

<https://doi.org/10.31891/2307-5740-2024-326-4>

UDC 330.34:332.142

TULCHYNSKA Svitlana

National Technical University of Ukraine "Ihor Sikorsky Kyiv Polytechnic Institute"

<https://orcid.org/0000-0002-1409-3848>

KOZHEMIACHENKO Olga

National Technical University of Ukraine "Ihor Sikorsky Kyiv Polytechnic Institute"

<https://orcid.org/0000-0001-8732-6596>

DETERMINATION OF CAPITAL INVESTMENT TRENDS OF INDUSTRIAL PRODUCTION IN THE CONDITIONS OF UNCERTAINTY, THREATS AND RISKS

The article examines the trends of changes in capital investment in industry and determines the trends of further investment in conditions of uncertainty, threats and risks. Capital investments in industry for 2010-2022 were analyzed. It was determined that the general level of capital investments in the industry of Ukraine in the period 2010-2022 increased, with the exception of 2020. The number of industrial enterprises that introduced innovations for the period 2013-2020 was analyzed as a percentage of the total number. During the period 2013-2016, there was an increase in enterprises that implemented innovative processes in their activities, in 2017 and 2019, there was a slight decrease in innovative activity compared to the previous period. It is substantiated that the main vectors of development among science-intensive types of industry and mechanical engineering should become: the development of the aviation industry, rocket and space technology, the production of new types of rolling stock, the development of the energy industry, the production of electronic equipment and the modernization of the defense complex. To ensure the security and competitiveness of the state, it is necessary to develop modern types of weapons and military equipment. Among the priorities: radar systems, high-precision weapons and means of their destruction, missile complexes of various ranges. In order to maintain competitive positions in the field of mining and metallurgical production, it is necessary to develop directions for the diversification of production, optimization of the structure according to the nomenclature range, development of new types of goods and services on the basis of existing production capacities. It is necessary to develop and attract new, more effective methods of development of natural reserves of mineral raw materials.

Key words: capital investments, investment, conditions of uncertainty, threats, risks, industrial enterprises.

ТУЛЬЧИНСЬКА Світлана, КОЖЕМЯЧЕНКО Ольга

Національний технічний університет України «Київський політехнічний інститут імені Ігоря Сікорського»

ВИЗНАЧЕННЯ ТЕНДЕНЦІЙ ЗМІН КАПІТАЛЬНИХ ІНВЕСТИЦІЙ ПРОМИСЛОВОГО ВИРОБНИЦТВА В УМОВАХ НЕВИЗНАЧЕНОСТІ, ЗАГРОЗ ТА РИЗИКІВ

У статті досліджуються тенденції змін капітальних інвестицій в промисловості та визначаються тенденції подальшого інвестування в умовах невизначеності, загроз та ризиків. Проаналізовано капітальні інвестиції в промисловість за 2010-2022 роки. Визначено, що загальний рівень капітальних інвестицій в промисловість України у період 2010-2022 років зростає за винятком 2020 року. Проаналізовано кількість промислових підприємств, що впроваджували інновації за період 2013-2020 рр., у відсотку до загальної кількості. За період 2013-2016 рр. спостерігається збільшення підприємств, що впроваджували інноваційні процеси у своїй діяльності, у 2017 та 2019 роках спостерігається незначне зниження інноваційної активності по відношенню до попереднього періоду. Обґрунтовано, що основними векторами розвитку серед наукомістких видів промисловості та машинобудування повинні стати: розвиток авіаційної галузі, ракетно-космічної техніки, виробництво нових видів рухомого складу, розвиток енергетичної галузі, виробництво електронної техніки та модернізація оборонного комплексу. Для забезпечення безпеки та конкурентоспроможності держави необхідним є розвиток сучасного виду озброєння та військової техніки. Серед пріоритетів: радіолокаційні системи, високоточна зброя та засоби її знешкодження, ракетні комплекси різної дальності. Для підтримки конкурентних позицій в сфері гірничо-металургійного виробництва необхідним є розробка напрямів диверсифікації виробництв, оптимізації структури за номенклатурним рядом, розвиток нових видів товарів та послуг на базі існуючих виробничих потужностей. Необхідно розробляти та залучати нові більш ефективні методи розробки природних запасів мінеральної сировини. В нафтохімічній галузі необхідним є збільшення частки наукомістких та високотехнологічних виробництв. Експортно-орієнтовані підприємства повинні орієнтувати свої виробництва на відповідність європейським стандартам якості та технологій, екологічності виробництва, що дасть змогу вітчизняним підприємствам покращити свої конкурентні позиції.

