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Assessment of the Current State and Future Prospects of the Russian Ferrous Metallurgy in the Context of Geopolitical Challenges

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ABSTRACT

Ferrous metallurgy traditionally makes a significant contribution to the GDP of the Russian Federation, accounting for a large share of industrial production and generating a significant amount of export revenue. However, the industry has faced significant challenges in recent years. Therefore, it is important to identify the factors that have led to these problems and the drivers that can ensure the sustainable development of this sector in the future. The purpose of this paper is to comprehensively examine the current state of the Russian ferrous metallurgy industry, identify and categorize relevant factors, and determine trends and pathways for development in light of current global market processes and the current geopolitical context. The research is based on the calculation and analysis of key indicators for the global and domestic ferrous metallurgy markets using economic analysis, econometric and statistical techniques. The study found that, since 2022, Russian steel and rolled product production has been declining, as well as stagnating in demand for metal products in the Russian domestic market. The imposition of sanctions has significantly changed the geographical structure of Russian ferrous metal exports, leading to a decline in metal product exports and simultaneously causing problems with logistics and margins in new markets. Due to the impact of a number of identified factors, the financial performance of leading Russian metallurgical companies has been steadily declining since 2022. The results of the study support the implementation of systemic, strategically-oriented measures to address the challenges facing the Russian metallurgy sector and outline the future prospects. Specific factors within the metallurgical industry that determine its current status and future development are of theoretical importance. The practical value of the results obtained lies in their potential use for monitoring the implementation of strategies for the development of priority sectors of the national economy, as well as implementing import substitution, and justifying investment projects that will contribute to the future economic growth of the ferrous metallurgy industry in Russia.

Keywords: global ferrous metallurgy market; ferrous metal production; domestic ferrous metal consumption; Russian ferrous metallurgy market; metal product exports; sanctions pressure; support for the ferrous metallurgy industry

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INTRODUCTION

From time immemorial, the iron and steel industry has played a significant role in the global and national economies. Its origins date back to the early period of antiquity, with active development beginning around 500 BC and widespread use of iron beginning in the first millennium BC, known as the "Iron Age". Archaeological finds in Cyprus indicate that artisans were already making knives from hardened steel in the 11th century BC.

Industrial-scale production of iron and steel occurred during the Industrial Revolution, spanning the 19th and 20th centuries, associated with the introduction of advanced technologies such as open-hearth and Bessemer steelmaking methods, which significantly increased output. Since its inception, iron and steel have consistently accompanied human development, stimulating economic growth and contributing to scientific and technological progress.

The role of ferrous metallurgy in the economy is significant due to its importance as the basis for the operations of organizations in various industries that use metal as a structural material. These industries include construction, mechanical engineering, machine tool manufacturing, aircraft, shipbuilding, and the oil and gas sector, among others.

Ferrous metallurgy can be considered the engine of the economy, and its sustainable development is essential to ensure a positive impact on economic growth, social welfare, and environmental balance. This is because the sector plays a crucial role in supporting the activities of other industries that rely on metal products.

This industry covers the extraction and processing of iron ore, which is the main raw material used in the production of steel and other ferrous metals. The availability and quality of this raw material, which is not evenly distributed across the globe, significantly impacts the current state and potential future development of ferrous metallurgy in different countries.

At the same time, it is important to emphasize the special role of ferrous metallurgy in the Russian economy, primarily because it makes an important contribution to GDP and has a significant share in the country's industrial production. Additionally, it provides a great amount of export earnings.

Currently, due to a variety of factors, including geopolitical tensions, macroeconomic instability, and the sanctions pressure on the Russian Federation, the ferrous metallurgical industry in Russia faces unprecedented challenges.

Theoretical principles of sanctions restrictions are the focus of attention since the mid-twentieth century and are the subject of research of economists like A. Smith [1], T.K. Morgan, A.K. Myers [2], J. Eaton, M. Engers [3], R. Caruso [4], J. Galtung [5], B. Kampfner, A.D. Lowenberg [6], D.W. Drezner [7]. Despite the fact that world experience demonstrates the negative impact of sanctions on the GDP of the country in respect of which they are applied, researchers of the issues of sanctions restrictions lack a unity of views on the systemic effectiveness of this tool of geopolitics.

The impact of anti-Russian sanctions on the national economy and ways to adapt for economic entities are discussed in the scientific works of authors such as D. Belousov et al. [8], Yu.V. Simachev et al. [9], M.A. Fedotova et al. [10], E.A. Fedorova and A.R. Nevredinov [11] and A.G. Glebova [12].

The issues of structural modernization of the economy in the context of national priorities for sustainable growth and technological development are investigated by scientists S. Yu. Glazyev, O.S. Sukharev [13], V.G. Kogdenko, N.A. Kazakova [14], O.S. Sukharev, E.N. Voronchihina [15], S.Yu. Glazyev [16].

A retrospective analysis of global and domestic steel production has been carried out by L.I. Chernikova et al. [17], M.N. Tolmachev [18], and E.I. Larionova et al. [19].

