ANALYSIS OF FACTORS AFFECTING THE DEVELOPMENT TREND OF THE INDUSTRIAL POTENTIAL OF THE REGION

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ABOUT ARTICLE

Abstract: In this paper evaluated the effect of important socio-economic indicators on the development of industry sector in Surkhandarya region. For this, used coefficients of elasticity determined on the basis of regression analysis. Based on the results obtained, prospective directions for industrial development in the region have been identified.

INTRODUCTION

In the context of globalization processes in the world, the stability of the market environment and development of the region, their economic situation is becoming more and more important. The development of the region, the level of competitiveness depends on the efficiency of the industry, which determines its position in the domestic and foreign markets. The share of industrial sectors in the gross production largely depends on the full and effective use of industrial production potential in the regions of the country. "In the world GDP, 26.0 percent of the value added by industry and 23.1 percent of the total employment are accounted for by industry" [14]. Effective use of the potential of the region in the development of industry, determining the factors affecting the development of the industry by increasing the weight of innovative developments remains an urgent problem.

Ensuring industrial development is an important factor in ensuring sustainable regional development, and it serves to bring the economy to a new stage based on the production of products with high added value that replaces imports and exports. As a result, managing the structural changes of industrial development in the regions will be an important factor in achieving the country's long-term development goals. Industrial enterprises are the main generators of national scientific-technological

and innovative activities, and the improvement of their scientific-research developments plays a decisive role in increasing the national innovative potential. The more the industry is stimulated, the higher the level of financing in the region where the enterprise is located, the more opportunities it has to invest elsewhere. As a result, the industry helps attract unemployed people from rural areas to cities in developing countries, while serving to increase the level of urbanization in the country[2].

The development of industry in our country is considered as one of the important directions in ensuring the development of regions and bringing their economic potential closer to each other. Also, in the decision of the President of the Republic of Uzbekistan dated July 25, 2022 No. PQ-3671 "On measures for the establishment of industrial, craft, household and animal husbandry micro-centers in the neighborhoods", [1] "encourages the localization of production The task of "continuing the promotion policy and, first of all, replacing the import of consumer goods and components, expanding inter-sectoral industrial cooperation" is set.

Stimulation of structural changes in the industry is directly related to its correct policy and the direction of the production structure of the economy to more efficient sectors. For this purpose, the development of production is considered as the main direction. As a result, in the development of industrial production, first of all, it is one of the most urgent issues to determine the priority of industries by deeply analyzing its structural changes.

LITERATURE REVIEW

A number of economists have conducted a number of scientific research works dedicated to determining how the industry is distributed in the region, taking into account the structural changes and the characteristics of regional systems. Looking at the industrial policy as various forms and forms of economic intervention in politics[3], the issues of industrial policy being based on the potential of the country's goods and natural resources or the development of new industries that do not depend on natural resources as a factor of production, on the basis of government intervention, the contrasting views of governments on the conduct of industrial - vertical or general and neutral - horizontal policies have been studied [4].

Studies have shown that new industries in the region develop from existing processes and through the combination of unrelated knowledge and resources[5]. In addition, the assessment of the impact of the development of the industrial structure on the natural environment, the analysis of the mechanisms and the research of countermeasures are becoming one of the main issues of sustainable development [6]. The new industrial policy is closely related to the innovation policy and requires attention to the

regional economy and the characteristics of places, diversification of the industrial structure and entrepreneurial discoveries [7].

Building robust industrial policy institutions is becoming a key policy option to help redistribute human, physical and financial resources to higher value-added sectors of the economy. Although the theoretical basis of industrial policy is mandatory, its implementation in practice causes many problems. Proponents of industrial policy point to market and coordination disruptions, knowledge spillovers, and economic dynamism as the main reasons for this[8]. Allowing industrial policy to have a high impact on the price formation mechanism reduces the efficiency of resource allocation in the economy [9].

As a result, while there is a general consensus on the need for industrial modernization and government intervention, opinions remain divided as to whether industrial policy should support a country's comparative advantage [10]. In practice, scientists of the field of economic geography are paying attention to the issues of how regional conditions - conditions affect the future development of industrial areas [11]. Because, when organizing industrial enterprises, they pay more attention to the issues of its impact on the environment. The reason is that there are more concerns about reducing energy consumption and pollutant production [12] affecting the activities of enterprises.

ANALYSIS AND RESULTS

In the next period, in our country, special importance is attached to the issue of ensuring employment of the population based on the development of industry, establishing the production of products with high added value, and the production of import-substituting and exportable products. In the formation of the country's industrial policy, attention is paid to the development of their unique directions of industry, taking into account the existing opportunities and potential of regional units. In this article, we will look at the results of the measures implemented in this regard using various econometric methods on the example of Surkhandarya. Because the share of the region in the industrial products produced in the republic is the smallest and is 1.3 percent. In addition, the share of industry in the composition of GNP, including construction, is 17.5 percent, and if we look at it without construction, this indicator is 8.8 percent.

The above-mentioned results require the identification of factors influencing the development of industry in the region and the assessment of their impact levels. Also, determining the promising directions of industrial development in the region remains one of the urgent issues awaiting its solution.

According to preliminary data, in January-July 2023, 4186.6 bln. Soums worth of industrial products were produced, and compared to January-July 2022, the physical volume index of industrial production was 106.3%. According to the contribution of the industry producing the largest share in the structure of industrial production, its share in the total industrial production was 88.0%. Total industrial production is the main factor of growth of physical volume, and water supply, sewage system, waste collection and disposal - increased by 17.7%. The volume of products produced by the mining industry and open-pit mining enterprises in January-July 2023 is 93.2 billion. soums or 2.2% of the total volume of manufactured industrial products.

