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## STUDY OF THE COMPETITIVENESS OF UKRAINIAN ENTERPRISES IN COMPARISON WITH ENGLISH ENTERPRISES ON THE EXAMPLE OF PJSC “ZAPORIZHZHIA ABRASIVE PLANT”

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factors, competitive advantages

The article examines the concept of “competitiveness” and provides the author’s own definition of this economic definition. The factors of internal and external influence on competitiveness are expanded. The dynamics of changes in the number of Ukrainian enterprises in 2012–2022 is analyzed. The activities of PJSC “Zaporizhzhia Abrasive Plant”, production volumes of the main types of products and competitiveness indicators are studied. The strengths and weaknesses of the enterprise, as well as the problems it faces, and the actions it takes to modernize are considered. The reserves for improving the competitiveness of the enterprise PJSC “Zaporizhzhia Abrasive Plant” are identified. The place of Ukraine and the United Kingdom in the global competitiveness index is analyzed. The advantages of doing business in the UK are identified and the main factors affecting the competitiveness of enterprises in both countries are highlighted. Actions to improve the competitiveness of Ukrainian enterprises are proposed.

## ДОСЛІДЖЕННЯ КОНКУРЕНТОСПРОМОЖНОСТІ УКРАЇНСЬКИХ ПІДПРИЄМСТВ ПОРІВНЯНО З АНГЛІЙСЬКИМИ ПІДПРИЄМСТВАМИ НА ПРИКЛАДІ ПРАТ «ЗАПОРІЗЬКИЙ АБРАЗИВНИЙ КОМБІНАТ»

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### Ключові слова:

конкурентоспроможність,  
конкуренція, фактори,  
конкурентні переваги

У статті досліджено поняття «конкурентоспроможність» та надано власне визначення даної економічної дефініції. Розширено фактори внутрішнього та зовнішнього впливу на конкурентоспроможність. Проаналізовано динаміку зміни кількості українських підприємств за 2012–2022 рр. Досліджено діяльність ПрАТ «Запорізький абразивний комбінат», обсяги виробництва основних видів продукції та показників конкурентоспроможності. Розглянуто сильні та слабкі сторони підприємства, а також проблеми з якими воно стикається, а також дії які воно проводить задля модернізації. Визначено резерви підвищення конкурентоспроможності підприємства ПрАТ «Запорізький абразивний комбінат». Проаналізовано місце України та Великої Британії в глобальному індексі конкурентоспроможності. Визначено переваги ведення бізнесу у Великій Британії та виділено основні фактори, що впливають на конкурентоспроможність підприємств обох країни. Запропоновано дії для підвищення конкурентоспроможності українських підприємств.

### Problem statement

It is quite difficult for Ukrainian enterprises to compete with global leaders, in particular with British enterprises, which are highly competitive in the international market.

Ukrainian enterprises face difficult conditions in the domestic market, such as an unstable political situation, underdeveloped infrastructure, complex procedures and a large number of taxes, which complicate the business process and limit the ability of enterprises to achieve

competitive advantages. The study of these problems will help to identify the main challenges and obstacles facing Ukrainian enterprises and to identify effective strategies and solutions to improve their competitiveness in the international market.

### Analysis of recent research

Back in 1776, the English scientist Adam Smith formed his own definition of the concept of competition, after which many scientists studied this concept, including D. Ricardo

and J. Keynes. The main criterion of competitiveness was defined by A. Marshall, but M. Porter formed the definition of competitiveness in his work “The Theory of Competitive Advantage”. Many scholars pay attention to the problems of competitiveness of Ukrainian enterprises. Among the researchers whose works can be distinguished are Bugay V. [1], Kuznetsova K. [2], Matvienko-Bilyaeva H. [3], Melnyk O. [4], Putsentylo P. [5], Reznikova O. [6], Sydorenko V. [1], Khomenko Y. [6].

In their works, the researchers investigated the theoretical aspects of the concepts of “enterprise competitiveness” and “competitiveness”, the competitiveness of an enterprise based on its resource potential and the factors that ensure it.

**Goal setting**

The purpose of the article is to study the level of competitiveness of Ukrainian enterprises on the example of Zaporizhzhya Abrasive Plant PJSC and to compare it with English enterprises.