At the same time, existing publications by leading economists do not systematically and

Table 1

The State of the Global Iron Ore Market in 2023

Countries	Mineral resources, billion tons	The share in world mineral resources		Production of iron ore products, million tons	Share in global iron ore production	
		%	A place in the world		%	A place in the world
Australia	150.4	18.4	1	952	38	1
Brazil	49.4	6.1	5	440	17.6	2
China	85.3	10.5	3	280	11.2	3
India	35.3	4.3	7	270	10.8	4
Russia	118.2	14.5	2	106	4.2	5
Others	376.9	46.2	–	458	18.3	–
Total	815.5	100	–	2506	100	–

Source: Compiled by the author based on the State Report on the state and use of mineral resources of the Russian Federation in 2023.
 URL: https://www.mnr.gov.ru/docs/gosudarstvennye_doklady/o_sostoyanii_i_ispolzovanii_mineralno_syrevykh_resursov_rossiyskoy_federatsii/ (accessed on 30.03.2026).

fully reflect the current state of the ferrous metallurgical industry as a key sector of the domestic economy, nor do they cover the latest trends and ways of its development within the context of current global market processes, geopolitical situations, and sanction pressures. This is what makes this study relevant.

THE CURRENT STATE OF THE GLOBAL FERROUS METALLURGY MARKET AND RUSSIA'S POSITION IN IT

Iron is one of the most common elements found in the Earth's crust, and in terms of its distribution, it ranks fourth after oxygen, silicon and aluminum. The world's iron ore reserves are located in 68 countries and are estimated at about 815.5 billion tons. At the same time, 50% of them are concentrated in five countries — Australia (18.4%), Russia (14.5%), China (10.5%), Brazil (6.1%) and India (4.3%). Thus, Russia ranks second in the world in terms of its share in the world's mineral resources of iron ores.

Proven iron ore reserves amount to 145 billion tons, a significant part of which

is located in Brazil (16.5%), Australia (16%), China (11%) and India (4.4%). Russian deposits under development and being prepared for development cover 24% of the world's iron ore reserves, and according to this indicator, Russia firmly ranks first in the world [20].

At the same time, based on the data in *Table 1*, it can be judged that in terms of the share in global iron ore production in 2023, Australia was the leader — 38% (1st place), Brazil — 17.6% (2nd place), China — 11.2% (3rd place), India — 10.8% (4th place) and Russia — 4.2% (5th place).

With the high potential of the Russian ferrous metallurgy provided by a powerful raw material base of iron ores, which is one of the largest in the world, the output of domestic iron ore products is currently significantly lagging behind the world's leading producers.

In this regard, it should be noted that the level and dynamics of consumption of iron ore raw materials depend on the volume of steel output, which, in turn, is influenced by demand for steel products in industries that are its main consumers, which characterizes the limiting factors of ferrous metallurgy. In addition, it is important to emphasize that the state of

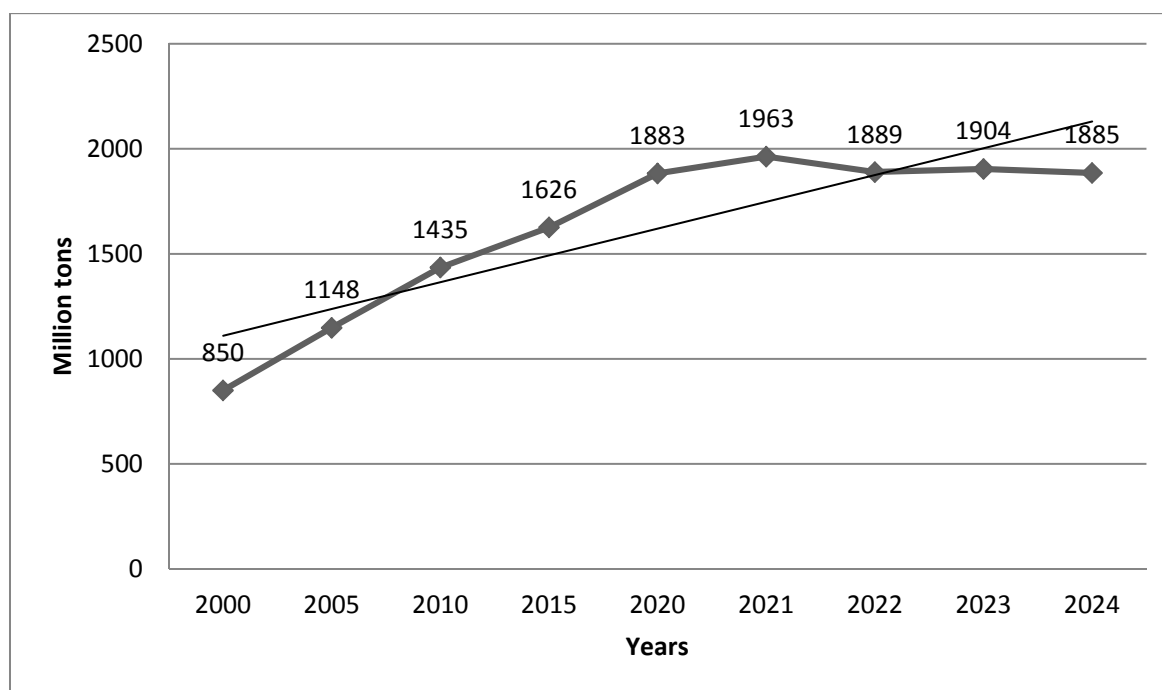


Fig. 1. The Dynamics of World Production of Crude Steel in the Years 2000 to 2024

Source: Compiled by the author based on data from the World Steel Association. URL: <https://worldsteel.org/data/world-steel-in-figures/world-steel-in-figures-2025/#world-crude-steel-production-1950-to-2024> (accessed on 30.03.2026).

both this industry and related sectors of the economy of individual countries, in particular Russia, in the current geopolitical conditions largely depends on economic processes at the global level and, to a certain extent, is their reflection.

