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Actual Issues of Increasing Production Efficiency in Industrial Enterprises (on The Example of Navai Region)

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Abstract: The article comprehensively analyzes current scientific and practical issues related to attracting production investments and increasing their economic efficiency at industrial enterprises. The study initially covers the economic essence of investments, their strategic importance in ensuring the development and competitiveness of enterprises, based on a deep theoretical foundation. At the same time, the impact of production investments on technological innovation, the introduction of innovations and increasing production efficiency at enterprises is examined in detail using foreign and domestic scientific sources, as well as advanced international experience. In addition, the mechanisms for forming and implementing investment projects at industrial enterprises, methods for scientific assessment of investment efficiency, the possibilities of using economic and mathematical models and forecasting methods are analyzed in detail.

Keywords: production investments, industrial enterprise, investment policy, economic efficiency, management model.

1. Introduction

Today, attracting and effectively using production investments is one of the most important strategic tasks facing industrial enterprises. Because investments not only allow technologically upgrading production and increasing production volumes, but also ensure long-term sustainable development and competitiveness of enterprises. The resolutions and decrees adopted by the President of the Republic of Uzbekistan also pay special attention to the development of investment activities in industrial enterprises, in particular, the tasks of increasing economic efficiency through modernization of production and widespread introduction of innovations are set [1].

In the scientific literature, productive investments are described as one of the main drivers of economic growth. In particular, Nobel Prize laureate Paul Romer considers innovation and technological innovation to be a decisive factor in economic growth [2]. Also, the issues of assessing the effectiveness of attracting productive investments are an important object of scientific research. In particular, economic mathematical models are widely used to assess the effectiveness of productive investments [3]. In addition, studying international experience in managing investment projects and adapting it to national practice plays an important role in improving investment processes [4].

This article provides a comprehensive analysis of the mechanisms for attracting production investments by industrial enterprises, the theoretical and methodological

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foundations for increasing investment efficiency. The scientific novelty and relevance of the research lies in the development of modern approaches to managing production investments and providing practical recommendations for increasing the economic efficiency of enterprises.

The topic of investment management, in particular, the scientific justification and improvement of investment activity in the production sector, has been studied by many foreign and domestic economists. Below is an expanded analysis of selected scientific sources on this topic.

Aswat Damodaran, who developed the theoretical foundations of investment management, proposes the use of economic and mathematical models and methods to assess the effectiveness of investments. He paid special attention to determining and forecasting the value of production investments [5].

Paul Romer, in his theory of technological change, emphasizes the connection of production investments with innovative activity and analyzes them on the basis of endogenous models of economic development. In his opinion, investments directed to production increase innovative capabilities [6].

In the resolutions and decrees of the President of the Republic of Uzbekistan, the promotion of modernization and investment activity in production enterprises is defined as one of the main directions of state policy. These decrees specifically mention the role of investment policy in the development and competitiveness of production [7].

Russian economist T.V. Igolnikov developed the necessary methods for assessing the economic efficiency of investment projects and making management decisions. His scientific works formulated specific proposals for increasing the financial efficiency of production investment projects [8].

Reports published by the Organization for Economic Cooperation and Development (OECD) provide a detailed analysis of measures to improve investment processes and the investment climate in developing countries, including Uzbekistan. This source provides international standards and recommendations for the development of investment activities [9].

Joseph Schumpeter, who created the innovative theory of economic development, highlighted the role of production investments in increasing the competitiveness of enterprises through innovative activities. According to Schumpeter, investments directed to production are the main factor for economic growth and technological development [10].

Research conducted by domestic economists has established the need to use public-private partnership mechanisms for the effective implementation of investment policies of industrial enterprises. These mechanisms play an important role in stimulating investment attraction [11].

William Sharpe created the basis of the capital asset pricing model (CAPM) for assessing investment efficiency from the perspective of financial risks. The model developed by Sharpe is widely used in making investment decisions and is considered useful in managing investment risks in manufacturing enterprises [12].

Manfred Perlman and Ralph Lee in their book "Industrial Economics: Issues and Perspectives" extensively covered the methodological aspects of developing investment strategies and assessing their effectiveness in industrial enterprises. The authors focused on the theoretical substantiation of investment activities in industrial enterprises [13].

Amartya Sen, linking investments with the social aspects of economic development, scientifically substantiated that investments in human capital are a key factor in economic efficiency. According to his views, investments aimed at production also support the socio-economic development of the enterprise [14].

2. Materials and Methods

Several scientific research methods were widely used in the implementation of this study. The main methodological basis of the study was a systematic approach. This approach allowed for a comprehensive analysis of all aspects of the activities of small business entities. In addition, the following scientific methodological approaches were used in the research process: systematic approach, SWOT analysis, comparative statistical and expert assessment methods. The study widely used financial and economic indicators of the Navoi regional statistics department and small business entities, as well as the results of expert surveys.

