post-reform period saw an enlargement of production units (blast furnaces and open-hearth equipment), as well as an increase in labor intensity. This contributed to higher productivity, although this process was uneven. Nevertheless, the growth

rates of both production and labor productivity in Russia's ferrous metallurgy industry remained insufficient to overcome the gap with the most developed industrial countries.

The development of railway construction and metallurgy after the 1861 reform spurred the accelerated growth of the coal industry, primarily in the Donetsk Basin. Its share in the country's total coal production structure increased significantly, while the importance of other coal-mining regions declined.

During the 1870s, coal production volumes increased more than fourfold; this rapid growth continued during the industrial boom of the 1890s. The expansion of steam transport, the rise of machine-based industry, and urbanization fueled a steady increase in demand for mineral fuels.

In the 1890s, the influx of foreign capital into the coal industry intensified, and by the early 20th century, it accounted for over half of all investment in the sector. The bulk of foreign investment was concentrated in the Donetsk Basin.

The dynamics of labor productivity in the coal industry were uneven, both over time and across individual basins. The territorial structure of coal mining also underwent significant changes: while in 1864 the Dąbrowa Basin accounted for 56.3% of all Russian coal production, the Donetsk Basin for 28.5%, the Urals for 4.7%, and the Moscow Basin for 7.1%, by 1894 these proportions had shifted to 38.3%, 55.3%, 3.2%, and 2.2% respectively [6].

The oil industry was another one of the most important branches of the extractive sector. Oil production volumes showed rapid growth: from 557,000 poods in 1865 to 1.7 million poods in 1870, 5.2 million poods in 1875, and 21.5 million poods in 1880 [7]. The bulk of production was concentrated in the Baku province. With the transition to wage labor and the introduction of machinery, labor productivity per worker increased more than 2.5-fold compared to the figures from the early 19th century.

The extraction, refining, and transportation of oil spurred the development of new technological solutions, manufacturing sectors, and transport infrastructure. The widespread use of petroleum-based fuel in industry and transport, along with the introduction of steam engines and internal combustion engines, boosted production efficiency. As a result, traditional types of fuel were gradually replaced by petroleum products, and manual labor by mechanized processes. Establishing its own kerosene production allowed Russia to stop importing American products and push them out of the domestic market [8].

Thus, the post-Reform period was a crucial stage in the development of Russia's industry, characterized by a transition from traditional forms of production to large-scale machine-based industry. This period saw an evolution from small-scale commodity production and manufactories to a factory system based on the use of machinery and the division of labor. Mechanization and the growth of factories led to the displacement of manual labor and the concentration of production.

Key sectors such as the textile, metallurgical, coal, and oil industries, as well as the influx of foreign capital, played an important role in industrialization. The post-reform era laid the foundations for the country's industrial development, but at the same time revealed structural imbalances.

### Sources and literature:

1. Maslennikov N.Ya. K voprosu o razvitiy fabrichnoy promyshlennosti / Zapiski imperatorskogo Russkogo geograficheskogo obschestva po otdeleniyu statistiki. T.6. –SPb.: Tip. Min. vnut. del., 1889. -S. 248.
2. Tugan-Baranovskiy M. Russkaya fabrika v proshlom i nastoyaschem. Istoricheskoye razvitie russkoy fabriki v XIX v. –M.: Moskovskiy rabochiy, 1922. –S. 346.
3. Xromov P.A. Ekonomicheskoye razvitiye Rossii v XIX-XX vekax (1880-1917). –M.: Gospolitizdat, 1950. -S. 179.
4. Gladkov I.S., Zorina I.Yu. -S.75. Razvitie rossiyskoy promishlennosti v XIX – nachale XX vekov // Regionalnaya ekonomika: teoriya i praktika. №5(98), 2009. -S.75.
5. Xromov P.A. Ekonomicheskoye razvitiye Rossii v XIX-XX vekax (1880-1917). –M.: Gospolitizdat, 1950. -S.183.
6. Obschiy obzor glavnix otrasley gornoy i gornozavodskoy promishlennosti. –Pg.: Tip. I. Fleystmana, 1915. -S.233.
7. Xromov P.A. Ekonomicheskoye razvitiye Rossii v XIX-XX vekax (1880-1917). –M.: Gospolitizdat, 1950. -S.204.
8. Chjan Guansyan. Vliyaniye neftyanoy promishlennosti na razvitiye Rossii vo vtoroy polovine XIX - nachale XX veka // Istoriko-ekonomicheskiye issledovaniya. T. 15, № 3. 2014. -S.561.