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DOI <https://doi.org/10.26661/2414-0287-2021-4-52-16>**INTERNATIONAL TRADE IN IRON ORE PRODUCTS: THE CONTEMPORARY TRENDS  
AND THE CHALLENGES FOR UKRAINIAN ENTERPRISES****Venherska N.S., Lubenets I.O., Ryabchuk K.O.***Zaporizhzhia National University**Ukraine, 69000, Zaporizhzhia, Zhukovsky str., 66*

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This article analyzes the characteristics of the international trade in iron ore products. The present issues in manufacturing the products were considered based on the example of PJSC “Zaporizhzhia Iron Ore Plant”. The external and domestic factors, which influence the international trade between Ukraine and the European Union, have been outlined. The domestic ones have been outlined as follows: the collapse of the manufacturing capacities of the metallurgical and related industries due to the military campaigns in the East of Ukraine, a high level of uncertainty about the prospects of the heavy equipment industry, the devaluation of the national currency, the financial instability, the potential blockage of access to the ports of Mariupol and Berdyansk in the Azov Sea for the needs of the international trade, the mismatch between the legal acts of Ukraine and EU countries, a poor investment environment in the country, the social and economic instability. The external ones are the growing number of competitors (both within the national market and those based in other countries) and the protectionism in force within the EU market, the effects of Covid-19 on international trading trends. The outlook for trade in iron ore products between Ukraine and the EU has been analyzed. The trends in international trade in iron ore products, attributable to external and domestic factors, have been outlined. The import and export of Ukrainian products have been discussed. The actions aimed at the improvement of the cooperation between Ukraine and the EU in the international trade in iron ore products have been recommended. The driving forces affecting the increase in the exports of iron ore products have been established.

**МІЖНАРОДНА ТОРГІВЛЯ ЗАЛІЗОРУДНОЮ ПРОДУКЦІЄЮ:  
СУЧАСНІ ТРЕНДИ ТА ПРОБЛЕМИ УКРАЇНСЬКИХ ПІДПРИЄМСТВ****Венгерська Н.С., Лубенець І.О., Рябчук К.О.***Запорізький національний університет**Україна, 69600, м. Запоріжжя, вул. Жуковського, 66***Ключові слова:**міжнародна торгівля, експорт,  
імпорт, залізорудна продукція,  
тренди, Європейський Союз

У статті представлено аналіз особливостей міжнародної торгівлі залізорудною продукцією. Розглянуто сучасні проблеми у виробництві продукції на прикладі ПрАТ «Запорізького залізорудного комбінату». Виокремлено зовнішні та внутрішні фактори, що впливають на міжнародну торгівлю України з країнами Європейського Союзу. Визначено, що серед внутрішніх було виділено такі, як: знищення виробничої бази металургії та пов'язаних галузей, спричинених військовими діями на Сході України, високий рівень невизначеності щодо майбутнього важкої промисловості, знецінення національної валюти, фінансова нестабільність, загроза блокування доступу до портів Маріуполя та Бердянська в Азовському морі для потреб зовнішньої торгівлі, невідповідність нормативно-правових актів України з країнами ЄС, низький інвестиційний клімат в країні, соціально економічна нестабільність. Серед зовнішніх – зростаюча кількість конкурентів (як національних, так і з третіх країн) та протекціонізм, що діє на ринку ЄС, вплив Covid-19 на тенденції у міжнародній торгівлі. Проаналізовано перспективи торгівлі залізорудною продукцією між Україною та країнами ЄС. Виявлено тренди у торгівлі залізорудною продукцією на міжнародній арені, зумовлені зовнішніми та внутрішніми факторами. Розглянуто імпорт та експорт української продукції. Запропоновано заходи щодо покращення співпраці України та ЄС у міжнародній торгівлі залізорудною продукцією. Виокремлені рушії впливу на збільшення експорту залізорудної продукції.