Ключові слова: капітальні інвестиції, інвестування, умови невизначеності, загрози, ризики, промислові підприємства.

FORMULATION OF THE PROBLEM

The development of industrial enterprises is greatly influenced by the volume of capital investments in enterprises and the industry. Most large enterprises are forced to attract foreign and domestic investors in the development of their business on their own.

However, despite the general efforts of the state, business and investors, the industrial sector needs significant additional funds to maintain its level of competitiveness on world markets. In order to ensure competitive advantages on the international market, first of all, it is necessary that domestic products meet the technical requirements put forward by European countries. The domestic market also has its own level of competition, which requires enterprises to improve their production and economic capacities. This and the other actualize the issue of investment of industrial enterprises.

ANALYSIS OF RECENT RESEARCH AND PUBLICATIONS

The work of a number of scientists is devoted to the study of investment activity and problems of the development of capital investment: Yu. D. Radionov, T. G. Zatonatska, A. V. Stavytskyi, V. G. Demyanyshina, N. M. Popadyntsia, M. I. Melnyk, O. P. Kyrylenka, O. S. Maksymchuk, I. O. Irtishcheva, T. V. Radevich, and others. However, it is worth noting that the issue of attracting investment resources in extreme conditions has not been studied much, because the circumstances that arose in the conditions of military operations are unpredictable and require further research in this direction.

The purpose of the article is to study trends in changes in capital investment in industry and determine trends in further investment in conditions of uncertainty, threats and risks.

The main results of the study

If we consider the general level of capital investments in the industry of Ukraine, then for the period 2010-2022, it can be stated that until 2021, with the exception of 2020, it grew (Fig. 1).

During the period 2010-2022, the largest volume of capital investments in industry was observed in 2018-2019 and 2021. Thus, in 2021, compared to 2010, the volume of capital investments in industry increased by 187,538.5 million UAH, and compared to 2014, by 156,680.9 million UAH. Starting from 2022, the volume of capital investments in industry decreased with the beginning of hostilities on the territory of the state. However, despite the crisis phenomena, namely: hostilities on the territory of Ukraine, most industrial enterprises continue to carry out their activities (within the security situation) and introduce innovative products into their production (Fig. 2).

During the period 2013-2016, there was an increase in enterprises that implemented innovative processes in their activities (in 2016, compared to 2013, they increased by 3.7%). In 2017, there was a slight decrease in innovative activity (-2.3% compared to 2016). In 2018, there was an increase in industrial enterprises that introduced innovations (by 1.3% compared to 2017), in 2019 there was a decrease compared to 2018 by (-1.8%). Such fluctuations can be explained by the onset of the COVID-19 pandemic, which led to significant restrictions in the activities of most enterprises not only in Ukraine, but also throughout the world, which negatively affected all innovative and logistical processes. It is in the period of crisis phenomena that the issue of competitive struggle is particularly acute, since it is precisely due to the adaptive capacity that enterprises can both significantly improve their positions on the market and significantly worsen them.

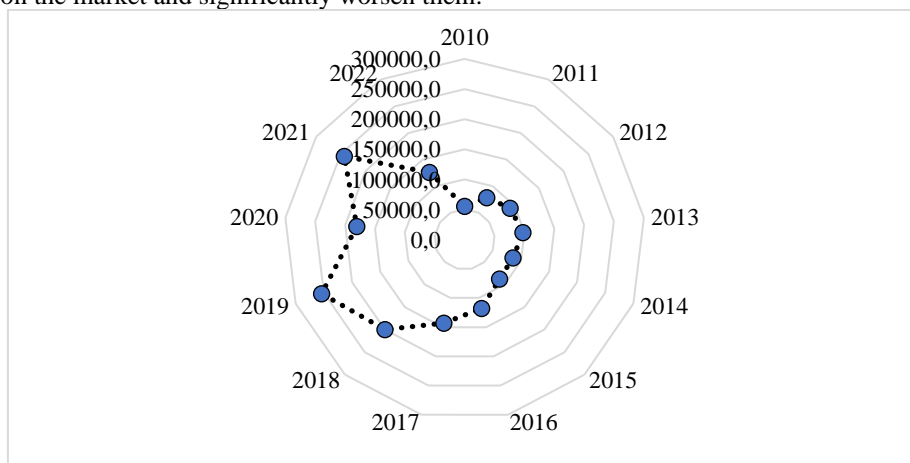


Fig. 1. Capital investments in industry for 2010-2022 (million UAH)*

* data for 2022 are given without taking into account temporarily occupied territories and territories where active hostilities are taking place
Source: summarized by the authors based on [7]

