

Improving Economic Mechanisms to Encourage Efficient Use of Industrial Production Power in Kashkadarya Region

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ABSTRACT

In this paper have been proposed improving economic mechanisms to encourage efficient use of industrial production power in Kashkadarya region. One of the important components of the country's industrial production potential is the technical and technological potential of production. In turn, one of the important indicators of the technical potential of production is the physical depreciation of fixed assets.

KEYWORDS

Production, Potential, Labor Productivity, Regions, Industry, Economic Growth.

Introduction

According to the experience of developing and newly industrialized countries, economic success in these countries is largely explained by profound structural changes in industry, especially in the processing industry.

Studies show that industry is the main driving force of economic growth, and this view in most studies is explained by the fact that industry has a higher opportunity to use a new combination of innovation and knowledge than other sectors of the economy. This leads to an increase in labor productivity and production capacity, resulting in economic growth.

Today, industry also provides the necessary balance in the market, effectively solves problems such as increasing the competitiveness of the economy and incomes, localization of production, and the industry plays an important role in creating new jobs.

Industry improves the quality of life of the population, and the development of technology used in it affects the level of education of the population. The influx of the processing industry from the city center to the suburbs will accelerate production and increase the income of the local population.

The dynamic nature of the industrial sector also has a significant positive impact on the development of other sectors and industries of the economy and has a multiplier effect.

Materials and Methods

The research used dialectical, logical thinking, scientific abstraction, analysis and synthesis, complex, comparative analysis, grouping, SWOT analysis, econometric and forecasting methods of scientific knowledge.

Literature Review

The issues of scientific study of regional economic problems and their solution have always been in the focus of economists. In particular, the theoretical and practical aspects of these issues, in particular, the issues of increasing regional competitiveness are greatly contributed by foreign economists A. Venables, H. Glenn, P. Krugman, B. Robert, M. Fujita, B. Shaun, M. Enright and others. added.

Among the CIS economists A.G.Granberg, Yu.A.Gadjiev, O.G.Dmitrieva, N.Zubarevich, S.V.Kazantsev, I.N.Merenkova, A.N.Nosov, O.I.Panteleeva, D.Sepik, L.A.Serebryakova and others paid special attention to the theoretical issues of regional economic development, management of regional economic growth and development, diagnostics of regional economic development, increasing regional economic potential and competitiveness.

In Uzbekistan, the issues of development and management of the regional economy, the effective use of the economic potential of the regions are the areas of scientific interest of economists in this area. In particular, issues such as modeling the socio-economic development of regional industrial complexes, integrated development of regions, territorial location and management of productive forces, improving the methodological framework for increasing the competitiveness of the country's regions were discussed by Uzbek economists S. Gulomov, T. Akhmedov, A.M. Sodiqov [2], A.M. Qodirov, Sh.H. Nazarov, B. Ruzmetov, Sh.B. Imamov, P.Z. Khashimov, F.T. Egamberdiev, A.A. Qayumov, Burkhanov A.[11], Kalandarovna, A.G.[12], Tursunov, B. O.[13;14], I.O. Yakubov and others.

Results

Industry provides all sectors of the national economy with means of production, tools of labor. The development of the national economy, science, education, culture, health, sports, tourism and other areas depends on the level of industrial development.

The role of industry in the development of productive forces is invaluable, and the higher its efficiency, the stronger the position of the region and the better the living standards of the population. Also, due to the development of industry, the number of employees will increase, their knowledge and skills will increase, and human resources will reach a high level. Only industry can achieve high levels of productivity by combining all the achievements of technology and innovation and equipping labor with technology. [3]

Table 1. Some representing industrial development in the regions boundary-criterion values [1]