Over the past few decades, the global consumption of steel products has shown positive dynamics, leading to a steady increase in global steel production. However, since 2022, the World Steel Association has reported a downward trend in global demand for these products, resulting in a decrease in global steel output in 2022. This decrease was recorded after a historic high in 2021, with a drop of 74 million tons (3.8%) compared to the previous year. In 2023, there was a slight increase of 15 million tons (0.8%), but the trend continued in 2024, with another decrease of 19 million tons (–1%) (Fig. 1).

Trends in global production of unrefined steel eloquently characterize its average annual growth rates, which amounted to 6.2% in 2000–2005, 4.6% in 2005–2010, and 2.5% in 2010–2015. From 2000 to 2015 they were steadily declining. In 2015–2020, there was

a slight increase of 3.0% and in 2020–2024, a sharp drop to 0% again.

The marked decline in global steel production in recent years has been influenced by economic problems in European countries, the crisis in the real estate market in China, the general tension of the geopolitical situation and rising energy prices.

The largest steel producers in the world in 2024 were China – 53.3% (1st place), India – 7.9% (2nd place), Japan – 4.5% (3rd place), the USA – 4.2% (4th place) and Russia – 3.8% (5th place). The top ten steel producers also include South Korea, Germany, Turkey, Brazil and Iran.

An important analytical indicator of the state and dynamics of the global ferrous metallurgy market is the apparent steel consumption, calculated as the volume of steel production increased by the volume of imports and decreased by the volume of exports. This indicator characterizes the domestic demand for steel in the country and is used to assess the metal consumption of the economy, predict investments, and analyze trends and prospects for the development of the metallurgical industry.

Table 2

The Dynamics of Global Apparent Steel Consumption in the Years 2020 to 2024

Countries	The volume of apparent steel consumption in million tons					Deviation (+/-) 2000–2024	
	2020	2021	2022	2023	2024	Mln tons	%
China	1008.7	954.4	926.7	905.1	856.6	–152.1	–15.1
India	89.3	106.2	116.1	132.8	147.9	+58	+64.9
The USA	80.0	97.1	94.5	90.5	89.1	+9.1	+11.4
Japan	52.6	57.4	55.0	53.4	51.4	–1.2	–2.3
South Korea	49.2	56.0	51.3	54.7	47.8	–1.4	–2.8
Russia	42.3	43.9	41.7	44.6	43.7	+1.4	+3.3
Others	468.3	528.1	493.0	497.0	505.9	+37.6	+8.0
Total	1790.4	1843.1	1778.3	1778.1	1742.4	–48	–2.7

Source: Compiled by the author based on data from the World Steel Association. URL: <https://worldsteel.org/data/world-steel-in-figures/world-steel-in-figures-2025/#world-crude-steel-production-1950-to-2024> (accessed on 30.03.2026).

According to *Table 2*, at the global level, the leading positions in this indicator in 2024 were occupied by China — 49.2% (1st place), India — 8.5% (2nd place), the USA — 5.1% (3rd place), Japan — 2.9% (4th place) and South Korea — 2.7% (5th place). Russia ranks 6th in the world in terms of steel consumption, with an indicator of 43.7 million tons of finished steel products, which is 2.5% of the total worldwide.

In general, global apparent steel consumption decreased by 48 million tons, or 2.7%, between 2020 and 2024. This decrease was preceded by a negative trend starting in 2022, as shown in *Fig. 2*. However, the decrease was not uniform across all countries. For example, in China, the consumption of finished steel products decreased by 15.1%. In Japan and South Korea, it decreased by 2.3% and 2.8%, respectively. On the other hand, India saw an increase in domestic steel consumption of 64.9%. The United States saw growth of 11.4%, and Russia — of 3.3%.

At the same time, in China, the volume of steel consumption in 2024 was 856.6 million tons, which is 19.6 times higher than in Russia. This indicates a significant gap in the domestic demand for steel on a global scale. The growth potential of the Russian economy can be realized through a strategic focus on technological leadership and sovereignty, as well as increased competitiveness through the development of key industries and technologies.

To achieve these goals, it is necessary to increase steel consumption within Russia in order to contribute to successful national objectives. Economic development requires this increase in steel usage.