**Presentation of the main material**

The competitiveness of Ukrainian enterprises is one of the factors of stable development of the country’s economy. At present, enterprises face a large number of challenges related to the difficult political and economic situation.

Scholars have different approaches to defining the concept of “enterprise competitiveness”. In order to formulate the concept of competitiveness in this paper, we have considered the opinions of various authors.

Bugay V.Z. and Sydorenko V.O. understand “the competitiveness of enterprises in the studied industry as the ability of an enterprise at the current moment of time to ensure effective operation, maintain sustainable development and stable market positions through flexible adaptation to changes in the marketing environment” [1].

Kuznetsova K.O. noted that “competitiveness is the presence of certain advantages (resources) and the ability and ability to use them correctly in competition with other “players” to achieve their goals” [2].

G.L. Matvienko-Bilyaeva in her scientific work noted that “the competitiveness of an enterprise is a characteristic that reflects the degree of advantages over competing enterprises in a set of certain performance indicators in certain markets, for a certain period of time, the competitiveness of an enterprise can be assessed by comparing the competitive positions of several enterprises in a particular market” [3].

Melnyk O.I. in his work gave the following definition of the concept “competitiveness of an enterprise is a set of the following characteristics: capture of market share by an enterprise; ability of an enterprise to produce, sell and develop; ability of senior management to achieve the set goal; ability of an enterprise to sell its own products at a price that ensures growth and fulfillment of obligations to third parties (ensuring a certain level of profitability, formation of fixed assets, return on investment capital)” [4].

According to P.R. Putsentylo, “competitiveness of an enterprise is the ability to use the internal potential of the enterprise, forming and developing competitive advantages in accordance with the conditions of the micro and macro environment” [5].

Summarizing the opinions of various authors, we believe that competitiveness is the ability of an enterprise to use its internal potential to gain an advantage over competing firms in order to increase the enterprise’s profit.

Competitiveness factors are divided into internal and external (Fig. 1).

During the formation of the Ukrainian economy, enterprises were influenced by external and internal factors, but despite this, they continued to develop and increase their number, as shown in Figure 1.

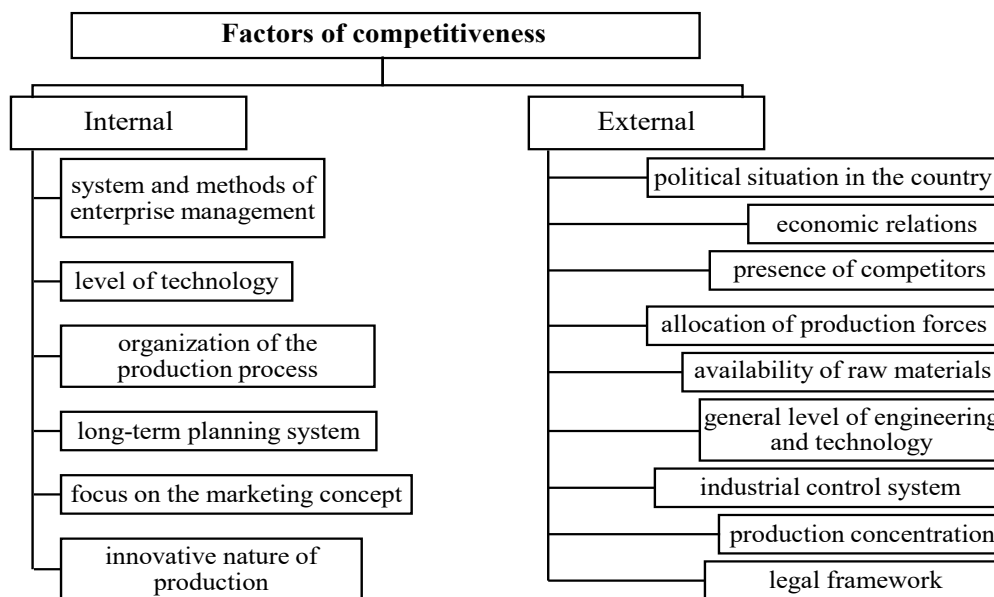


Fig. 1 – Factors of enterprise competitiveness

Source: compiled by the authors based on [6]