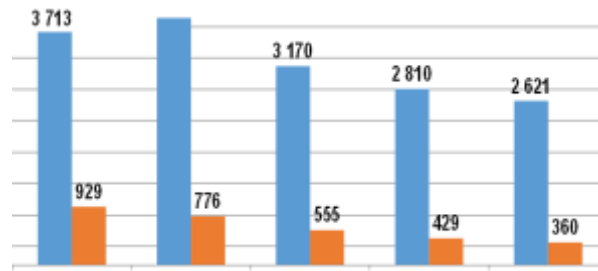
Data on the volume of industrial production by product type is formed using the codes of the Statistical Classifier of Products (Goods, Works, Services) of the Republic of Uzbekistan by Types of Economic Activity (UzDSt 2914:2014). These include mining and quarrying, manufacturing industry, electricity, gas, steam and conditioned air, water supply, sewage, waste collection and recycling services (sections B, C, D, E). Statistical data on industry are formed based on the following: a) statistical reports of legal entities producing industrial products (monthly, annual); b) results of quarterly sample observations of small enterprises, microfirms; d) data of quarterly sample statistical observations of individual business entities engaged in production activities; e) materials of household observations:

The calculation of the physical volume index is carried out using the deflation method. The calculation is based on data on the dynamics of the production of products (works, services) in value terms, and then individual indices are gradually aggregated into enlarged indices by types of economic activity. Advantages of calculating the physical volume index of industrial production using the deflation method: this method allows the index to include various groups of goods; statistically selected prices can be used as representatives of the corresponding group of goods; the deflation method allows taking into account qualitative changes in the manufactured product. The aggregate index of the physical volume of industrial production is determined by aggregating index indicators by sections, recalculated to the value added structure of the base year.

3. Results

This section provides a comprehensive and in-depth analysis of the number of operating and newly established industrial enterprises in Navoi region, the main indicators of Navoi region's industry by region, the production of certain types of industrial products by large industrial enterprises, the volume of industrial products produced by small business entities, methodological explanations and metadata on industrial production and the dynamics of changes in the volume of production investments in 2020-2025 using the example of its districts, the distribution of attracted investments by sector, the main economic indicators representing production efficiency, and the economic efficiency of implemented investment projects [15]. In particular, as of October 1, 2025, 3,689 industrial enterprises were operating in the region. When the number of these industrial enterprises is distributed by main types of economic activity, the highest share is 604 (23.0% of the total number of operating enterprises) in the production of other non-metallic mineral products, 558 (21.3%) in the production of food products, 204 (7.8%) in other activities related to the mining industry, 170 (6.5%) in the production of furniture, and 156 (6.0%) in the production of finished metal products, except for machinery and equipment [16] (Figure 1).

Figure 1. Number of operating and newly established industrial enterprises in Navoi region (as of October 1)



The main indicators of the Navoi region's industry by region. According to preliminary data, in January-September 2025, regional enterprises produced industrial products worth 137,300.0 billion soums, and the physical volume index of industrial production compared to January-September 2024 was 108.5% (Table 1).

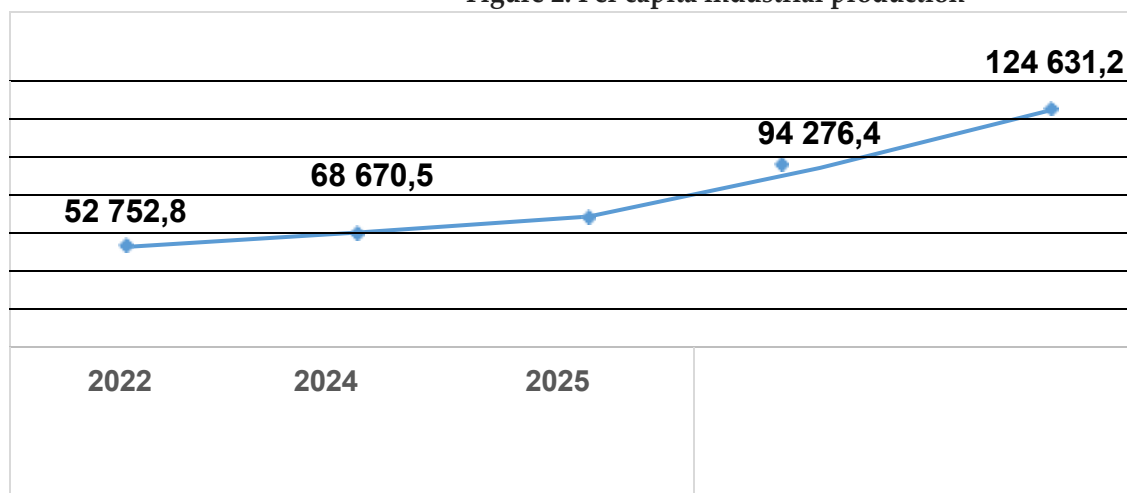
Table 1. Main indicators of the industry of Navoi region by region