Indicators	Boundary criterion values
Labor productivity (\$ 1000 per 1 employee)	27,9
Labor productivity growth rate, annual percentage	12,0
Volume of investments in fixed assets, as a percentage of GDP	25,0
Depreciation of fixed assets, interest	40,0
The share of machinery in industry, percent	25,0
Share of processing industries in industry, percent	70,0
Profitability of production, percent	15,0
The share of material production in GDP, percent	66,0
The share of exports in material production, percent	25,0
Share of foreign capital in investment, interest	25,0
The share of processed industrial products in exports, percent	50,0
Share of innovative product (percentage of total industrial output)	15-20
The share of new types of products in the total volume of mechanical engineering products, percent	7,0
In terms of energy consumption (t. Oil at \$ 1,000 GDP):	
Total cost of energy resources	0,15
Electricity costs	0,02
Oil and gas costs	0,10
Loss of minerals during mining (as a percentage of total volume)	3-8
Average annual growth rate of labor productivity, percent	6,0

In our opinion, these indicators and values are of a variable nature, and as the level and characteristics of economic development of countries change, so do their values.

As industry is the leading sector of the economy, the issue of its development has always been a field of scientific interest of economists.

Table 2. Industrial production potential of the region descriptive key indicators [4]

Indicators	unit of measurement	Industrial potential parameters
1. Material and technical potential		
1.1. The value of industrial fixed assets per capita	UZS	Describes the fact that the industry of the region is provided with fixed assets
1.2. Depreciation rate of industrial fixed assets	%	Describes the state of production resources
1.3. Stock return	-	Efficiency of use of fixed assets
2. Financial potential		
2.1. The share of profitable industrial enterprises in the total number of industrial enterprises	%	Level of efficiency of regional industrial activity
2.2. Financial results of industrial enterprises for 1 soum of fixed assets	UZS	The level of financial opportunity for the development of the industry
2.3. Return on assets of industrial enterprises	%	Efficiency of use of assets of industrial enterprises
3. Labour potential		
3.1. The share of production and industrial workers in the total number of jobs in the economy	%	Human resources of the industry
3.2. The share of highly educated professionals in the total number of industrial workers	%	The resource of highly qualified workers in the industry
3.3. The share of specialists with secondary education in the total number of items	%	The intellectual resource of the industry
4. Infrastructure potential		
4.1. Density of public railways, km per 1000 km ² area	km	Density of transport infrastructure
4.2. Density of paved roads, road km per 1000 km ² area	Km	
4.3. Industrial and technoparks with free space, industrial zones, ready infrastructure facilities (gas, electricity, water, sewerage)	ga	Provision of the region with the necessary administrative and legal conditions for the location of infrastructure and new industries
5. Investment potential		
5.1. The volume of investment in fixed capital of industry per capita	UZS	Describes the volume of investments in the development and modernization of industry
5.2. The share of bank investments in the total investment of industry	%	Level of efficiency of bank capital attraction

Indicators	unit of measurement	Industrial potential parameters
5.3. The share of investments in machinery, equipment and vehicles from the total investment in fixed assets of industrial enterprises	%	Share of investments in private production assets

In some countries, threshold values have been developed to determine the sustainable development of industry. Since "industrial production potential" is a complex concept as an economic category, its constituents also consist of many elements. In particular, in the research of A.O.Larionov, the industrial potential is characterized by the indicators described in the following table (Table 2).

It can be seen that according to the scientist, 5 groups of indicators can be used to express the industrial potential of the region, and these indicators are interrelated and interact with each other. However, as noted above, it is difficult to imagine the industrial potential of today without its innovative founders. Indeed, the short duration of the introduction of innovations, the high share of enterprises producing innovative industrial products in the total industrial enterprises, the significant cost of technological innovation play an important role in the effective use of industrial potential.

Therefore, as a result of our research, we considered it expedient to include innovative indicators in this sequence of indicators. These indicators determine the level of development of industrial potential through innovative elements (Table 3).

Table 3. An innovative indicator that characterizes the industrial production potential of the region

Indicators	unit of measurement	Industrial potential parameters
1. Innovative potential		
1.1 Share of innovative active enterprises	%	Opportunities for industrial enterprises to introduce innovative products
1.2 The share of innovative products in the total volume of industrial output	%	Level of innovative development of the industry
1.3 The share of expenditures on technological innovations in the total investment in industry	%	The priority level of technological development of the industry
1.4 The number of employees engaged in research and design per thousand people employed in the industry	person	The level of efficiency of science and innovation in industry

Based on research by the authors

Indicators of innovation potential can be divided into four groups: the share of innovative active industrial enterprises in the total number of enterprises in the region, the share of innovative products in total industrial output, the share of expenditures on technological innovation from total investment in industry, employees engaged in research and design soni.