Thus, analyzing the dynamics of changes in the number of Ukrainian enterprises (Fig. 2), we can conclude that in 2013–2016 there was a sharp decline due to the beginning of Russian aggression in Donbas, as well as the annexation of Crimea and the unstable political situation. After 2016, there was a positive trend, in 2020, despite the onset of the coronavirus crisis, there was the largest number of Ukrainian enterprises, followed by a slight decrease in 2021. But in 2022, there was a sharp decrease in the number of enterprises, due to the full-scale Russian invasion, Ukrainian enterprises came under occupation, were destroyed and closed due to large losses.

In this paper, we would like to consider Zaporizhzhia Abrasive Plant PJSC, which is located on the frontline territory, and at the beginning of the Russian invasion, the company had to completely rebuild its supplier system, change logistics, and look for new export routes.

Private Joint Stock Company Zaporizhzhia Abrasive Plant is the only manufacturer of abrasives in Ukraine

and one of the largest producers of abrasives in Eastern Europe. The company’s products are characterized by the production of abrasives of consistently high quality [8].

In Ukraine, there are no analogues to ZAK PJSC for the production of normal aluminium oxide, silicon carbide and boron carbide (Table 1).

According to the table, it can be concluded that the company has increased the production of normal aluminium oxide, which has led to a significant increase in its revenues. The production of silicon carbide (an abrasive material that is the main product of Zaporizhzhia Abrasive Plant PJSC) decreased, but revenues from it increased, which is most likely due to the increase in its price. Ceramic- and bakelite-bonded abrasives also experienced a decline during the period under review.

Analyzing Fig. 3, it should be noted that the largest production volumes of normal aluminium oxide were in 2021, while the production volumes of silicon carbide and ceramic and bakelite-bonded abrasives decreased during 2018–2020, but in 2021 there was a slight increase.

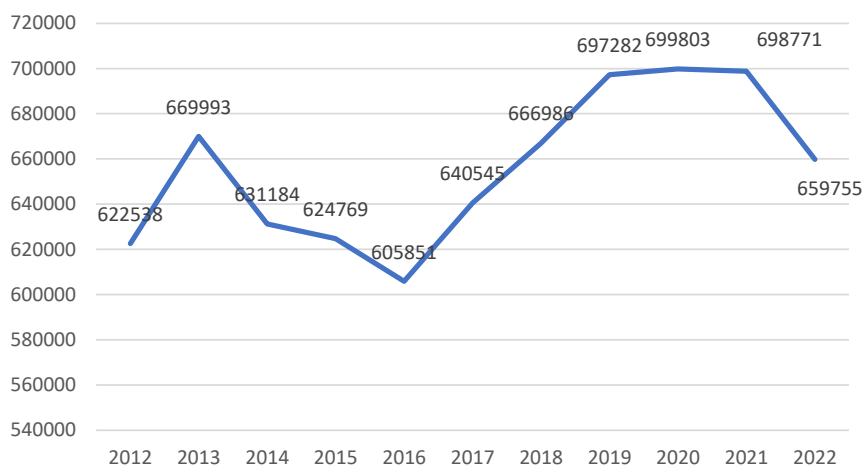


Fig. 2 – Number of Ukrainian enterprises in 2012–2022 in mln.

Source: compiled by the authors based on [7]

Table 1 – Production volumes of the main types of products of PJSC “ZAK” for 2018–2022

| Main product type                             | Production volume in 2022              |                                 | Production volume in 2021              |                                 | Production volume in 2020              |                                 | Production volume in 2019              |                                 | Production volume in 2018              |                                 |
|---|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|
|   | in kind (physical unit of measurement) | in monetary form (UAH thousand) | in kind (physical unit of measurement) | in monetary form (UAH thousand) | in kind (physical unit of measurement) | in monetary form (UAH thousand) | in kind (physical unit of measurement) | in monetary form (UAH thousand) | in kind (physical unit of measurement) | in monetary form (UAH thousand) |
| Electro-corundum normal                       | 70797.7 T.                             | 711180.7                        | 37013.4 T.                             | 821950.90                       | 27795.4 T.                             | 586668.50                       | 33196.5 T.                             | 630527.50                       | 34344.48 T.                            | 703975.00                       |
| Silicon carbide                               | 48203 T.                               | 821847.7                        | 18344.975 T.                           | 512064.00                       | 6832.355 T.                            | 169108.00                       | 16006.8 T.                             | 388675.30                       | 21309.76 T.                            | 507898.00                       |
| Abrasive tools with ceramic and bakelite bond | 1983.44 T.                             | 195260                          | 3653.966 T.                            | 236917.10                       | 2825.5 T.                              | 190406.10                       | 4036.658 T.                            | 247839.50                       | 4522.51 T.                             | 242523.00                       |