The overview of the global ferrous metallurgy market provides an insight into the analysis of changes in world prices for iron ore raw materials. These prices are one of the key indicators that determine the cost and availability of Iron Ore grade 62% Fe, CFR China. This type of iron ore is widely used in

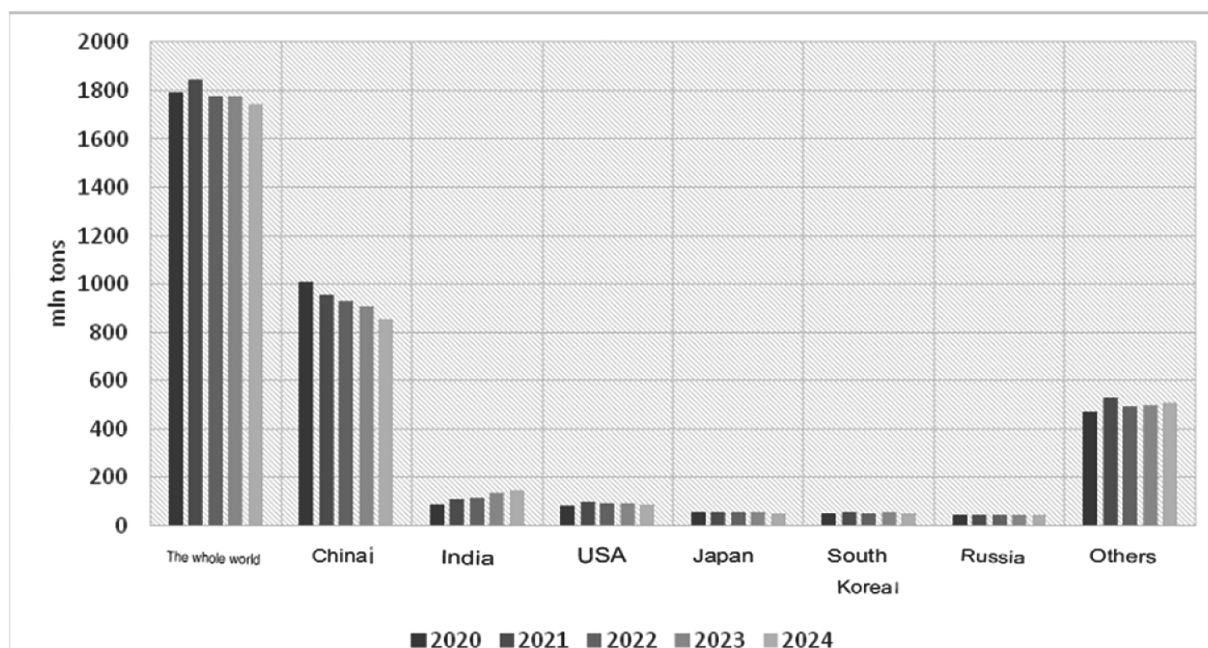


Fig. 2. The Dynamics of Global Apparent Steel Consumption in the Years 2000 to 2024

Source: Compiled by the author based on data from the World Steel Association. URL: <https://worldsteel.org/data/world-steel-in-figures/world-steel-in-figures-2025/#world-crude-steel-production-1950-to-2024> (accessed on 30.03.2026).

the production of steel for the construction industry.

According to the authoritative Trading Economics analytical platform, iron ore prices have fluctuated significantly over the period from 2010 to 2026. The minimum price was \$38.54 per ton in December 2015, while the record high was \$219.77 per ton in July 2021. These fluctuations are a result of changes in supply and demand.

The analysis of global iron ore prices over the past five years (2001–2026) shows a downward trend with periodic ups and downs (Fig. 3).

The current state of global iron ore prices is characterized by volatility. Since the beginning of 2023, the price of iron ore has steadily decreased from \$108.48 per ton at the start of January to \$99.06 by the end of February. After that, it reversed direction and showed an upward trend in March. As a result, by the end of March, the price had increased to \$106.1 per ton, representing a 7.1% increase over the previous month and a 3.84% increase compared to the same period a year earlier.¹ However, the current price level is

still significantly lower than the historical high recorded in 2022, which is an indication that domestic consumption should be encouraged to promote sustainable economic growth.

In 2024, several Russian companies made it into the top 50 global steel producers, including NLMK PJSC at 30th place, MMK PJSC at 39th, and Severstal PJSC at 41st.

THE CHALLENGES AND TRENDS OF THE RUSSIAN FERROUS METALLURGY MARKET IN THE CURRENT GEOPOLITICAL CONTEXT

Describing the structure of the Russian ferrous metallurgy market, we can note that it is dominated by several major players, accounting for approximately 60–70% of the total steel output in the country. These include NLMK, MMK, Severstal, and EVRAZ, which are among the largest steel producers in Russia. The industry operates with a full production cycle, with most of its output exported, while domestic consumption is mainly directed towards construction and mechanical engineering sectors.

Recent geopolitical developments have had a significant impact on the industry, leading

¹ URL: <https://ru.tradingeconomics.com/commodity/iron-ore/> (accessed on 25.03.2026).



Fig. 3. The Dynamics of World Prices for Commercial Iron Ores in the Years 2001 to 2026

Source: Compiled by the author based on data from Trading Economics. URL: <https://ru.tradingeconomics.com/commodity/iron-ore> (accessed on 30.03.2026).

to export restrictions and other challenges. These issues are exacerbated by factors such as high interest rates, a substantial fiscal burden, rising costs, and the need for technological upgrades.

Over the past five years, the maximum volume of steel in our country was produced in 2021, amounting to 77.5 million tons, in 2022 it decreased by 6 million tons, or by 7.7%, then in 2023 it increased by 4.2 million tons, or by 5.9%, after which in 2024 it decreased again by 5 million tons, or by 6.6%. As a result, there was a total reduction of 6.8 million tons in steel output between 2021 and 2024, which is an 8.8% decrease (*Table 3*).