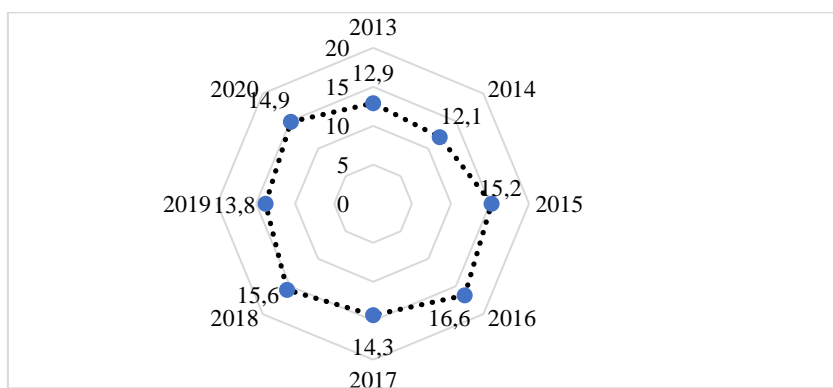


Fig. 2. The number of industrial enterprises that introduced innovations for the period 2013-2020 (% of the total number)

* data for 2021-2022 are not given in official sources of statistical information for these indicators
Source: summarized by the authors based on [7]

In such conditions, due to the small number of production volumes and the number of personnel, small enterprises are the most adapted. The adaptive capacity of such business entities in comparison with large industrial enterprises is significantly greater due to their more flexible capacity to new limited conditions [4].

At large industrial enterprises, a significant reduction in the involvement of live labor in most production processes is almost impossible, taking into account the specifics of the production technology. During the pandemic, export-oriented enterprises also significantly reduced their turnover due to the difficulty of implementing transport and logistics flows.

If we consider the competitive positions of industrial giants in the pre-war period (PJSC ArcelorMittal Kryvyi Rih, PJSC Mariupol Metallurgical Plant named after Ilyich, PJSC Zaporizhstal, PJSC Azovstal, JSC Southern Mining and Processing Plant), it can be emphasized that they did not significantly reduce their competitive positions during the pandemic period, which is primarily due to the specifics of production. In order to ensure their competitive positions on the market and the desired level of economic security, enterprises need to implement innovations in all areas of production and management activities.

It should be noted that as of March 23, 2023, according to the calculations of the government of Ukraine, the European Commission, the World Bank Group, and the United Nations, 411 billion USD is needed for the restoration and reconstruction of the state [3]. At the same time, the possibilities of Ukrainian enterprises for capital investment are extremely limited. According to statistical data, during the nine months of the war in Ukraine, 43.5% of enterprises suffered losses in the amount of 118 billion UAH. Bank lending during hostilities is highly risky, resulting in higher interest rates, which averaged 17.1% in February 2023.

Under such conditions, state support is needed to activate investment processes. In this direction, the state launched a program within the framework of the project "5-7-9% Available Loans" [3], according to which the state compensates enterprises for part of the credit burden on loans for renewal of working capital and capital investment. In accordance with the resolution of the CMU "On Amendments to the Procedures Approved by Resolutions of the Cabinet of Ministers of Ukraine No. 28 of January 24, 2020 and No. 723 of July 14, 2021" [8], opportunities were expanded for destroyed enterprises that can receive loans under 9% per annum, under a partial state guarantee (up to 80%) for the restoration of production facilities for a period of five years in the amount of 60 million UAH.

However, today such support is insufficient and requires further steps from the government in the direction of stimulating the attraction of capital investments by industrial enterprises.