	Volume, billion soums	Physical volume index, in %
Navoi region	137 300,0	108,5
Navoi city.	117 860,7	108,7
Zarafshon city.	677,0	103,3
Gozgon city.	178,3	108,7
districts:		
Karmana district	9 527,3	102,4
Konimex district	681,4	102,8
Kiziltepa district	1 331,2	105,1
Navbahor district	941,8	105,3
Light district	430,3	105,3
Tomdi district	69,6	104,8
Triangle district	348,5	102,4
Be carefil district	1 268,4	87,6

Per capita industrial production in the region amounted to 124,631.2 thousand soums. The distribution of per capita industrial production, due to the location of large industrial enterprises, shows that per capita indicators are significantly higher in Navoi city (698,885.4 thousand soums), Karmana district (66,666.4 thousand soums) and G'ozg'on city (18,983.7 thousand soums) (Figure 2).

Also, the growth rate of per capita industrial production in the region was 106.6%, while high results are recorded in G'o'gon city (107.4%), Tomdi district (106.1%), Navoi city (105.3%), and Navbahor and Nurota districts (103.9%).

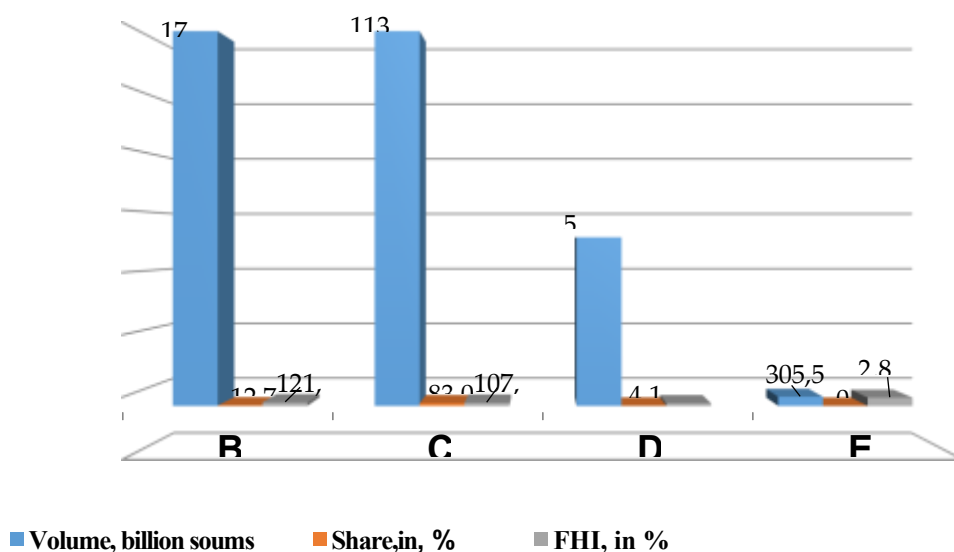
Figure 2. Per capita industrial production



— In one thousand soums

Main sectors of industrial production. In January-September 2025, the largest share in the structure of industrial production was accounted for by the manufacturing industry, which amounted to 113,995.0 billion soums, with a share in total industrial production (83.0%), followed by mining and open pit mining, which accounted for 17,367.5 billion soums (12.7%), electricity, gas, steam supply and air conditioning, which accounted for 5,632.0 billion soums (4.1%), and water supply, sewage system, waste collection and disposal, which accounted for 305.5 billion soums (0.2%) (Figure 3).

Figure 3. Production volume by main sections of the industry, share in total industrial production, physical volume index (January-September 2025)



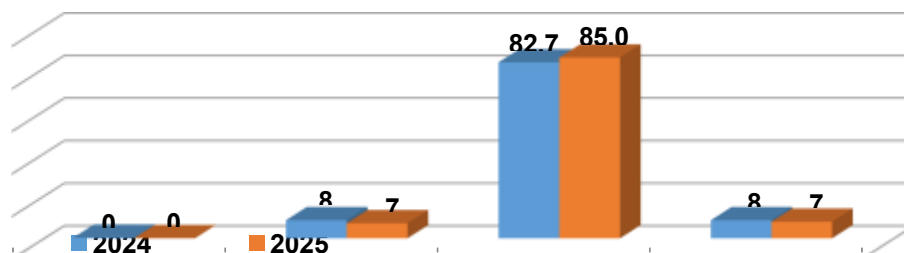
In January-September 2025, the region produced 26.3 thousand tons of soft wheat and spelt flour (an increase of 50.3% compared to January-September 2024), 68.5 tons of cottage cheese and cottage cheese products (an increase of 1.8%), 1,697.5 thousand tons of cement (a decrease of 9.0%), and 390.2 thousand m³ of nitrogen (an increase of 3.1 m).