The highest volume of finished rolled products in Russia occurred in 2021—68.7 million tons. However, due to politically motivated economic sanctions, production of these products decreased to 63.7 million tons in 2022—a 5 million ton decrease, or 7.3%. There was then a slight increase to 65.1 million tons in 2023 before a further decrease to 61.7 million tons by 2024—a total decrease of 7 million tons over the five-year period, or 10.2%, in finished rolled product production.

The main producers of steel and rolled products in 2024 were PJSC NLMK (19% and 26%), PJSC MMK (17% and 19%), PJSC Severstal (15% and 19%) and EVRAZ (14% and 9%).

Due to the tense foreign policy situation, the most up-to-date statistics on key economic indicators are not always sufficiently transparent; in particular, data from the Federal Customs Service of Russia on foreign trade have not been available since April 2022. At the same time, according to available information sources, the downward trend in steel production in Russia currently persists.

According to the data of the Federal State Statistics Service provided in the bulletin “Information on the socio-economic situation of Russia”, the metallurgical production index in 2025 amounted to 97.9%, reflecting an overall decrease in the industry’s output by 2.1%. The production of non-alloy steel and semi-finished products showed weak growth, increasing by 1.2% year-on-year, but in January 2026 it decreased by 1.4% compared to December 2025 and amounted to 54.4 million tons. The production of stainless steel and semi-finished products made from it decreased by 17% year-on-year to 233 thousand tons. A similar trend is observed in the production of other alloy steel and semi-finished products from it. In 2025, their output decreased by 15.5%, amounting to 13.3 million tons. Production of finished rolled products in 2025 reached 56.7 million tons, reflecting a 5.2% decrease over the year. In turn, the volume of production of steel pipes, hollow

Table 3

Dynamics of Russian Steel and Rolled Products Production in 2021–2024

Indicators	Production volume, million tons			
	2021	2022	2023	2024
Steel	77.5	71.5	75.7	70.7
Rolling	68.7	63.7	65.1	61.7

Source: Compiled by the author based on data from the Analytical Center of the Central Research Institute of Ferrous Metallurgy. URL: <https://ac.thermet.net/Chernaya-metallurgiya-Rossii-v-usloviyah> (accessed on 30.03.2026).

profiles and their fittings in 2025 amounted to 11.1 million tons, which is 13.9% less than in the previous year.²

It should be emphasized that one of the main factors having a negative impact on the production of ferrous metallurgy products in the Russian Federation was a significant decline in export demand for Russian steel. The introduction of unprecedented restrictions related to the application of more than 30 anti-dumping and special protective duties on Russian steel products has actually made it impossible to continue its supplies to Western markets. If by 2022 the EU and the USA accounted for 17% and 9% of Russian steel exports, respectively, and the imposition of sanctions radically changed the geographical structure of Russian ferrous metal exports, leading to the reorientation of steel companies to Asia and Africa. At the same time, the logistical problems that have arisen in terms of supply chain transformation, lengthening routes, higher freight and insurance costs, as well as the relatively lower marginality of new markets due to the need to provide preferential terms to new customers have reduced the attractiveness of exports of Russian steel products and made it more difficult to compensate for losses. Along with this, the general cooling of the global steel market also had an impact, since, as noted above, after record values in 2021. The demand for ferrous metallurgy products and world prices for them were characterized by

a negative trend, which also affected export-oriented companies.

Starting from 2021, Russia has seen a consistent decrease in exports of finished rolled products year-on-year: by 16% in 2022, by 8.9% in 2023, and by 7.9% in 2024. Exports of rolled products decreased in 2024 by 9% compared to 2023 and by 27% compared to 2021. Exports of flat hot-rolled products increased by 3.3% compared to 2023, but their dynamics compared to 2021 is characterized by a decrease of 55%, that is, more than twofold. A decrease is also observed in the export of steel pipes: in 2024 it amounted to 33% compared to the level of 2023, and 52% by 2021.³

It is important to emphasize that the most widely exported ferrous metallurgy products in Russia are traditionally semi-finished products, namely slabs and square billets. They account for about 55–58% of the total exports of metal products, including the share of slabs is about 65%, and square billets — 35%, and this proportion is quite stable, only slight fluctuations within 3% are possible.

In this regard, it should be noted that in 2024 there was a noticeable decrease in exports of slabs and square billets, amounting to 19% compared to 2023, and 28% by 2021.⁴ This is due to the unfriendly actions of a number of countries, in particular the United States, Germany, Italy, Morocco, Kenya, Australia, which refused to export Russian semi-finished products.

³ URL: <https://ac.thermet.net/Chernaya-metallurgiya-Rossii-v-usloviyah> (accessed on 30.03.2026).

⁴ URL: <https://ac.thermet.net/Chernaya-metallurgiya-Rossii-v-usloviyah> (accessed on 30.03.2026).

² URL: https://mc.ru/news/nw/news_id/17185 (accessed on 30.03.2026).