CONCLUSIONS AND SUGGESTIONS

Therefore, for Ukraine in the field of events in 2022-2023, the main vectors of development among science-intensive types of industry and mechanical engineering should be: the development of the aviation industry, rocket and space technology, the production of new types of rolling stock, the development of the energy industry, the production of electronic equipment, the modernization of the defense complex. To ensure the security and competitiveness of the state, it is necessary to develop modern types of weapons and military equipment. Among the priorities are radar systems, high-precision weapons and means of their destruction, missile complexes of various ranges.

In order to maintain competitive positions in the field of mining and metallurgical production, it is necessary to develop directions for the diversification of production, optimization of the structure according to the nomenclature range, development of new types of goods and services on the basis of existing production capacities.

Since Ukraine is a raw material country, it is necessary to develop and attract new, more effective methods of developing natural reserves of mineral raw materials. In the petrochemical industry, it is necessary to increase the share of science-intensive and high-tech industries. When developing such technologies, it is necessary to take into account domestic and foreign demand for products, drawing on European experience in the use of alternative types of raw materials and energy (coke-chemical industry and oil refining).

Export-oriented enterprises in the post-war recovery period should immediately orient their production to compliance with European standards of quality and technology, environmental friendliness of production, which will enable domestic enterprises to improve their competitive positions not only on domestic, but also on international markets.

However, it is important to apply the outlined measures already today, which will contribute to the recovery of Ukraine's economy already now.

REFERENCES:

1. Babina N. O. *Economiko-finansova bezpeka pidpriemstv Ukraini yak element finansovoi bezpeki dergavi v konteksti integrirovanih procesiv* [Economic and financial security of Ukrainian enterprises as an element of the financial security of the state in the context of integration processes]. Cherkasy: Publisher Yu. A. Chabanenko, 2018. P. 185-206.
2. Vasyliiev, O.V., Meita, V.I. *Formuvannia systemy upravlinnia ekonomichnoiu bezpekoiu promyslovykh pidpriemstv* [Formation of the economic security management system of industrial enterprises]. *Ekonomichniy analiz-Economic analysis*, 2013. 2,138-145p.
3. *Zahalna suma priamykh zbytkiv infrastruktury zroslo do 114.5 mlrd.* [The total amount of direct damage to the infrastructure increased to 114.5 billion]. URL: <https://kse.ua/ua/about-the-school/news/zagalna-suma-priamykh-zbitkiv-infrastrukturi-zroslo-do-114-5-billion/>
4. Ilyashenko O.V. *Mehanizmi sistemi ekonomichnoi bezpeki pidpriemstva* [Mechanisms of the system of economic security of the enterprise]: monograph. Kharkiv: Machulin, 2016. 504 p.

-
5. Kozachenko G.V Ponomarev V. P, O. M Lyashenko Ekonomichna bezpeka pidpriemstva sytnist ta mehanizm zabezpechenya [Economic security of the enterprise: essence and mechanism of providing]. Kyiv: Libra, 2003. 280 p.
 6. Lyashov D. O. Problemi zabezpecheniya ekonomichnoi bezpeki na pidpraemstvah v umovah viiskovih diy na shodi Ukraini [Problems of ensuring economic security at enterprises in the conditions of military operations in eastern Ukraine]. Theoretical and Practical Aspects of Economics and Intellectual Property. 2017. P. 89-95.
 7. Official website of the State Statistics Service of Ukraine. URL: <https://www.ukrstat.gov.ua/>
 8. Postanova KMU [Resolution of the CMU]/ Pro vnesennia zmin do poriadkiv, zatverdzhenykh postanovamy Kabinetu Ministriv Ukrainy vid 24 sichnia 2020 r. № 28 i vid 14 lypnia 2021 r. № 723 [On Amendments to the Procedures Approved by Resolutions of the Cabinet of Ministers of Ukraine dated January 24, 2020 No. 28 and July 14, 2021 No. 723] dated October 14, 2022 No. 1194. URL: <https://www.kmu.gov.ua/npas/pro-vnesennia-zmin-do-poriadkiv-za-1194>
 9. Tulchynska, S.O., Chomii, B.P., and Saloid, S.V. Mekhanizm otsiniuvannia zaluchennia investytsiinykh resursiv yak zasib zabezpechennia ekonomichnoi bezpeky promyslovykh pidpriemstv [The evaluation mechanism of attracting investment resources as a means of ensuring the economic security of industrial enterprises]. 2018. 170 p.