Table 2. Production of certain types of industrial products by large industrial enterprises

In the manufacturing industry, the share of metallurgical products production was 81.4% (physical volume index compared to January-September 2024 was 108.3%), the share of chemical products, rubber and plastic products production was 6.2% (physical volume index compared to January-September 2024 was 101.0%) (Table 2).

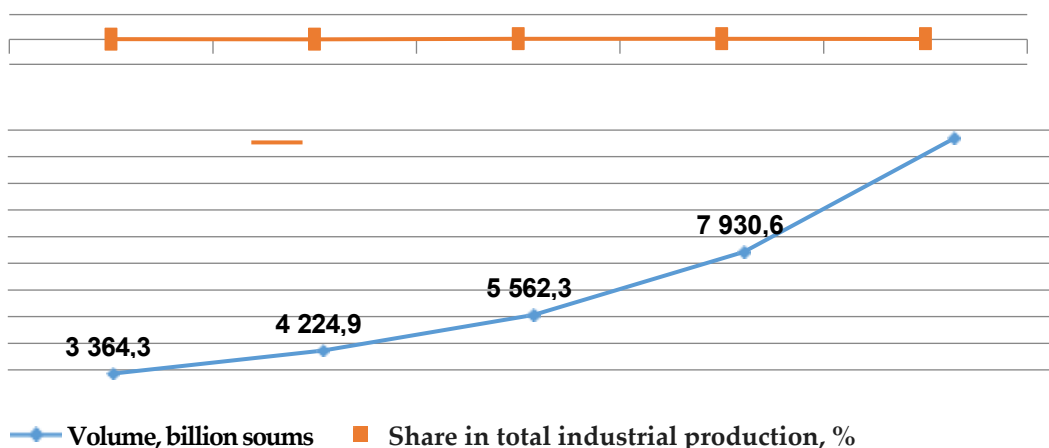
Compared to the same period last year, the share of high-tech industries in the manufacturing industry was 0.1% (0.3% in January-September 2024), medium-high-tech - 7.1% (8.5%), medium-low-tech - 85.0% (82.7%), low-tech - 7.8% (8.5%) (Figure 4).

Figure 4. Technological composition and share of manufacturing industry



During the reporting period, small business entities produced industrial products worth 12,186.2 billion soums, accounting for 8.9% of total production (Figure 5). In January-September 2024, the share of small business entities in total production was 7.9%.

Figure 5. Volume of industrial production by small business entities



4. Conclusion

Based on the results of the study, the following scientifically based conclusions were formulated: The total volume of production investments in Navoi region has been steadily increasing during 2020-2025.

1. There are 3,689 operating and newly established industrial enterprises operating in Navoi region. When the number of these industrial enterprises is distributed by main types of economic activity, the highest share - 604 (23.0%) - is in the production of other non-metallic mineral products, and 558 (21.3%) - in the production of food products. Such stable growth is due to the favorable investment climate created by the state in the region and the investment activity of local enterprises.
2. Industrial production per capita. It amounted to 124,631.2 thousand soums. The distribution of industrial production per capita, due to the location of large industrial enterprises, shows that per capita indicators are significantly higher in Navoi city (698,885.4 thousand soums), Karmana district (66,666.4 thousand soums) and G'ozg'on city (18,983.0.27 thousand soums).
3. Also, the growth rate of industrial production per capita in the region was 106.6%, while high results are recorded in G'o'gon city (107.4%), Tomdi district (106.1%), Navoi city (105.3%) and Navbahor and Nurota districts (103.9%). The volume of industrial production per capita increased from 52,752.8 thousand soums in 2021 to

124,631.2 thousand soums in 2025, or 71,878.4 thousand soums, or 57.7%. The main sectors of industrial production accounted for the contribution of industry, which amounted to 113,995.0 billion soums, and its share in total industrial production was (83.0%).

4. The volume of industrial production by small business entities amounted to 12,186.2 billion soums, and its share in the total production volume was 8.9%. In January-September 2024, the share of small business entities in the total production was 7.9%.

In the industry of Uzbekistan, the processes of technological innovation, rational use of resources, increasing labor productivity and introducing digital management systems are of urgent importance. In general, the efficiency of industrial production is ensured through the combination of scientific and technical achievements, management culture, qualified personnel and innovative approaches.

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