Source: compiled by the authors based on [8]

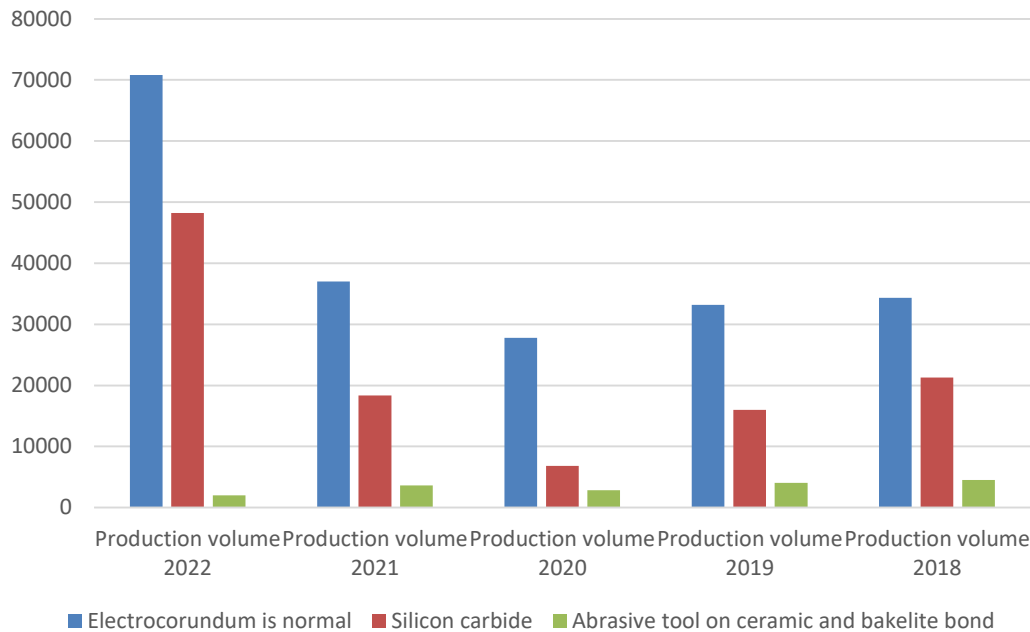


Fig. 3 – Dynamics of production volumes of the main types of products of PJSC “ZAK” for 2018–2021, in tons  
Source: compiled by the authors based on [8]

In 2022, the production of silicon carbide and ordinary aluminium oxide increased significantly, with an increase in revenue from silicon carbide and a decrease in revenue from aluminium oxide, indicating a decrease in price, while the production of abrasive tools almost halved.

To determine the level of competitiveness of Zaporizhzhia Abrasive Plant PJSC, we analyze the indicators that characterize it (Table 2).

The indicator of unit production costs had insignificant changes during 2020–2022, which indicates that the company focuses on optimizing production processes.

The capital efficiency decreased significantly in 2022 compared to 2021, indicating a decrease in the efficiency of the use of fixed assets.

Product profitability was the highest in 2022 at 1.33, indicating an increase in production and sales efficiency.

Labor productivity decreased significantly in 2021 compared to 2020, and the decline also occurred in 2022, which may be due to a decrease in employee motivation, insufficient qualifications of employees, and a decrease

in the number of employees, as 1500 employees were mobilized in 2022 (Table 2).

The autonomy ratio gradually decreased from 1.81 to 0.93 in 2020 to 2022, indicating an increase in the company’s dependence on external financing. The solvency ratio, according to the table, indicates the financial stability of the company, it remained at the level of 0.01.