It should be noted that the reasons for the differences in the share of regions in the industry of the republic depend on many factors. In particular, such factors include the area of the region, its favorable geographical location, climate, the level of industrial supply of natural resources, the quality and quantity of labor, the level of development of production infrastructure.[13]

These factors define the "comparative advantage of the region" and these factors lead to the development of industry in the region (Table 4).

If the calculations show that the strategic competitive advantage and comparative advantage of the region is in the range of 25-36 points, then the comparative advantage of this region is high, average in the range of 13-24 points and low in the range of 1-12 points.

The production potential of the region is formed in the process of interaction of natural and labor resources, fixed capital and scientific and technological progress, and in this regard, fixed assets play a special role. One of the generalizing indicators of production capacity is the value of fixed assets. Fixed assets are an indicator of the value of accumulated buildings, structures, machinery, equipment, vehicles and other long-term production facilities. In order to obtain the real value of fixed assets at a given time, an inventory revaluation is performed on them. [8]

Table 4. Criteria for assessing the strategic competitive advantages and comparative advantages of regions

	Indicators	Level	Ball scale
1.	The area where the area is located	Convenient Average Uncomfortable	3 2 1
2.	Strategic and geographical location of the region: border areas of the region and access to world markets and open sea (land, water, etc.), the presence of a significant number of domestic markets	Convenient Average Uncomfortable	3 2 1
3.	General description of the natural conditions, climate and economic potential of the region	Convenient Average Uncomfortable	3 2 1
4.	Level of mineral resources potential and availability of raw materials in the region (large discovered and expected deposits, existing mineral resources, land resources, water resources)	High Average Past	3 2 1
5.	Demographic situation and living standards in the region (quality and quantity of labor force, growing and highly educated population, etc.)	High Average Past	3 2 1
6.	Level of development of market and production infrastructure in the region (banking, insurance, credit unions, location of service facilities, level of development of electricity, transport and communication systems, access to roads, drinking water, natural gas, etc.)	High Average Past	3 2 1
7.	Availability of large natural and economic resources in the cultivation of fruits and vegetables, meat and dairy products in the region, which have the potential for deep processing on the basis of modern technologies	High Average Past	3 2 1
8.	Availability of unique valuable raw material types and deposits	Available Not available	2 1
9.	The degree of formation of traditional production practices in the region	Юкори High Average Past	3 2 1
10.	Factors limiting the industrial production capacity of the region (level of demand for environmental, drinking and technical water resources, rational location of production facilities)	High Average Past	3 2 1
11.	Analysis of the external environment of the region (political situation in neighboring countries, the degree of organization of cross-border cooperation, climate change, growth of labor migration, transport system and problems, regional factors)	High Average Past	3 2 1
12.	Other potential sources and opportunities in the region	High Average Past	3 2 1

Source: author's elaboration

Fixed assets are the most variable component of national wealth, the material and technical basis of production capacity. At the same time, they ensure the production of quality and

competitive products. Fixed assets also include intangible assets (mineral exploration costs, software, technology, etc.).

An important result of the ongoing economic reforms in the country is characterized by the fact that the main macroeconomic indicators are growth rates higher than population growth rates. Indeed, when the annual GDP growth rate is higher than the annual population growth rate, the country will experience economic growth, and the living standards of the population will improve. In this regard, the growth rates of macroeconomic indicators in our country, such as GDP per capita and gross industrial output, fully meet this demand.