Table 4

**The Dynamics of Revenue and Financial Performance of the Leading Metallurgical Companies
in the Russian Federation from 2021 to 2025**

Indicators	2021	2022	2023	2024	9 months 2025
NLMK PJSC					
– Revenue, million rubles	1 191 146	900 823	933 435	979 593	471 344
– Operating profit, million rubles	490 408	201 701	227 849	206 222	–21 151
– Net profit, million rubles	371 653	166 441	209 373	121 857	32 948
– Return on sales, %	41.2	22.4	24.4	21.1	–4.5
MMK PJSC					
– Revenue, million rubles	873 189	699 817	763 390	768 466	150 585
– Operating profit, million rubles	276 174	109 928	146 184	99 699	3918
– Net profit, million rubles	229 638	70 368	118 360	79 740	5055
– Return on sales, %	31.6	15.7	19.1	13.0	2.6
PJSC Severstal					
– Revenue, million rubles	835 451	649 148	700 978	802 462	522 421
– Operating profit, million rubles	396 442	171 617	219 990	192 234	79 296
– Net profit, million rubles	299 648	105 798	190 907	149 554	49 739
– Return on sales, %	47.5	26.4	31.4	24.0	15.2

Source: Compiled by the author based on the consolidated financial statements of PJSC NLMK, PJSC MMK and PJSC Severstal.

With regard to 2024, it should be noted that the decline in exports of Russian steel products was significantly influenced by an increase in the supply of ferrous metallurgy products from China to the international market. Against the background of a sharp decline in domestic demand, China has rapidly increased exports, as a result of which the volume of Chinese steel exports in 2024 reached its maximum value since 2015, amounting to 110.72 million tons. This has led to the filling of foreign markets with cheap Chinese products. Moreover, this has affected not only the metallurgical production in individual countries, but has also increased tensions in the global trade in ferrous metals.

In particular, the consequences of this situation manifested themselves in the need

to reduce export prices and margins of Russian suppliers of steel products. The situation in the domestic metallurgical sector has been further complicated by limited access to new technologies, the need to modernize equipment, and rising production costs. High electricity tariffs against the background of the energy intensity of the industry, the indexation of gas prices, the rise in the cost of logistics and credit have led to a decrease in profitability and limited opportunities for increasing production of ferrous metallurgy enterprises.

The negative impact of these factors on the financial performance of Russian companies, which are key players in the ferrous metals market, is confirmed by the data in *Table 4*.

According to the data in *Table 4*, in the analyzed period, all the leading companies

Table 5

Production and Consumption of Finished Rolled Products and Steel Pipes in the Russian Federation during 2021–2024 (in Million Tons)

Indicators	2021	2022	2023	2024
Production of finished products	68.7	63.7	65.1	61.7
Consumption of finished rolled products	44.1	43.3	46.5	46.8
Production of steel pipes	10.8	11.7	12.5	11.5
Consumption of steel pipes	10.0	11.0	11.7	11.0

Source: Compiled by the author based on data from the Analytical Center of the Central Research Institute of Ferrous Metallurgy. URL: <https://ac.thermet.net/Chernaya-metallurgiya-Rossii-v-usloviyah> (accessed on 30.03.2026).

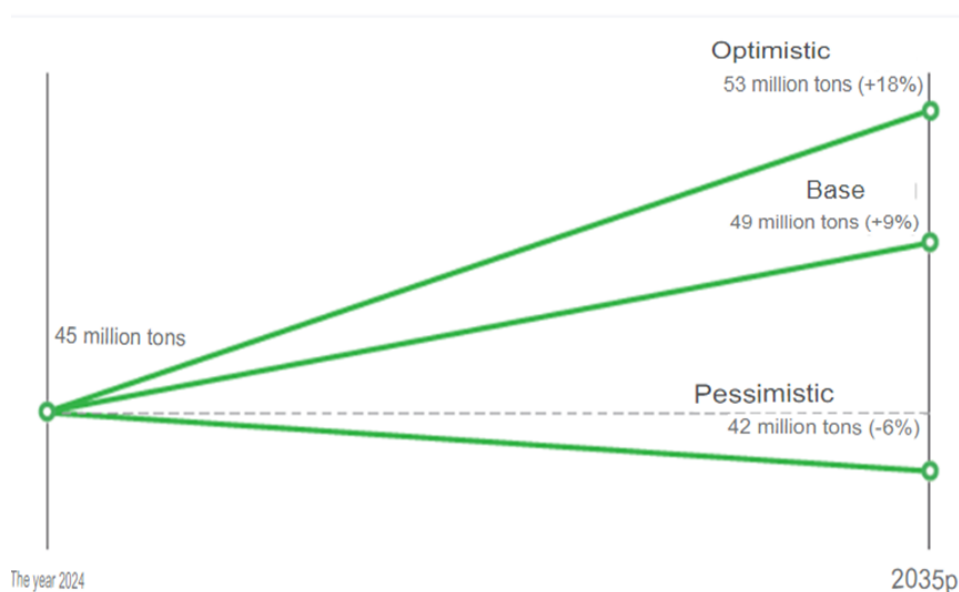


Fig. 4. Steel Consumption in Russia Depending on the Development Scenario

Source: Research "How to harden steel: the future of ferrous metallurgy in Russia". URL: <https://b1.ru/b1-ferrous-metallurgy-in-russia-survey-2025/> (accessed on 30.03.2026).

in the Russian metallurgical industry demonstrated negative dynamics in financial indicators of revenue, operating profit, net profit and return on sales.