The absolute liquidity ratio decreased by 0.16 during 2020–2022, indicating a decrease in cash and securities compared to short-term liabilities. The working capital turnover ratio also decreased by 0.83 in 2022, indicating a decrease in the efficiency of current asset management. According to the analysis, the indicators of the enterprise’s competitiveness have quite different values; profitability and labor productivity, as well as the solvency ratio, indicate the effective operation of the enterprise. However, other indicators indicate the problems that exist at the enterprise, to solve which it is worth paying attention to the optimization of production processes, financial management and efficient use of resources (Table 3).

Table 2 – Indicators of competitiveness of the enterprise “ZAK” PJSC for 2020–2022, UAH

| Indicator   | Formula   | 2020  | 2021 | 2022 |
|---|---|-------|------|------|
| <i>1. Efficiency of the company's production activities</i> |   |       |      |      |
| Unit production costs                                       | Gross costs / Output volume   | 1,06  | 0,98 | 1,03 |
| Return on equity  | Production volume / average annual cost of fixed assets                 | 3,70  | 6,40 | 4,70 |
| Product profitability                                       | Profit from sales / cost of production                                  | 1,20  | 1,23 | 1,33 |
| Labor productivity  | Production volume / Average number of employees of employees            | 23,94 | 8,21 | 8,05 |
| <i>2. Financial position of the company</i>                 |   |       |      |      |
| Coefficient of autonomy                                     | Own assets of the enterprise / Total amount of funding sources          | 1,81  | 1,62 | 0,93 |
| Solvency ratio  | Equity capital / General obligations                                    | 0,01  | 0,01 | 0,01 |
| Absolute liquidity ratio                                    | Cash and marketable securities / Short-term liabilities                 | 0,26  | 0,09 | 0,08 |
| Working capital turnover ratio                              | Revenue from sales of products / Average annual working capital balance | 1,70  | 2,54 | 1,71 |

Source: compiled by the authors based on [8]

Table 3 – SWOT analysis of Zaporizhzhya Abrasive Plant PJSC

| Strengths   | Weaknesses  |
|---|---|
| 1. The company has several production facilities, which are different in their importance and technology.<br>2. The company exports approximately 90% of its products to European countries.<br>3. The sphere of application of the products manufactured at the enterprise is quite wide, ranging from nuclear energy, machine and aircraft construction to dentistry and cosmetology.<br>4. The company carries out a full production cycle (from raw materials to materials and products from them)<br>5. Wide range of products | 1. Low level of introduction of new technologies and new products<br>2. The volume of production of all types of products is significantly affected by competition from Chinese manufacturers   |
| Features  | Threats   |
| 1. Production of finished products<br>2. Entering new sales markets<br>3. Implementation of innovative production methods   | 1. Unpredictability of hostilities on the territory of the state;<br>2. The consequences of the introduction of martial law, the sales market has shrunk, and European partners, given the company’s close proximity to the war zone, prefer Chinese and Russian manufacturers and suppliers.<br>3. The economic downturn in the economy as a whole;<br>4. A significant level of inflation;<br>5. Instability of the financial and currency markets;<br>6. High interest rates for obtaining credit resources, high competition in the industry, frequent changes and unresolved basic legislation of Ukraine;<br>7. Increase in energy prices;<br>8. Lack of working capital.<br>9. High degree of dependence on legislative or economic restrictions |

Source: compiled by the authors based on [8–9]

To assess the company’s competitiveness, it is also necessary to consider the company’s competitors, its strengths and weaknesses, as well as problems that may hinder its development.

In the world, the main competitors of PJSC “ZAK” are: normal aluminium oxide – manufacturers of China; black silicon carbide – OJSC “Volzhsky Abrasive Plant”, Russia; boron carbide – manufacturers of China; cutting wheels – KLINGSPOR LLC, Germany, manufacturers of China.

Despite all the problems the company is currently facing, it continues to develop. In 2020–2021, Zaporizhzhia Abrasive Plant modernized the production of normal and abrasive aluminium oxide grinding materials with the installation of the latest European furnace and introduced automated control of melting furnaces.