Table 5. Network structure of gross domestic product (as a percentage of total)

Indicators	2011	2012	2013	2014	2015	2016	2017	2018
GDP	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
including:								
Gross value added of networks	91,4	91,7	91,8	91,4	91,2	91,3	88,5	88,8
Net taxes on products	8,6	8,3	8,2	8,6	8,8	8,7	11,5	11,2
Gross value added of networks	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Agriculture, forestry and fisheries	19,4	19,2	19,0	18,9	18,3	17,6	34,0	32,4
Industry (including construction)	32,8	32,4	32,4	32,6	33,0	32,9	27,9	32,0
Industry	26,6	26,2	25,9	25,8	25,7	25,7	22,2	26,3
Construction	6,2	6,2	6,5	6,8	7,3	7,2	5,7	5,7
Services	47,8	48,4	48,6	48,5	48,7	49,5	38,1	35,6

Annual statistical collection of the Republic of Uzbekistan 2010-2017. –Tashkent, - 2018. - 35 p.

Trends in macroeconomic indicators show that in some years, the growth rates of gross industrial output (GDP) are higher than the growth rates of gross domestic product (GDP). In particular, the additional GDP growth rate was 9.6% in 2013, the GDP growth rate was 8.0%, the GDP growth rate was 8.3% in 2014, and the GDP growth rate was 8.1% in 2017. The additional growth rate of GDP was 7%, the additional growth rate of GDP was 4.5%, and the additional growth rate of GDP in 2018 was 14.4%, while the additional growth rate of GDP was 5.1%.

In general, in 2010-2018, the average annual GDP growth rate was 7.4%, the average annual GDP growth rate was 8.3% and the average annual GDP growth rate was 4.9%.

The fact that the growth rate of value added in the industrial sector is lower than the growth rate of GDP in the country is explained by the fact that the growth rate of value added in other sectors of the economy is higher than in industrial production.

Today, in the development of industry of the republic, the effective use of the industrial potential of Kashkadarya region, which has a huge domestic potential, including the possibility of deep processing of local raw materials and agricultural products, is of great economic importance.

According to statistical analysis, the share of Kashkadarya region in the republic's industry in 2018 is second only to Tashkent (18.6% in the republic's industry), Tashkent (15.3%), Andijan (11.8%) and Navoi regions (9.9%). took 5th place in the republic. Similarly, Kashkadarya region ranks 4th in the country in terms of "the share of industry in GDP."

It should be noted that the growth rate of industrial production in Kashkadarya region was 96.8% in 2010 and 98.0% in 2012, but these values are relative, and for a number of years there has been an absolute growth trend of industrial production in the region.

According to the analysis, labor productivity in the industry of Kashkadarya region is characterized by significantly higher than the national average (Figure 1).



Figure 1. Dynamics of industrial production in Kashkadarya region, (billion soums)

Annual statistical collection of the Republic of Uzbekistan 2010-2017. –Tashkent, - 2018. - 35 p.

It should be noted that such an increase in labor productivity in the industry of Kashkadarya region should be due not to the increase in production of fuel and raw materials, but due to the development of processing industries. At present, a lot of work is being done in this direction in our country. In particular, today the country aims to move to a 3-4-stage system of processing to turn raw materials into products that are in high demand on the world market. [9]

Table 6 shows the sectoral structure of the general industry of Kashkadarya region, in which the share of manufacturing industry is high.

At the current stage of economic reforms, the policy of structural changes in the region is pursued in the following areas:

- Increase the level of diversification of the regional economy, expand the range of goods and services, eliminate the dominance of a particular industry or product group in such indicators as GRP, exports;

Table 6. Sectoral structure of the general industry of Kashkadarya region

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Quarrying and mining industry	27,4	27,4	27,4	24,6	43,1	41,7	38,1	40,0	37,1
Manufacturing industry	26,9	26,9	26,9	32,5	48,7	51,1	53,9	47,9	50,7

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Electricity, gas, steam supply and air conditioning	45,6	45,6	45,6	42,8	8,1	7,1	7,7	11,6	11,1
Water supply, sewerage system, waste collection and disposal	0,1	0,1	0,1	0,1	0,1	0,1	0,4	0,5	1,0
Overall	100	100	100	100	100	100	100	100	100

At the current stage of economic reforms, the policy of structural changes in the region is pursued in the following areas:

- Increase the level of diversification of the regional economy, expand the range of goods and services, eliminate the dominance of a particular industry or product group in such indicators as GRP, exports;
- Ensuring a high share of GRP and employment in industries and sectors that are less vulnerable to changes in foreign markets, achieving a dominant share of domestic enterprises in the supply of raw materials and components to manufacturers and exporters of finished products;
- To increase the share of cheap and high-quality industries equipped with high technology and modern equipment, which can easily compete in foreign markets, to increase the share of industries and sectors with low capital capacity in the overall economic performance, adapting quickly to market changes.

