



TEXTILE INDUSTRY OF RUSSIA IN THE 50s OF THE 19th CENTURY.

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Abstract: *The article analyzes the development of the Russian textile industry in the 1850s during the Industrial Revolution. It demonstrates that the most intensive modernization occurred in the cotton textile industry, where the introduction of machinery and factory-based production organization led to increased efficiency and capital concentration. The uneven and contradictory nature of the industrial transformations in the textile sector of Russia in the mid-19th century is emphasized.*

Keywords: *textile industry, Russia of the mid-19th century, industrial revolution; factory-machine system; manufactory production; mechanization, modernization.*

Introduction.

In the 1850s, the role of large industrial capital intensified in the economy of the Russian Empire. This process was associated with the gradual displacement of manufactures by the factory-machine system, which was distinguished by greater efficiency and profitability.

The inadequacy of the serfdom model of economic management was especially evident after Russia's defeat in the 1853-1856 Crimean War, revealing its economic and technological backwardness. Under these conditions, the introduction of new principles of economic management became an objective necessity. The technical modernization and changes in the organization of industrial production were closely linked to the industrial revolution.

Machine production spread primarily in the textile industry, which became the leading branch in the formation of the factory-machine system. During the pre-

reform period, it was distinguished by the active use of hired labor and higher productivity compared to other sectors of the economy.

Research methodology.

The research methodology is based on the principles of historical and economic analysis and involves considering the textile industry of Russia in the 1850s in the context of the industrial revolution and the transformation of socio-economic relations. A systematic approach is used, which allows for the analysis of the industry as a set of interconnected segments developing with different dynamics and degrees of mechanization.

The comparative-historical method is used to compare branches among themselves, which allows for the determination of the specifics of combining manufactory and factory-machine forms of production and the influence of external factors.

The statistical method is used to analyze quantitative indicators, identifying growth and concentration trends. It is complemented by a critical analysis of sources that takes into account differences in researchers' assessments.

A structural-functional approach is also applied, aimed at identifying the role of modernization, mechanization, hired labor, and joint-stock forms in increasing production efficiency.

In general, the methodology is complex and combines historical, comparative, and statistical approaches.

Literature review.

In scientific literature, the development of the Russian textile industry in the mid-19th century is considered in the context of an industrial revolution and the transition from a manufactory system to a factory-machine system. A classic study of this issue is the work of A.M.Solovyova, who emphasizes the key role of technical modernization and the growth of large industrial capital in the transformation of the country's economy.

A significant contribution to the study of the sectoral structure and dynamics of textile production was made by 19th-century statistical and overview works such as "Review of various branches of the Russian manufacturing industry," as well as the research of S.A.Tarasov. These sources contain valuable quantitative data on the number of enterprises, production volumes, and territorial distribution of the industry. Modern research, particularly the work of G.N.Ulyanova, clarifies and compares these statistical data, paying attention to the heterogeneity of data and regional developmental differences.

Certain aspects of the development of the textile industry are revealed in the works of S.I.Gulishambarov, A.S.Nifontov, and in the collective work edited by S.D.Skazkin, where the development processes of individual branches - linen, wool, and silk - are analyzed. Researchers note the unevenness of modernization: if the cotton industry demonstrated a rapid transition to machine production, then other industries retained a significant share of manual labor.

Analysis and results.

From the end of the 1840s, and especially in the 1850s, a stable and consistent transition from the manufactory form of production to the factory-machine system was observed in the leading branches of the manufacturing industry [1].

The main role in this process was played by the cotton industry, which was significantly ahead of other industries in terms of development rates. The introduction of machines, the concentration of production, and the widespread use of free labor provided it with serious competitive advantages.

The most profitable segment was cotton spinning, where the features of large-scale factory-machine production were most fully manifested.

The rapid development of the paper spinning industry was explained, on the one hand, by the cancellation of the ban on the export of modern spinning machines in England, and on the other hand, by the increase in customs duties on imported yarn in Russia.

In the 1850s, there was a steady growth in the number of paper-spinning enterprises (1860 they numbered 57 [2]), while simultaneously modernizing, reconstructing, and expanding existing factories.

In 1849-1860, the number of paper-spinning enterprises increased by more than one-fifth, the number of workers almost doubled, and the cost of production increased approximately one and a half times, despite the general decrease in the price of yarn.

According to a number of sources, the cost of annual production of factories amounted to 15.7 million rubles in 1852 and 30.2 million rubles in 1859, and the number of workers was 31.0 thousand and 38.9 thousand people, respectively [3].

A characteristic feature of the industry was the high concentration of production, which intensified with the acceleration of mechanization. By the beginning of 1860, under conditions of growing competition, equipment and steam engines were concentrated in the largest enterprises.

The use of machinery marked a new stage in industrial development: mechanization increased labor productivity and reduced costs, a trend particularly evident in the cotton industry, which also saw a simultaneous increase in labor intensity.

Despite this positive dynamic, Russia lagged behind the leading industrial powers in several indicators, ranking fifth in the world.

At the same time, in terms of the number of mechanical spindles and the volume of cotton consumption per enterprise, Russian factories sometimes surpassed their foreign counterparts, which can be attributed to the smaller total number of enterprises in the country.

The main centers of the industry were the St. Petersburg, Moscow, and Vladimir governorates.

Stability in a competitive environment was maintained primarily by large, technically equipped enterprises capable of modernizing during crises, whereas many small factories lost their competitiveness and closed in the early 1860s.

The 1850s saw the development of the joint-stock form of production, which facilitated capital mobilization and enterprise consolidation. In 1851, the Neva Cotton-Spinning Manufactory Company and the Sampsonievskaya Manufactory Company were established, and in 1852, the entrepreneur Hubbard, together with Egerton, founded the Petrovskaya Cotton-Spinning Company [4].