From 2022 to 2023, the following were reconstructed: hot water supply and heating systems with the installation of electric boilers, a silicon carbide grinding section, a dosing and mixing system for raw materials for the silicon carbide smelting production, and aspiration units for the main production facilities. It is also planned to install European equipment, increase capacity and reduce energy costs.

Thus, based on the example of Zaporizhzhia Abrasive Plant, we can conclude that it is currently quite difficult for Ukrainian enterprises to carry out their activities due to a number of obstacles they face, including the occupation or destruction of

warehouses and equipment, lack of electricity, loss of suppliers and customers, distrust on the part of customers, etc.

However, Ukraine has plans to join the EU in the near future and needs to reorient enterprises and increase competitiveness. In this article, we would like to compare the competitiveness of Ukrainian enterprises with that of the UK.

It is worth comparing the Global Competitiveness Index for Ukraine and the UK (Table 4). According to the table, the UK is always in the top twenty, while Ukraine, although it has increased its place in the ranking over the study period, is still 34 positions below the UK.

The advantages of doing business in England are:

- 1) economic and social stability in the country, although the economic situation in the country was disrupted by Brexit
- 2) developed market
- 3) legislation is conducive to doing business, there are relevant laws that facilitate the opening and development of small and medium-sized businesses;
- 4) progressive taxation (in the current period, the level of taxes has all the prerequisites for reduction)
- 5) relatively low interest rates on loans;
- 6) high level of asset security;
- 7) established trade relations with European markets and the United States (England is a few steps away

Table 4 – Rankings of the UK and Ukraine in the Global Competitiveness Index for 2018–2022

| Country        | 2018 | 2019 | 2020 | 2021 | 2022 |
|----------------|------|------|------|------|------|
| United Kingdom | 20   | 23   | 19   | 18   | 23   |
| Ukraine        | 83   | 85   | 85   | 54   | 57   |

Source: compiled by the authors based on [10]

from signing an agreement on free economic space and cooperation with the United States).

We highlight the main factors that affect the competitiveness of enterprises in both countries:

1. The overall economic stability and growth rates of the countries are quite different, a stable and growing economy provides companies with more opportunities for development.

2. The quality and efficiency of infrastructure, including transportation, communications and utilities, currently in Ukraine, logistics is completely destroyed, unlike in the UK.

3. Ukrainian companies are quite technologically advanced, unlike the UK, where entrepreneurs are more conservative.

4. The UK has greater access to international markets, while Ukraine is currently losing its main customers due to their distrust of suppliers from a country where military operations are taking place.

Thus, both countries have their strengths, but doing business in England currently has significant advantages, including stable economic and social conditions, a developed market, favorable business legislation, progressive taxation, access to international markets, and established trade relations.

To increase the competitiveness of Ukrainian enterprises, it is advisable to establish ties with foreign countries, open new markets, for example, enter the markets of Asia and Africa. They should also improve the quality of their products in line with international standards and introduce new technologies. In addition to the actions taken by the companies themselves, the state should also create a legislative framework to improve the competitiveness of enterprises, as well as create laws that would provide for

the sale of domestic products first and foreign ones second. Similar laws are in place in the European Union.

### Conclusions

Thus, we can conclude that competitiveness is the ability of an enterprise to use its internal potential to gain an advantage over competing firms in order to increase the enterprise's profit.

It is currently quite difficult for Ukrainian enterprises to compete in the international market, according to our research, in 2022 there was a sharp decline in enterprises, which was caused by Russian aggression and the coronavirus crisis that took place during 2020–2021.

Considering Zaporizhzhia Abrasive Plant PrJSC, we came to the conclusion that despite the proximity of the enterprise to the front line and constant shelling of the city, the company continues to operate and develop. Analyzing its competitiveness indicators, we identified a number of problems faced by the company, including dependence on external sources of financing, inefficient management of working capital and financial assets. In addition, the company suffers from distrust of European partners and a high level of competition from Chinese manufacturers, so it is advisable for the company to introduce new technologies that would simplify the production process and reduce the cost of products and make them competitive.

Analyzing the Global Competitiveness Index, we concluded that Ukrainian enterprises are gradually continuing to develop and move up the ranking, but it is currently difficult to compete with British enterprises, so it is advisable to open new markets and increase production innovation.

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