In the processing industry of Kashkadarya region, the rate of renewal of fixed assets varies significantly. In particular, the renewal rate of fixed assets in the production of wood and foam products (except furniture), straw and textiles (47.2% at the end of the year), clothing (31.2% at the end of the year) and leather and leather products coke and oil refining products (1.6 percent at the end of the year), chemical products (2.8 percent at the end of the year), tobacco products (at the end of the year). relatively 3.3 percent) had the lowest rates.

In the manufacturing of computers, electronics and optics, which are part of the high-tech industries of the processing industry, this figure was 16.9%, in the production of basic pharmaceuticals and drugs - 17.4% and in the production of electrical equipment - 27.0%.

One of the important components of the industrial production potential of Kashkadarya region is labor potential. As a result of effective use of labor potential in industry, labor productivity will increase.

Econometric analysis has shown that a 1% increase in the level of fund armament in the industrial sector could lead to an additional 1.21% increase in labor productivity in the sector:

$$Y/L = 3.13 \cdot (F/L)^{1.21}, R^2 = 0.982, F_{xak} = 6721, t_{a_0} = 5.15, t_{a_1} = 25.9 \quad (2.1)$$

Econometric analyzes confirm that there is a non-linear positive correlation between the growth rate of production in the processing industry and the growth rate of labor productivity in the non-manufacturing sector, according to which the development of the processing industry can stimulate the development of non-processing industries.

It can be seen that the growth rate of production in the processing industries is the main source of gross productivity in the economy:

$$\ln p_{nm} = 0.04 + 0.69 \ln g_m, R^2 = 0.53, F = 17.02, \quad (2.2)$$

(0.66) (4.12)

Here, p_{nm} – the rate of growth of labor productivity in non-manufacturing sectors.

One of the next important elements of production capacity in the industrial sector is energy potential. Improving energy efficiency is the most important condition for sustainable development in industries.

Studies show that structural and technological changes in the country are the main factors in reducing energy consumption, which in turn increases energy efficiency. [10]

The fact that the rate of consumption of energy resources is higher than the rate of growth of industrial products, leads to an increase in energy capacity in the network. The growth of energy capacity in industry, on the other hand, has a negative impact on economic stability.

The implementation of structural changes aimed at reducing energy consumption and the development of processing industries will reduce energy consumption of GDP.

Deterioration of the quality of fixed capital in production leads to unfavorable network changes in the order of energy consumption, resulting in increased energy consumption and energy capacity of the network in the production of goods. [7]

According to econometric analyzes, there is a very strong exponential relationship between the level of industrialization of the economy and energy costs in industrial production, according to which the double correlation coefficient of these factors is 0.948. This confirms the increase in the level of industrialization of the economy, the growth of energy costs in industrial production on the basis of exponential laws.

According to econometric analyzes, a 1% increase in energy return in the industrial sector of the country will allow to increase profits by 3.05% and gross value added in industry by 3.35%.

Particular attention is paid to reducing energy consumption in the industrial sectors of the country, including the President of the Republic of Uzbekistan "On the program of measures to reduce energy consumption in the economy and social spheres in 2015-2019, the introduction of energy-saving technologies" PP-2343 A number of measures have been taken to reduce energy consumption in the network.

In summary, production capacity is a complex concept, and in order to increase the efficiency of its use, it is expedient to pay attention to the following:

- Accelerate the process of renewal of fixed assets of industrial production on the basis of the introduction of machines and mechanisms, advanced technologies;
- Development of effective mechanisms for attracting initial investment in industry and its sectors in order to increase the volume of private funds of industrial enterprises, bank loans and foreign investment;
- Concentration of resources on priority industries in order to develop export-oriented industries in the country.

