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FACTORS AFFECTING THE ECONOMIC POTENTIAL OF THE INDUSTRIAL SECTOR AND METHODS FOR ITS ASSESSMENT

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Abstract:

This article details the factors representing the economic potential of the industrial sector and the econometric approaches used to evaluate them. A classification of econometric modeling of socio-economic processes and a mechanism for analyzing industrial production have been developed. In addition, priority directions for improving economic indicators and its further development in assessing the potential of the industrial sector are proposed

Keywords: Industry, economic-mathematical methods, econometric model, analysis, factor, economic development, forecast.

INTRODUCTION

Ensuring socio-economic development, including increasing the economic potential of industrial sectors and fundamentally improving the standard of living of the population, requires comprehensive and reliable statistical data for theoretical research.

The Resolution of the President of the Republic of Uzbekistan dated August 3, 2020, No. PQ-4796 "On measures to further improve and develop the national statistical system of the Republic of Uzbekistan" [1], as a consistent continuation of reforms in establishing the statistical system, serves as a legal framework for elevating the processes of collecting, compiling, storing, and processing statistical data to a new level through the wide use of modern information and communication technologies. In addition, this resolution approved the "National Strategy for the Development of Statistics of the Republic of Uzbekistan for 2020-2025."

This, in turn, enhances the availability and use of a reliable and comprehensive information base for analyzing and assessing the country's economic potential, thereby playing an important role in improving the quality of evaluating real economic capacity.

The implementation of the main tasks defined for the socio-economic development of the state, the continuation of reforms, the maintenance of economic balance, and the execution of strategically significant projects aimed at modernizing and diversifying key sectors of the economy - particularly industrial branches - as well as developing logistics and information and communication infrastructures, constitute some of the most pressing issues of today. In this context, it is necessary to ensure the rapid development of industrial sectors and the improvement of transport infrastructure through the proper allocation and efficient use of internal resources.

It is essential to further deepen structural economic reforms, intensify the investment activity of industrial enterprises, expand the direct attraction of foreign investments and ensure their effective utilization, modernize production through technical and technological upgrading, create new jobs, and, on this basis, study and analyze the factors influencing the stable and dynamic development of the national economy, as well as develop models of socio-economic development.

LITERATURE REVIEW

In our view, modeling has the following two important aspects:

It makes it possible to identify economic regularities and to find the most effective and cost-efficient ways of applying them in practice.

It enables even complex socio-economic processes to be expressed mathematically through computer programs and to obtain precise analytical results.

In developed countries, economic-mathematical and econometric modeling methods are widely used to improve industrial production processes and the efficiency of industrial sectors. In particular, in Russia and other CIS countries, relationships between quantitative indicators in production processes are modeled using linear and nonlinear methods. For example, situations such as the growth of production

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volume in a certain period lagging behind wage growth, an increase in the volume of industrial waste, rising energy consumption, and the growth of other production costs are analyzed through such models. As a result, it becomes possible to identify or eliminate problems related to reducing material, financial, and time expenditures, as well as to optimize production and select the most rational solution among various alternatives.

Similar approaches are widely applied and researched in countries of the Asian region such as the People's Republic of China, South Korea, Japan, and Singapore; in European countries including the United Kingdom, France, Germany, Italy, Spain, Denmark, Norway, Sweden, and Switzerland; as well as in the United States, Canada, Australia, and others. In addition, in countries such as the United Kingdom, France, Germany, and the United States, new models for direct entry into the global market based on the development of information and communication technologies (ICT), as well as innovative business models for global competitiveness, have been developed and are being implemented in practice [2].

Under current conditions, small and medium-sized enterprises (SMEs) that originate from a global strategy can rapidly engage in cross-border activities [3]. Globalization creates not only opportunities for income growth but also for knowledge exchange and the expansion of capabilities. Therefore, in the long term, international companies tend to become more competitive.

Therefore, the position and potential of each country in the global community are determined by its level of socio-economic development. This can be achieved through the implementation of specific mechanisms of socio-economic development. These mechanisms should primarily be aimed at meeting the needs of economic sectors - particularly industry - for material, technical, and capital resources; effectively carrying out intersectoral structural transformation; and pursuing a sound investment policy.

The development of a country's economic system depends on its production capacity, labor potential, the efficient allocation of productive forces, the standard of living of the population, and the effectiveness of local governance. International experience and practice demonstrate that problems related to the efficient use of each region's raw material base and labor potential can only be resolved through medium- and long-term programs and forward-looking strategic plans [4].

The system of factors plays a significant role in economic growth. However, it should not be assumed that the combined effect of all factors is simply equal to the sum of their individual impacts. The system of factors is not merely an arithmetic aggregation; rather, it is necessary to take into account internal linkages and the interactions among structural elements [5].

At present, economic-mathematical models are widely used to study and evaluate various economic phenomena and processes. In constructing such models, the most significant factors representing the phenomenon under study are identified, while those that are insignificant for solving the given problem are excluded [6].

