

Research
ArticleGeo-Economic Aspect of Western Sanctions Against
Leading Russian Metallurgical CompaniesKonina Natalia
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Abstract

This article examines the geo-economic consequences of Western sanctions imposed on leading Russian metallurgical companies. The study analyzes the strategic objectives of these sanctions, their impact on sanctioned companies, and broader implications for the global metallurgical market. Using economic data, industry reports, and the geopolitical context, this research aims to clarify the multifaceted effects of sanctions on both the Russian economy and international trade dynamics. The article concludes with a discussion of the future of the metallurgical sector under ongoing geopolitical tensions and sanctions.

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Introduction

Amid severe geo-economic confrontation and a de facto geo-economic war against Russia, Western countries have imposed sanctions on various sectors of the Russian economy, including the metallurgical industry. These sanctions target major Russian metallurgical companies to restrict their economic capabilities and influence.

The metallurgical industry is a vital component of the Russian economy, with companies such as Nor Nickel, Severstal, and RUSAL integrated into global supply chains and playing a key role in world markets [13]. Imposing sanctions on these companies has significant geo-economic consequences, affecting not only the targeted firms but also the global metallurgical market.

Methodology

This study employs a mixed-methods approach, combining qualitative and quantitative methods. Data were collected from multiple sources, including company financial reports, government publications, industry analyses, and academic journals. The analysis focuses on the economic impact of sanctions, strategic responses of affected companies, and broader geo-economic consequences. The goal is to understand the geo-economic significance of anti-Russian sanctions and their multifaceted effects.

Research Results

Sanctions are a tool of economic state pressure and unfair competition used to achieve political and strategic objectives without military conflict. They are highly effective with long-term consequences [14]. Since the "Crimean Spring" of 2014, Western countries have imposed various sanctions on Russia, affecting sectors such as finance, energy, and metallurgy [1; 15].

The primary goal of Western sanctions is to exert political pressure on Russia to change its behavior in international affairs. By targeting key economic sectors, including metallurgy, sanctions aim to weaken Russia's economic base and reduce its geopolitical influence [16]. Sanctions are designed to economically isolate Russia by restricting access to international markets, financial systems, and advanced technologies [2], hindering growth and competitiveness of Russian metallurgical companies.

Since 2014, the U.S. and EU have imposed more than 21,000 sanctions on Russia, some significantly affecting the metallurgical sector. Initially, these sanctions aimed to limit access to critical technologies, high-tech equipment, and investments, delaying long-term industrial growth [8]. Special sanctions targeted the financial operations of Russian banks and companies, particularly those connected to the metallurgical sector. These restrictions increased borrowing costs, making it difficult and expensive for metallurgical companies to finance innovation and expansion [9].

In 2014, investment programs in metallurgical companies were significantly reduced due to rising costs of loans and bonds, forcing leading companies to curtail diversification and investment initiatives, negatively impacting revenue streams and modernization of existing facilities. Significant ruble devaluation increased the cost of imported equipment and raw materials, sharply raising production costs. Critical consequences also included a decline in global demand for ferrous and non-ferrous metals. Sanctions prohibited the transfer of certain dual-use components and technologies to Russia,

potentially applicable to the defense sector [6]. Additionally, strict restrictions were imposed on foreign investments and Russian banks serving metallurgical companies.

In February 2016, EU-targeted sanctions affected specific enterprises, including Evraz and MMK, as well as VTB Bank, which managed financial operations for more than 82% of Russian metallurgical enterprises. These measures seriously limited access to foreign financing and reduced imports from the EU, leading to strategic shifts in internal company development strategies.

The U.S. introduction of a 25% tariff on steel and a 10% tariff on aluminum exports from Russia in March 2018 under the pretext of protecting the American metallurgical industry became a turning point. It increased material costs for Russian exports and lowered the investment attractiveness of Russian steel companies to levels reminiscent of the 1990s. In 2022, Western countries prohibited imports of critical metals such as steel (partially), aluminum, and nickel. The EU banned 50% of Russian steel imports, while the U.S. introduced a 35% tariff on Russian steel and aluminum [5]. The UK and Japan implemented similar strict measures.

In response, Russian metallurgical TNCs faced the need for radical operational transformation and government support. By mid-2022, partial recovery occurred, as companies such as MMK resumed half of previously suspended blast furnace capacities, aided by strong demand from China and purchases of Russian steel by India [5]. On April 12, 2024, the UK and the U.S. expanded sanctions against Russia in the metal trade, preventing LME and the Chicago Mercantile Exchange from replenishing aluminum, copper, and nickel stocks with Russian-sourced raw materials. In December 2023, the UK completely banned imports of Russian copper, aluminum, and nickel; the U.S. implements a similar ban from April 13, 2024.

Sanctions target both the metallurgical companies themselves and the regions hosting these enterprises, as they significantly contribute to regional budgets and employment. Russian steel exports account for approximately 30% of production, copper and aluminum for over 70%, and nickel for 90%. European sanctions could affect roughly 40% of Russian steel exports to Europe, causing losses of around \$9 billion [11].

The Russian government provided substantial support, including subsidies, preferential loans, and tax deferrals, which played a crucial role in maintaining operations without mass layoffs [10]. Efforts to facilitate metal exports through transportation subsidies and streamlined export procedures helped partially mitigate the impact of sanctions.

The main goal of Western sanctions is political pressure on Russian leadership, economic damage to key companies, displacement from major markets, and the creation of adverse socio-economic conditions for certain regions and sectors, including mass layoffs. Sanctions target key economic sectors, including metallurgy, aiming to weaken Russia's economic base, reduce competitiveness and profitability of leading companies, and lower budget revenues [7].