In particular, NLMK's revenue decreased by RUB 211.553 billion in 2021–2024, or by 17.8%. Operating profit declined by RUB 284.186 billion, or by 57.9%. Net profit fell by 249.796 million rubles, or by 67.2%. According to the data for the first nine months of 2025, this downward trend continues. This is clearly reflected in the level and dynamics of the return on sales indicator, which was 24% in 2024, compared to 47.5% in 2021, and continues

to decrease as it moves into the loss zone. The indicator's level for the first nine months of 2025 is –4.5%.

A similar situation is observed in the relevant indicators of PJSC MMK and PJSC Severstal. At the same time, the profitability of MMK's operating activities in 2021–2024 decreased from 31.6% to 13%, and as of the end of the 3rd quarter of 2025 it is 2.6%, indicating an overall decrease of 29% over the period under review. The return on sales of PJSC Severstal in 2021–2024 decreased from 47.5% to 24%, followed by a decline to 15.2% in the first 9 months of 2025, with a total decrease of 3.1 times over the analyzed period.

Table 6

Forecast of Changes in Domestic Demand for Steel in Sectors of the Russian Economy Until 2035

Indicators	Construction	Oil and Gas Industry	Mechanical engineering	Automotive industry
Demand, million tons:				
2024 (fact)	35.0	6.0	2.8	0.9
2035 (forecast)	35.7	6.9	3.6	1.7
Deviation (+/-)	+0.7	+0.9	+0.8	+0.8

Source: Compiled by the author based on the research "How to harden steel: the future of ferrous metallurgy in Russia". URL: <https://b1.ru/b1-ferrous-metallurgy-in-russia-survey-2025/> (accessed on 30.03.2026).

Of particular note is the stagnant demand for steel in the Russian domestic market, which did not show a noticeable recovery until 2025. Even national projects aimed at supporting certain sectors of the economy cannot ensure consumption volumes adequate for the sustainability of the metallurgical industry.

The data in *Table 5* show that between 2021 and 2024, the consumption of finished rolled products increased by 2.7 million tons, or 6.1%. This brought the total consumption to 46.8 million tons by 2024. At the same time, the consumption of steel pipes also increased by 1 million tons, representing a 10% increase. While this is positive, the growth rate is still insufficient and requires decisive action to overcome the current crisis trends.

The construction, automotive, machine-building, and oil and gas industries are the largest consumers of ferrous metals in Russia. The future development of these sectors will depend on the state's strategy for priority economic sectors, the dynamics of import substitution, and the implementation of energy extraction projects and the large-scale gasification initiative for Russian regions.

According to a study conducted by B1 Group of companies, the potential volume of steel production in the next 10 years may exceed domestic demand and export potential. To ensure the efficient use of production capacity and maintain profitability, Russian steel

manufacturers should focus on supplying the domestic market and exploring existing export opportunities.

According to experts from B1, the forecast for the period up to 2035 predicts an increase in steel consumption in Russia by 9%, from 49 million tons in 2024 to 53 million tons under an optimistic scenario. However, it also considers the possibility of a decrease in consumption, up to 42 million tons (by 6%).

In 2035, there will be an excess of steel production over consumption in Russia of 29 million tons. The most likely growth rate of steel production in the next decade is expected to be less than 1% per year. This seems like a very modest increase.

Table 6 shows current and expected demand for steel in different industries.

According to experts' predictions, there is reason to believe that demand for metal products in Russia will increase. The baseline scenario, which represents a cautious optimism, forecasts an increase in domestic steel demand for the construction industry by 0.7 million tons to 35.7 million tons by 2035. Demand in the oil and gas sector is expected to rise by 0.9 million tons to 6.9 million tons. The mechanical engineering industry is projected to see an increase of 0.8 million tons to reach 3.6 million tons in demand. Finally, the automotive industry's demand is expected to increase by 3.6 million tons or 0.8 million tons above the current level.

CONCLUSIONS

Based on the above, it is clear that the Russian ferrous metallurgy is facing unprecedented challenges at this stage. The complexity of the problems that have emerged necessitates the adoption of systematic and strategically oriented measures to support this important sector of the domestic economy.

The crucial role of the state in promoting the development of priority sectors of the economy is undeniable. Therefore, it is important to note and positively evaluate the following strategic goals, the achievement of which will contribute to the recovery and growth of the ferrous metallurgical industry.

The “Strategy for the Development of the Construction Industry and Housing and Communal Services of the Russian Federation Until 2030 (with a Forecast Until 2035)”⁵ envisions an increase in housing construction to 120 million square meters by 2030, or by 30%, compared to 2021, as well as an increase in the volume of relocation of emergency housing by 22%, compared to the level of 2021.

At the same time, a current trend that is stimulating the use of steel in construction is the use of metal frames. According to experts, at present, the share of high-rise residential buildings built on a metal frame basis is less than 5%. However, it is expected that this will increase to 20% by 2030, leading to an increase in demand for domestic rolled steel by 1 million tons per year.

The “Transport Strategy of the Russian Federation until 2030 (with a forecast for the period up to 2035)”⁶ focuses on the development of transport systems in large urban areas, improving the accessibility of

regions, constructing roads and railways, and developing port infrastructure. This strategy aims to promote the growth of metal product consumption. Ensuring planned road construction volumes under this strategy requires addressing the increasing demand for various materials, including metals.