The share of the production of textiles, clothing, and leather products in the total manufacturing industry is 42.3% (the physical volume index is 117.6% for January-July 2022), the share of the production of food, beverages, and tobacco products is 15.3% (physical volume index compared to January-July 2022 is 99.2%), the share of production of other non-ferrous mineral products is 11.6% (physical volume index compared to January-July 2022 is 116.2%), the share of the production, repair and installation of machinery and equipment, motor vehicles, semi-trailers and other finished products -7.0% (the physical volume index compared to January-July 2022 is 111.3%), the share of the coke and oil refining products production industry - 6.1% (the physical volume index compared to January-July 2022 is 67.2%), the share of the production of chemical products, rubber and plastic products - 1.5% (compared to January-July 2022, the physical volume index was 147.6%).

The share of wine and vodka products and beer in the structure of food production was 0.7% (0.6% in January-July 2022). In terms of regions, the highest share of production of consumer products in the total volume of the region was Denov district 15.5%, Shorchi district 13.4%, Zhargorgon 11.0%. Also, the growth rate of the production of consumer products is higher than the regional growth rate (104.8%) in Kumkurgan (191.3%), Angor (147.6%) and Denov (142.7%) districts[12].

Linear approximation, polynomial trend lines were created in the Excel program for the main indicators of the industry of Surkhandarya region, and the forecasting functions used in forecasting for each indicator were formed (Table 1). -Confirms the expediency of using forecast functions for each of the indicators for 2023.

Table 1

Forecasting function of structural changes in the main indicators of industry of Surkhandarya region

Indicators	Forecast function	R^2

Production of industrial products in the region (billion soums)	y = 418,85x - 224,9	0,87
Production of consumer goods in the region (at current prices, billion soums)	y = 157,6x - 20,72	0,93
The volume of gross domestic (territorial) product (at current prices, billion soums)	y = 2090,1x - 233,58	0,95
Utilization of investments in fixed capital (at real prices, billion soums)	y = 3,7803x³ + 104,01x² - 678,58x + 1607,9	0,91
The volume of retail trade in the region (at real prices; billion soums)	y = 1111,9x - 988,6	0,95
Total income per capita by region (thousand soums)	y = 779,53x + 490,34	0,95

Taking into account the value of the selected indicators, linear approximation in Excel, the creation of a polynomial trend line, the determination coefficient R2, the received forecast values, it is necessary to build a forecasting model. In the direction of forecasting structural changes according to the main indicators of the industry of the Surkhondarya region, the model created for forecasting structural changes in the industry of the Surkhondarya region is as follows:

$$\begin{cases} N_t = 418,85t - 224,9 \\ O_t = 157,6t - 20,72 \\ P_t = 2090,1t - 233,58 \\ R_t = 3,7803t3 + 104,01t2 - 678,58t + 1607,9 \\ S_t = 1111,9t - 988,6 \\ U_t = 779,53t + 490,34 \end{cases}$$

This model reflects the relationship between the main indicators of the industry of the studied area, the limitations of the model are taken into account, that is, they should be directed to the maximum value. According to the results of the forecast, it is possible to note that positive dynamics will achieve positive results in structural changes as well.

It is appropriate to assess the reliability of the model in order to confirm the reliability of the model built in the direction of forecasting structural changes according to the main indicators of the Surkhandarya region industry. Therefore, a regression analysis was performed in excel, which allowed to calculate the value of regression statistics, conduct dispersion analysis and calculate the t-test. The results of regression statistics make it possible to determine the density of correlation between the studied indicator (industrial production in the region (billion soums) (y)) and a set of certain indicators (Table 2). Regarding the results of regression statistics, we can note that the correlation coefficient (R in the plural) approaches 1, which means that there is a close connection between the studied indicator and the influencing factors. It can be said that the studied indicator depends on the following indicators: production of consumer goods in the region (at current prices, billion soums) (X1), gross domestic

(territorial) product volume (at current prices, billion soums) soums) (X2), fixed capital investments (in real prices, billion soums) (X3), volume of retail turnover by region (in real prices; billion soums) (X4), total income per capita by region (thousand soums) (X5).

Table 2

Assessment of the reliability of the model constructed in the direction of the forecast of structural changes of the main indicators of the Surkhandarya region industry (regression analysis)

Regression statistics	
Plural R	1,00
R2-squared	0,99
Normalized R2	0,99
Standard error	180,74
Observations	11

Based on the results of the variance analysis, the reliability of the model was determined based on the calculation of the value of Fisher's criterion (Table 3). According to the results of our research, Femp >Fkrit, that is, the correlation between indicators is significant, the built model is statistically significant.

We paid special attention to the impact of population incomes, because on the one hand, the increase in population incomes serves to form the demand for industrial products in the domestic market, and on the other hand, the increase in population savings serves to increase their investment potential. As a result, it is expected that they will have a positive effect on the volume of production of industrial products in the region. It was found that the coefficient of elasticity, representing the effect of the real income of the population on the manufactured industrial products, is much smaller and is 0.6.

CONCLUSION

Based on the results of the research, the increase in the volume of production of industrial products in the region is directly related to the socio-economic development of the region, and a one percent increase in GNI serves to increase the volume of industrial products by 1.4 percent. In addition, it was found that the effect of the change in the real volume of capital investments in the region on the manufactured industrial products is much lower.

Also, it was found that the influence of agriculture on industrial development is strong, the coefficient of elasticity between the two indicators suddenly becomes larger. This is the basis for considering the

development of light industry specializing in the processing of agricultural products in the region as one of the promising directions.

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