Artificial non-market restrictions on international market access and technology impede growth and competitiveness of Russian metallurgical companies. Strict sanctions for leading Russian metallurgical companies disrupted supply chains and eliminated access to profitable Western markets, such as those reached by Severstal, NLMK, Evraz, and MMK over many years, inevitably leading to reduced sales and profits. Sanctions worsened access to international capital markets, raising financing costs and complicating expansion and equipment upgrades. Import bans caused shortages of spare parts and equipment, increasing production costs. Simultaneously, long-term sanctions acted as a catalyst for innovation, prompting Russian companies to develop domestic technologies or alternative methods to circumvent restrictions in production processes and technologies that were previously highly dependent on foreign high-tech equipment and expertise.

The metallurgical sector's problems were largely offset by significant state support, particularly for construction, but sanctions overall push Russia toward a more isolationist economic model.

The global steel industry transformation from 2022 to 2024, amid rising geopolitical tensions and unprecedented Western sanctions on Russian steel companies, reshaped global market dynamics. Major European buyers turned to alternative suppliers, primarily China, India, and Brazil. These market changes caused supply chain disruptions, intensified competition, and price volatility, particularly in regions traditionally dominated by Russian exports in 2022–2023.

Baowu Steel, China's leading steel producer, leveraged this situation to expand production capacity, increase exports to Western Europe and Japan, producing 131.84 million tons of steel in 2022–91.4% (or 63 million tons) more than ArcelorMittal, the second-largest global producer with 68.9 million tons.

Economic effects of sanctions on Russian companies are ambiguous; sanctions organizers failed to fully achieve their goals, although certain slowdown of sanctioned companies' development is noted.

Nornickel, a major nickel and palladium producer, faced export and foreign capital restrictions, leading to revenue decline and the need to seek alternative markets and financing. In March 2022, the EU banned imports of Russian steel products, specifically rolled steel and pipes; slabs and iron ore were excluded. Severstal, whose 2021 revenue from the EU accounted for 34.2%, suffered most from restrictions. Limited access to Western technologies and financial services affected production capacity and investment plans, shifting strategy toward domestic and non-Western partners.

RUSAL, a leading global aluminum producer, experienced substantial disruptions due to sanctions, facing raw material supply issues and difficulties maintaining international client relations, causing production and revenue fluctuations. Most companies have already reoriented export flows, diversified operations, and reduced costs.

Sanctions against Russian producers had significant consequences for the global metallurgical market. Western sanctions caused supply chain disruptions, affecting availability and prices of key metals, with ripple effects across industries including automotive, aerospace, and electronics.

Recovery post-COVID-19, construction sector activity, and infrastructure projects contributed to growing metal and steel demand. For instance, U.S. housing construction grew by 10% in 2023, increasing steel demand. Due to sanctions and metal shortages in China, Russian producers in 2023 shifted exports to China, financially more favorable than domestic sales, leading to price increases. Rising energy costs, transportation tariffs, and trade policy changes of major market players also influenced steel prices. Oil price growth of 30% in 2023 increased metal production costs.

In 2024, steel and nickel prices sharply rose due to growing demand from developing countries. Russia accounts for about 9% of global nickel production. Nornickel reduced nickel production by 5% year-on-year to 209,000 tons. LME three-month nickel futures reached around \$16,550/ton on July 17. Sanctions coincided with delays in issuing new mining licenses in Indonesia, likely halving the 2024 nickel market surplus to 100,000 tons. Global demand for nickel continues to grow steadily.

Regarding aluminum, RUSAL proposed to the Russian Government the purchase by the state of up to half of total 2023 export volume at pre-sanction prices (exchange rates prior to April 12 sanctions) and exemption of non-ferrous plants from export duties. Previously, the state purchased aluminum for the Russian reserve after U.S. sanctions on RUSAL founder Oleg Deripaska in 2018, allocating 10 billion rubles. In 2024, RUSAL anticipates a potential 25% production reduction. Sanctions reshaped global markets: Russian companies seek new partners in Asia, the Middle East, and Africa.

This shift altered trade flows and created new competitive dynamics in the metallurgical sector. Uncertainty around sanctions contributed to price volatility in global metal markets. Fluctuations in nickel, palladium, and aluminum supply increased costs for producers and consumers.

Geo-economic consequences of Western sanctions on major Russian metallurgical companies are complex and ambiguous. In response, Russian companies strengthened strategic alliances with non-Western countries. Partnerships with China, India, and other developing markets provided alternative sources of investment and technology [12].

Sanctions stimulated technological adaptation and innovation in the Russian metallurgical sector. Companies invest in domestic R&D to reduce dependence on Western technology and enhance competitiveness [13]. Long-term sanctions prompted the Russian economy to become more resilient. Export market diversification and critical industry self-sufficiency became key components of Russian metallurgical companies' strategic adjustments.

Analyzing sanctions' consequences requires consideration of broader geo-economic effects. While aimed at pressuring Russia, sanctions also affect global markets and international trade dynamics. Supported by the Russian government, leading companies such as Nor Nickel, RUSAL, Severstal, NLMK, MMK, Evraz, and others continue to adapt to sanctions challenges. Strategies like export market diversification, investment in domestic technology, and international partnerships are critical for mitigating sanctions' impact.

Conclusion

The geo-economic significance of Western sanctions against Russian metallurgical companies is multifaceted, encompassing political, economic, and strategic dimensions. These sanctions substantially affected targeted companies, leading to operational challenges and market restructuring. Harsh external conditions forced management to optimize operations and seek new approaches in global markets. Broader consequences for the global metallurgical market include supply chain disruptions, price volatility, and changes in trade flows. Active use of economic sanctions serves as a geo-economic strategy of the U.S. and EU. Russian companies respond with adaptive strategies. Corporate and market development under sanctions reveals the complex interaction between geo-economics, leading countries' policies, and international trade.

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