The increase in domestic demand for steel products will be supported by the course towards the active development of shipbuilding in Russia. The main industry document that defines the directions for the development of the domestic shipbuilding industry is the “Strategy for the Development of the Shipbuilding Industry until 2035”.⁷ This strategy aims to achieve several goals, including: ensuring the production of modern shipbuilding products, increasing utilization of main production facilities by 80% by 2035, doubling the volume of production by 2.2 times, doubling labor productivity, and increasing the share of domestic products in final civilian products by 75% by the same year.

As follows from the materials of the United Shipbuilding Corporation, according to the company’s long-term strategy approved in 2025, the number of civilian vessels built at all USC shipyards in 2013–2023 was slightly more than 200. At the same time, the demand for civilian vessels for the period 2025–2036, which determines plans for their production, amounts to 2,300 units.⁸ These ambitious goals are a significant driver for the metallurgical industry.

It is important to note that it is essential to pay sufficient attention to defining key indicators established in the fundamental documents of strategic planning. As noted by S.V. Muzalev, N.M. Abdikeev, L.V. Obolenskaya [21], G.S. Izotova, S.G. Eremin, A.I. Galkin [22] in their works, it is also necessary to

⁵ The strategy for the development of the construction industry and housing and communal services of the Russian Federation until 2030 (with a forecast until 2035), approved by Order of the Government of the Russian Federation dated 31.10.2022 № 3268-p. URL: <http://static.government.ru/media/files/AdmXczBBUGfGNM8tz16r7RkQcsgP3LAm.pdf> / (accessed on 30.03.2026).

⁶ Transport Strategy of the Russian Federation until 2030 (with a forecast for the period up to 2035) approved by Order of the Government of the Russian Federation dated 27.11.2021 № 3363-p. URL: <https://rosavtodor.gov.ru/docs/transportnaya-strategiya-rf-na-period-do-2030-goda-s-prognozm-na-period-do-2035-goda/> / (accessed on 30.03.2026).

⁷ The strategy for the development of the shipbuilding industry for the period up to 2035, approved by By Decree of the Government of the Russian Federation dated October 28, 2019 No. 2553-p, as amended. URL: <https://docs.cntd.ru/document/563615576> / (accessed on 30.03.2026).

⁸ URL: <https://www.vedomosti.ru/business/articles/2025/02/04/1089999-sovet-direktorov-osk-utverdil-strategiyu-razvitiya> / (accessed on 30.03.2026).

create stable conditions for the financial support of key national priorities in the field of technological development, as rightly emphasized by N.S. Shmigol [23].

A large-scale program for the gasification of Russian regions from 2026 to 2030, implemented by Gazprom, is one of the most significant and socially important aspects of its work on the domestic market. This program has the potential to positively impact domestic demand for iron and steel products.

According to the targets, the program will involve 73 regions, more than 690.000 households, and apartments, as well as over 48.000 kilometers of new gas pipelines and over 2.000 connections for boiler and industrial plants. The growing demand from companies in the railway engineering sector may stimulate production of metal products in Russia, as Russian Railways plans to significantly upgrade its rolling stock. The state, as the owner of Russian Railways, intends to allocate 20 billion rubles annually⁹ for these purposes in the medium term.

The holding's investment program for 2026 has been approved in the amount of 713.6 billion rubles. Of this amount, 161.7 billion rubles will be allocated for the purchase of rolling stock, including up to 400 new locomotives and 190 passenger cars. In addition, 120 billion rubles will go towards the high-speed railway project, and 62.2 billion will be allocated to projects aimed at developing the backbone infrastructure.¹⁰

Although the investment program for Russian Railways in 2026 is 20% lower than the previous year's volume, the company's plans for infrastructure development and rolling stock investment are impressive. These plans will have a positive impact on the domestic consumption of steel products.

In addition to the above, another important factor contributing to the increased demand for Russian steel products is the development of import substitution in various industries, such as mechanical engineering. This is supported by significant government efforts, which provide additional incentives for increasing orders in the domestic market.

It is worth noting that in Russia, a new metallurgical plant with a capacity of approximately 1.5 million tons of metal products per year is planned to be built in the Far East during the current decade. Additionally, existing production facilities will be commissioned and modernized, and new types of high-tech products will be developed and launched.

Despite the challenges, adverse circumstances, and subjective factors caused by recent unfriendly actions of partners in the global market, the Russian metallurgical sector is not only resisting them, but also taking steps to successfully position it strategically.

As part of strengthening support for the metallurgical industry in Russia at the present stage, it is advisable to implement the following anti-crisis measures that meet the expectations of leading market participants:

1. Mitigation of the excise duty on liquid steel.
2. The introduction of a moratorium on the bankruptcy of metallurgical companies.
3. Increase in export duties on ferrous scrap.
4. Fixing railway tariffs for the transportation of metal products.
5. Anti-dumping measures to protect Russian metallurgists from competition with China.

The systematic implementation of these support measures will allow Russian ferrous metallurgy companies not only to successfully cope with the difficulties that have arisen, but also, having become stronger with the full support of the state, to enter a new stage of development, in turn ensuring steady progressive growth of the Russian economy.

⁹ Russian Railways will receive 20 billion rubles a year for the purchase of rolling stock. URL: <https://www.interfax.ru/business/1076090> / (accessed on 30.03.2026).

¹⁰ The Russian Railways investment program for 2026 has been approved in a volume 20% lower than 2025. URL: <https://www.interfax.ru/business/1065704> / (accessed on 30.03.2026).

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