### Statement of the problem

The mining industry in Ukraine is currently in a precarious condition. The worldwide financial and economic recession resulting from Covid-19 has affected both the national economy more broadly and its core industries, which include the mining sector. Among the most immediate problems is the downturn in production output, which has affected the financial status of PJSC «Zaporizhzhia Iron Ore Plant». A real threat to the industry's future growth remains the volatility of the prices on the market of iron ore raw materials, resulting from the unstable economic situation globally.

The topicality of the study arises from the argument that the mining industry is an inseparable and intrinsic part of the natural resources sector. The operation of the enterprises is a determinant for the condition of the core industries, in particular in the metallurgical, machine-building, construction, and agro-industrial sectors. The products of the mining industry have always been in high demand, so there is a strong potential for its further growth.

**The article sets out its goals** based on theoretical analysis to substantiate the current trends and the problems of international trade in iron ore products on the example of PJSC «Zaporizhzhia Iron Ore Plant».

### An analysis of the latest studies and publications

The problem of the sale of iron ore products has been reported in academic papers by M. Kovalenko, T. Lyadenko, and other authors. The specific features of international trade have been discussed by: S. Ivanov, I. Rybak, and others.

### A summary of the core material of the study

The international trade in products is an essential determinant that affects the level of global progress and the growth of the national economy. Each country implements its international trade policy when engaging in international trade relations, thus calling for consistency between the actions of a particular country and those of other countries through the regulation and management of international trade relations and the adaptation of national legislation to the international requirements.

After Ukraine and the European Union ratified an international agreement, the customs tariff was established to group the rates of the customs duties applied to the goods crossing the country's borders. The implementation of the customs and tariff instruments to regulate global trade ensures the predictability of export-import options for economic entities, their equal access to the global market, stimulates the growth of high-potential sectors of the economy, and supports an increase in the revenue side of the country's budget.

The government is supposed to facilitate the advancement of international trade relations, yet there are today many factors hindering the growth of international trade in iron ore products for our country, some of which include the following:

- the lack of an out-of-state distribution infrastructure;
- inefficient management of the enterprises;

- the underdevelopment of the basic principles of a market economy;
- the imperfect methods of state regulation of the economy generally and of activities in particular;
- a weak infrastructure for supporting export;
- the intensification of international economic competition;
- a weak infrastructure for foreign export support and protectionism [2, p. 170].

PJSC «Zaporizhzhia Iron Ore Plant» produces sintering and open-hearth ore. The total output is about 95% sinter ore, which contains 61% iron, while open-hearth ore contains 54–58% iron. The company produces a total of 4.5 million tonnes per year, with 21 km of tunneling per year. The company recorded 4,799 employees for 2020 [4].

The largest importers of iron ore products are the Czech Republic and Austria, while China has reduced its imports from Ukraine.

When analyzing exports of iron ore products at the beginning of 2021, it is noticeable that they have decreased by 3% compared to 2020. In contrast, the global economic environment resulted in a 2.1-fold increase in revenues reaching a total of 3.9 billion USD. Thus, at Qingdao CFR with 62% iron in China, for example, the first quarter of 2021 was an increase of 36% to 215 USD/tonne and in 2020 an increase of 74% with a value of 159 USD/tonne.

Thus, due to lower demand in China, the export of Ukrainian raw materials in the first quarter of 2021 reduced by 31% and amounted to 9.7 million tons, but the high prices have increased the revenue of Ukrainian exporters by 55%.

The drop in cargo traffic has led to a reduction of 16% to 13.3 million tonnes in the port of Pivdenny. It is noteworthy that this port accounts for more than 90% of Ukrainian iron ore exports.

Conversely, a recovery in demand for raw materials from European steel producers has helped the stabilization of iron ore shipments at the port of Izmail. The first half of the year resulted in a reduction of 1.6% to 1.2 million tonnes, compared to the previous year the shipment of iron ore exports from Izmail decreased by 27%. Izmail is the key point of shipment of iron ore products to the Austrian consumers, who increased imports of Ukrainian raw materials by 33% to 1.7m tonnes for the first half of the year.