Simultaneously, combined production developed within the cotton industry: mechanical weaving and calico printing were established on the basis of large spinning mills. Such enterprises were distinguished by greater profitability and stability. The growth in productivity at the Petrovskaya factory in St. Petersburg is indicative: from 554 rubles per worker in 1855 to 655 rubles in 1860 (an increase of almost 20%) [5].

By 1859, about 7.400 mechanical looms were in operation at 21 combined factories, compared to about 3.000 at specialized ones - 2.5 times fewer.

The adoption of mechanical weaving intensified at the turn of the 1850s and 1860s, coinciding with the global cotton crisis and rising prices for yarn and fabrics, which gave combined enterprises significant advantages.

In the mid-19th century, the cotton industry maintained its leading position in textile production. The technical revolution in cotton spinning stimulated the development of related industries, especially calico printing, where concentration intensified.

The widespread introduction of cylindrical printing machines significantly increased labor productivity. The largest centers of this industry were the Moscow and Vladimir governorates, where by the end of the 1850s, about 54% of its enterprises, 87% of its workers, and up to 91% of its output were concentrated [6].

By 1860, there were 32 calico printing enterprises operating in Moscow (11 machine-based and 21 manufactories) with an annual output of 2.8 million rubles [7].

In the 1850s, the processes of concentration and consolidation intensified, displacing smaller enterprises, although manual block printing (naboika) did not disappear entirely. For instance, by 1860, the three Garelin factories produced 29% of the chintz and 72% of the textile products in Ivanovo; they also accounted for up to 20% of the district's steam power and employed 29% of the industry's workers [8].

The mechanization of the cotton industry also affected other textile sectors, primarily the woolen industry. This sector underwent quantitative and qualitative changes: the share of hired labor grew, and machine spinning was partially introduced. However, the overall level of mechanization remained low, and power looms only began to spread in the 1850s.

According to 1859 data, the Russian woolen industry had 30,580 simple looms, 1,448 Jacquard looms, and 710 power looms [9]. The total value of factory production amounted to 36,725,000 rubles.

In the early stages, mechanical looms were characterized by relatively low productivity compared to manual labor, which hindered their adoption. A significant increase in efficiency became possible with the use of steam engines, which boosted the productivity of machinery, including looms.

Similar changes occurred in the linen industry. After a prolonged decline in the mid-19th century, the sector began to recover thanks to government support, customs preferences, and increased competition from cotton production, which stimulated the flow of capital into flax spinning.

However, a significant share of cottage industry continued to hinder technological progress, despite the growth in productivity at mechanized enterprises.

According to S.A.Tarasov, the industry's enterprises were located mainly in the Nizhny Novgorod, Vladimir, Yaroslavl, Kostroma, Vologda, Oryol, Kaluga, Pskov, and other provinces [10].

The number of linen enterprises and their production volume remains a subject of debate, as various researchers provide significantly different estimates.

According to S.I. Gulishambarov, 177 linen factories were operating in Russia in 1854, with a production volume of 2.886 thousand silver rubles [11]. In turn, G.N. Ulyanova indicates that in 1850, there were 118 enterprises with an output of about 1.3 million rubles. The demand for linen fabrics grew in the 1850s, and the Crimean War further increased the need for products for the army [12].

According to A.S. Nifontov's estimate, in 1854, the value of production from 66 large enterprises reached 2.679 thousand rubles [13].

In the first half of the 1850s, the first linen enterprises with elements of machine weaving appeared, coexisting with traditional forms of labor. They were significantly more efficient than manufactories: their total output was almost 4.5 times higher, and the output per worker was greater by more than two-thirds.

However, this did not signify the completion of the technological transition. The continued significant role of home-based work, which relied on cheap labor, hindered the introduction of machinery and slowed the industry's mechanization.

In the silk industry, modernization proceeded more slowly than in other textile sectors. Even the emergence of individual elements of machine production was not a widespread phenomenon. It was not until 1858 that machine silk spinning was first introduced in Moscow, and a number of enterprises began installing steam engines.

Statistical data for the industry also vary. According to S.A. Tarasov, 162 silk enterprises were operating in the Moscow province in 1853, with a production volume of about 5.9 million rubles [14]. According to G.N. Ulyanova, in 1854, there were 366 such enterprises in Russia with 14.300 workers and a production volume of about 5.2 million rubles [15].

Against the backdrop of the industry's general technological backwardness, a small group of the best-equipped enterprises stood out, belonging to A. Fomichev, M. Kondrashev, A. Nissen, V. Polyakov, and others. For example, the A. I. Nissen factory was already using foreign-made machines in 1852, and its products later received high acclaim at international and all-Russian exhibitions (a bronze medal in London, silver in Paris, and gold in Warsaw) [16].

Territorially, silk production was concentrated mainly in the Moscow province: in 1850, 115 out of 157 enterprises (accounting for about 78% of output) were located there. St. Petersburg had 29 factories (about 19%), and the remaining enterprises were located in the Courland, Kaluga, Oryol, Livonia, Yaroslavl, and Simbirsk governorates [17].

Conclusion.

Despite some successes, by the late 1850s and early 1860s, factory production in the silk industry remained underdeveloped, and the sector itself retained its predominantly manufactory-based character. Limited demand, caused by the low purchasing power of the population, hindered the inflow of capital and slowed modernization.

Thus, in the mid-19th century, the development of Russia's textile industry during the Industrial Revolution was uneven, affecting its various branches with different degrees of intensity and depth of transformation.

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