From this perspective, it is necessary to develop optimal models of socio-economic development aimed at forecasting the development trends of production complexes, implementing targeted structural changes in the real sector, enhancing product competitiveness, and selecting priority directions for development in order to ensure the growth of industrial sectors and overall economic expansion [7]. In addition, it is essential to improve the efficiency of resource utilization in industrial sectors, anticipate potential risks in addressing existing problems, and develop scientifically grounded measures and solutions [8]. Moreover, it is appropriate to employ economic-mathematical and econometric models in comprehensively analyzing the sustainable growth and global competitiveness of industrial sectors, as well as in assessing the quantitative relationships among factors related to the production process and formulating sectoral development strategies.

METHODS

In this study, the factors reflecting the economic potential of the industrial sector and the econometric approaches and methods for their assessment are presented from a theoretical perspective. Methods such as expert evaluation, analytical comparison, logical reasoning, and deliberation have been employed. In addition, the research of both foreign and domestic scholars related to this topic has been analyzed, and their scientific views have been examined.

ANALYSIS AND RESULTS

According to the analysis, from both logical and economic perspectives, the factors influencing the development of industrial sectors exhibit specific characteristics in terms of their interdependence and the degree of their impact. In particular, factors that directly affect the dynamics of industrial output include financial and material-technical resources, labor resources, the raw material base, and others. However, the development of industrial sectors is a complex and

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long-term process. Therefore, there are numerous factors that exert both direct and indirect influences at different levels. These include institutional governance characteristics, geographical location, environmental conditions, innovative capacity, raw materials and natural resources, the intellectual potential of labor resources, and the level of development of transport and market infrastructures, among others. The interrelationships among these factors can be illustrated in the form of a mechanism for the development of industrial sectors.

The analysis also shows that the characteristics of institutional governance in a country are closely linked to its geographical location and environmental conditions. In turn, geographical location determines the availability of natural resources and the convenience of transport infrastructure, and also affects the level of development of market infrastructure. The efficiency of industrial sectors largely depends on their innovative capacity, financial capabilities, investment attractiveness, the level of development of the material-technical base, and the extent of internal and external demand.

Based on the above, the following stages can be proposed for implementing the mechanism for the development of the industrial sector:

Stage 1: Increasing the transparency and accountability of the institutional governance system in the country;

Stage 2: Expanding financial liberalization and further simplifying organizational and administrative procedures to enhance the development of international trade corridors;

Stage 3: Establishing modern technological logistics infrastructure and improving the condition of existing systems (transport networks);

Stage 4: Forming multi-sector industrial clusters to strengthen the efficient use of natural and seasonal raw material bases (such as agricultural products);

Stage 5: Ensuring the transparency of state financial support mechanisms for business entities (including subsidies, financing under state programs, and lending), and implementing them based on market principles, among other measures.

In developing an optimal model for industrial sector development, especially under current conditions of uncertainty and risk, the use of economic-mathematical methods and econometric models for studying and analyzing economic processes makes it possible to prevent potential negative consequences [9].

Accordingly, research aimed at improving the effectiveness of the impact of factors influencing industrial production, as well as studies based on dynamic models adapted to conditions of risk and uncertainty, have both theoretical and practical significance. This is because there exists a theoretical concept of economic models based on economic laws, which allows for the generalization of statistical data related to a particular sector of the economy and the presentation of results through abstract indicators. For this reason, economic-mathematical models designed to determine certain variables based on others are widely used in the analysis of economic processes (Figure 1).

The purpose of economic-mathematical methods and models is to improve the directions of economic analysis, to express the relationships and changes between various economic processes through quantitative indicators, and to enhance the effectiveness of economic analysis by identifying trends of change.