Other European consumers prioritize the delivery of raw materials through railway transport. In particular, Ferrexpo increased its railway transportation of products to the European Union by 69.1% to 1.9 million tonnes between January and June of 2021. The largest European consumer of domestic iron ore products in the first half of the year has been the Czech Republic. It has increased the imports of ore from Ukraine by 36% to 2.6 million tonnes.

There are both domestic and foreign factors among the main problems affecting international trade in iron ore products of PJSC «Zaporizhzhia Iron Ore Plant». The factors that are external for the enterprise are those over which the enterprise has no influence or that influence may be insignificant. The external factors are subdivided into international, national, and market ones.

The domestic factors comprise as follows: the scale of the foreign economic activity – the number of

entities involved in international business; the costs involved in the production and sale of products abroad; the level of the technological difficulty of the products and their compliance with international standards – the more complex technology used, the more it is compliant with international standards, the more likely the products will be sold abroad; the expertise in foreign economic activity, i. e., the availability of the industrial, managerial, organisational background for undertaking international business; the control over the adoption and the implementation of the decisions on the execution of the procedures in the field of foreign economic activity; the work of the customs service to improve the efficiency of the customs authorities and the level of optimisation of the products clearance procedures; the qualified management and staff membership, the share of the market, the innovation activities, the duration of the production cycle, the level of production spare parts, the composition of the balances, the paying capacity, the liquidity, the equity ratio, the cost of capital, the asset structure, the investment attractiveness, the income per share, the rate of profitability and the efficiency.

The external risks may comprise as follows: the economic freedom; the competition – as a result of its existence, the companies are forced to develop and to implement a strategy of the accelerated expansion of foreign operations, the improvement of the procedures to transact business with other enterprises; the availability in the state requires a review of the forms and methods of communication with the foreign partner if the company has a representation office in a particular country; the risks related to the prospects for political or economic changes that may reduce the protection level of the enterprise, as well as the opportunities for profit-taking.

We first examine the impact of the outdoor environment on PJSC «Zaporizhzhia Iron Ore Plant».

First, an important effect is produced by fluctuations in supply and demand for iron ore. Notably, the level of global prices is affected by the regulatory actions of national governments, as well as by increased railway tariffs for the export of iron ore.

According to I. Rybak [5, p. 13], the difference between the average domestic and export prices for commercial iron ore originating in Ukraine further indicates that mining and metallurgical companies within the same financial and industrial groups enter into agreements based on below-market prices.

The market for iron ore products is highly competitive. The demand in the market is determined by the availability of a large number of clients geographically located in a single area and a large number of suppliers whose products do not differ significantly in terms of their qualitative characteristics.

The key factors that directly or indirectly affect the competitiveness of mining enterprises within the iron ore market are as follows:

- a very intense competition on the iron ore market;
- a significant contribution of global trends in the global market of iron ore raw materials to the regional market;
- high quality of products;

- a market-oriented price and constant fulfillment of the contractual arrangements for the delivery of products; due to the surplus of supply over the demand for iron ore products [3, p. 112].

The regional iron ore market is significantly influenced by the trends observed in the global market. An enterprise is required to monitor the economic situation constantly to ensure a favorable operating environment and to assess changes in the situation from the perspective of the possible consequences for the enterprise. The mining industry is also heavily influenced by the situation in the national industrial market.

In the near term, several risks could have a significant impact on international trade with EU member states first and foremost:

- the financial deterioration of enterprises due to a gradual slowdown in the dynamics of economic activity;
- the reduced availability of credit to the real economy (high-interest rates and access conditions) due to the increasingly acute situation in the financial and banking sector of the state;

- the problem of unregulation of corporate governance issues, the failure to respect the rights of minority shareholders about participation in management and obtaining reliable information on the activities of joint-stock companies, the distribution of dividends based on the enterprises' performance, and the inability to verify the veracity of this information and, therefore, to influence the formation of the investment strategy of enterprises;

- the maintenance of the issue of an unfavorable investment climate as an integral characteristic, which covers an imperfect institutional and legal framework, an underdeveloped stock market, an unstable financial and credit system, and excessive tax pressure, inefficient use of depreciation amounts, inefficient regulatory activity, a low protection level of private investors' rights, high level of corruption in the area of investment activity [1, p. 46].

The main factors include a decrease in domestic consumption of iron ores and processed products due to the military conflict in Donbas and the economic crisis.

An important reason is also physically and functionally obsolete machinery. Indeed, unserviceable equipment, insufficient technological and resource flexibility, and low implementation of leading scientific and technological developments in the manufacturing process do not allow the enterprise to reach a manufacturing level that would allow it to compete with those from abroad.

A significant development in international trade in iron ore products is the introduction in the year 2019 of the EITI standard – the Extractive Industries Transparency Initiative in Ukraine [1]. The implementation of this standard has resulted in transparency and accountability of mining companies, public disclosure of mineral reserves, mining output, and taxes paid, as well as improvements in the legal and regulatory framework to create a favorable environment – both for mining enterprises and for the socio-economic development of iron ore mining regions.

To achieve efficiency of cooperation for Ukrainian enterprises with global corporations, it is necessary to

develop a strategy for effective development of the foreign economic activity of an enterprise, and to form a system of its long-term goal, evaluating the potential capacity of entrepreneurship in a particular market. Only through a comprehensive study of world market conditions, an increase in the competitiveness of products, and the application of modern technologies it is possible to achieve an effect in foreign economic activity.

An effective way in which Ukrainian and EU enterprises can cooperate will be the facilitation of the conditions. A particular focus should be on overcoming bureaucracy and introducing a mechanism that will make it possible to resolve all disagreements with ministries distantly, i. e. electronically. It is also essential to improve and introduce a flexible tax, credit, and currency policy, which would stimulate the diversification of export-import transactions, as well as strengthen and ensure the convertibility of the national currency. The increase of the technological level, the implementation of energy- and resource-saving technologies, the increase in the level of mechanization and automation of production, the involvement of highly qualified specialists in the management of enterprises; scientific, technical, and technological renewal of production with ensuring its competitiveness through deep modernization; a reduction in resource intensity through the efficient use of own fuel and raw material resources. The use of the Ukrainian scientific potential and highly trained employees as a mechanism for enhancing the effectiveness of information and innovation policy. The research and development activities should be seen as the main way of overcoming the contradictions of socio-

economic development, in particular the improvement of the living standards of the population.

Therefore, to improve the cooperation between Ukraine and the EU on international trade in iron ore products, it is necessary to set the right priorities and strategic goals at the national level. To change the situation, it is necessary to establish conditions for the effective use of scientific potential and to increase the role of the government in the implementation of an investment and innovation model for the industry's growth. The priorities of the restructuring have to be the reduction of energy intensity of production, the increase in demand for Ukrainian iron ore products in the domestic market, the support of full-cycle plants – beginning with the processing of raw materials and ending with the manufacture of high-tech products, the promotion of exports, making Ukrainian metal products competitive in the global market, and the attraction of investments.

### Conclusions

When analyzing the problems of international trade of PJSC «Zaporizhzhia Iron Ore Plant» with the countries of the European Union, consideration can be given to the fact that there is a problem of industry growth and reduction of production value through global competition, currency regulation, refund of value-added tax and, accordingly, lack of financing for export promotion. To increase capacity and compete with foreign enterprises, the iron ore industry requires massive investments. But international companies are reluctant to invest in Ukrainian companies due to flawed legislation, an unresolved tax system, and the lack of cooperation between the government and international corporations.

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