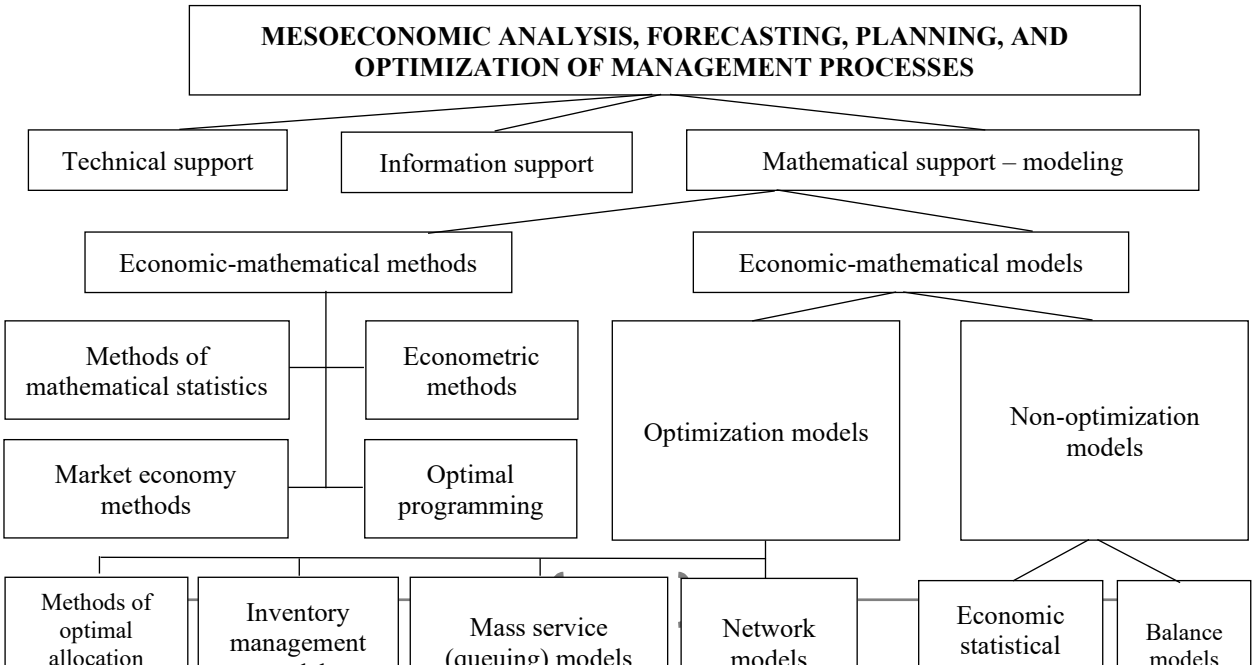

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Figure 1. Classification of modeling of socio-economic processes[1]

The advantage of analyzing, forecasting, planning, and optimizing managerial decisions in economic processes through economic-mathematical methods and models (Figure 1) lies in their ability to comprehensively capture the influencing factors and to identify the most significant ones - those with the greatest impact on outcomes. They allow for the replacement of previous approximate structural calculations with precise computations, the formulation and solution of multidimensional problems, and the execution of complex calculations - traditionally performed manually - more easily and accurately using computers.

Today, developed countries widely use the ISIC (International Standard Industrial Classification) criteria in analyzing industrial sectors. These criteria are based on a production-oriented or supply-based conceptual framework and take into account indicators such as the organization of production, the production process and technology, as well as the characteristics of products and their usage. In addition, indicators such as new orders, prices, and employment are also considered.

While the main economic indicators of industrial sectors include production volume, financial and labor resources, and fixed assets, some economists [10] argue that, in assessing social stability, it is appropriate to use indicators such as average wages and the availability of continuous education for employees.

In general, any economic indicators and their analysis play an important role in forecasting future outcomes and determining the prospects for sectoral development. Economic indicators quantitatively and qualitatively reflect various economic processes in numerical terms and encompass data over different time periods, periodic reports, economic conclusions, and other related information.

The economic analysis and evaluation of the development of industrial sectors are carried out based on the collection and processing of statistical data, the analysis of production volume dynamics, financial conditions, the level of labor resource utilization, capital allocation, the degree of resource provision in production processes, as well as the assessment of technical and economic efficiency.

The mechanism for analyzing industrial production represents a simplified three-stage system for evaluating the state of industrial sectors:

At the first stage, based on the financial and economic condition of industrial sectors, they are divided into two groups, and for each group, factors exerting objective and subjective influences on production processes are examined. Subsequently, the impact of these factors on production is assessed using econometric models and methods.

At the second stage, the financial condition of the industrial sector, complex, or enterprise is analyzed, and additional sources and opportunities for financing the production process are identified.

At the third stage, the managerial and organizational aspects of industrial production processes are examined. This includes analyzing the implementation of modern digital technologies, the establishment of a modern workforce, and the presence of innovative activities based on scientific advancements, all aimed at further development.

In our view, the above serves as an important practical framework for making optimal management decisions, determining future prospects, and developing production strategies..

CONCLUSION

Based on the above, it is advisable to consider the following in assessing the potential of the industrial

[1] Compiled by the author.

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sector, improving economic indicators, and identifying priority directions for its further development:

1. Develop effective mechanisms for implementing prospective tasks aimed at developing priority industrial sectors as a key source of economic growth, and ensure strict control over their execution.

2. Improve investment programs and primarily direct them toward the development of priority industrial sectors.

3. The country's integration into the global trading system involves opening the domestic market to foreign industrial products and intensifying competition. Therefore, under such conditions, it is necessary to strengthen state support to ensure that industrial enterprises not only survive but also successfully enter and operate within the global market.

4. In conditions of intensified competition among industrial sectors for investments, labor, and other resources, implement measures aimed at developing less advanced sectors (enterprises).

5. Ensure that measures aimed at increasing economic activity do not remain merely part of medium- and long-term strategies or programs without effective implementation.

6. Widely introduce scientific achievements and advanced technologies in industrial sectors, including digital economy tools such as blockchain.

7. Organize on-the-job training and provide professional information and consulting services for employees directly within large industrial enterprises.

In conclusion, at the current stage of industrial economic development, it is necessary to enhance the role of the state in ensuring the sustainable development of priority sectors, as well as less developed or newly established industrial enterprises, through the implementation of effective economic mechanisms, modernization of the material and technical base, strengthening of financial support, and the organization of optimal management.

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