Discussions

The main goal of industrial development is to increase the industrial potential of the region, to fully meet domestic demand for industrial products and to enter foreign markets on the basis of the formation of competitive products. In order to achieve this goal, it is advisable to perform the following tasks (Figure 2):

- Modernization and expansion of existing industrial production facilities.
- Diversification of industry through the deployment and development of new industries based on deep processing of local raw materials.
- Expansion of industrial production of local significance through the discovery, preparation and implementation of projects based on local initiative and on this basis to better meet the needs of the

population.

- Formation of industrial production in the region in the form of regional industrial clusters, ensuring the interdependence of industrial enterprises on the basis of value-added chains.
- Creation of basic conditions for the formation of innovation-oriented, high-tech structure of industry through the further development of scientific, technical and educational systems and the potential of enterprises that promote the development of high technologies.

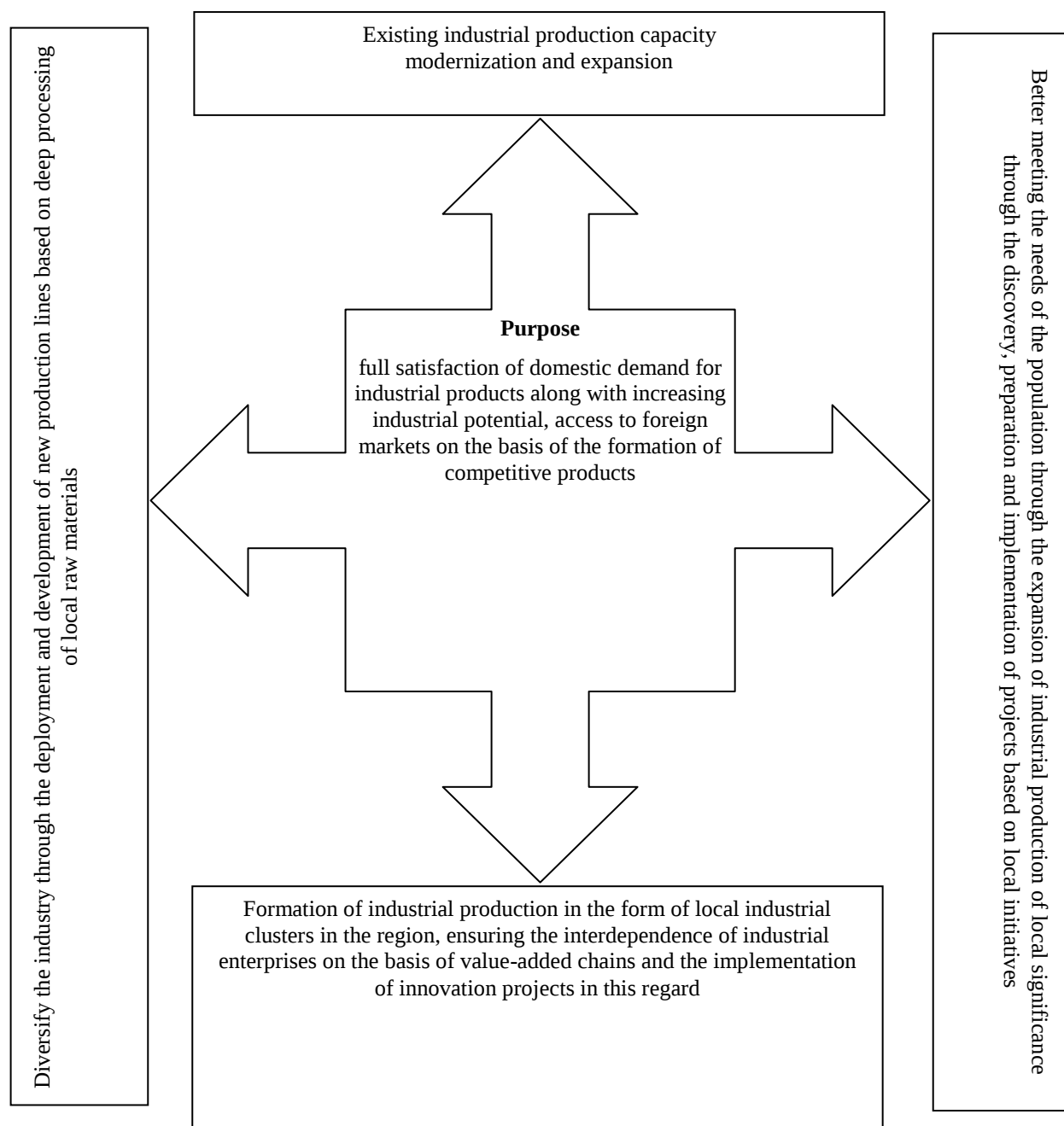


Figure 2. Strategic directions of local industry development in Kashkadarya region

Today, the region and its districts have great potential for the development of light industry, and the country's large-scale and high-quality fine-fiber cotton plays an important role in the development of light industry in the region. The rich experience in cotton growing and the desire of the population for innovation will allow the development of this industry in all regions of the region. The development of this network will allow creating more than 20 different types of products in the near future.

Based on the above, the industrial strategy of the region is based on high technology and is based on high-tech and industrial clusters, regional industrial production of deep processing of local raw materials, small industrial zones in the regions, home-based and handicraft industry.

Table 7. Procedure for calculating the relationship between the gross regional product of Kashkadarya region and the growth rate of industrial production

Information provided:

Years	Gross regional product growth rate, %	Industrial production growth rate, %
1999	101,4	102,3
2000	99,0	101,9
2001	105,0	104,4
2002	109,4	112,1
2003	105,7	114,0
2004	102,5	108,3
2005	108,0	101,3
2006	107,0	106,7
2007	109,2	113,5
2008	111,2	118,9
2009	108,1	115,1
2010	103,0	97,5
2011	105,8	104,4
2012	104,8	98,8
2013	105,6	103,5
2014	106,9	106,5
2015	106,7	105,1
2016	105,5	103,8
2017	103,4	107,9
2018	101	105,7

Based on these data, the correlation coefficient between the gross regional product and industrial output growth rates is determined:

$$r = \frac{\sum(x - \bar{x})(y - \bar{y})}{\sqrt{\sum(x - \bar{x})^2 \sum(y - \bar{y})^2}} = 0,82$$

We use the formula $y = a + bx$ because the relationship between these two indicators is the correct relationship.

In the next step, we cannot construct a system of equations according to the least squares method. To do this, the following condition must be met:

$$\sum(y_i - \hat{y}_{xi})^2 = \min \text{ or } \sum(y_i - a - bx_i)^2 = \min.$$

The function of two variables $P(a_0, a_1)$ must be equal to zero to reach the extremum, i.e., $\frac{\partial f(a)}{\partial a} = 0$ and

$\frac{\partial f(b)}{\partial_b} = 0$. Calculating these specific derivatives, we obtain the following expressions:

$$\begin{aligned}\frac{\partial f}{\partial_a} : \sum (y - a - bx)^2 &= -2 \sum (y - a - bx) = 0 \\ \frac{\partial f}{\partial_b} : \sum (y - a - bx)^2 &= -2 \sum (yx - ax - bx^2) = 0\end{aligned}$$

Here:

$$\begin{cases} a \cdot n + b \cdot \sum x = \sum y \\ a \cdot \sum x + b \cdot \sum x^2 = \sum x \cdot y \end{cases}$$

Putting values in this equation, we get the following results:

$$y = 1,05 + 1,017x$$

Thus, a 1% increase in the growth rate of industrial production in Kashkadarya region will provide an additional 1,017% growth rate of gross regional product of Kashkadarya region, provided that other conditions do not change.

The results of the empirical relationship between the growth rate of gross industrial value in Kashkadarya region and the growth rate of gross regional product are as follows:

$$p_m = 1.77 + 1.05(q_m), R^2 = 0.995, F = 361297$$

(1.34) (60.11)

The results of the empirical relationship between the growth rate of gross industrial value in Kashkadarya region and the growth rate of gross regional product are as follows:

$$p_m = 1.77 + 1.05(q_m), R^2 = 0.995, F = 361297 \quad (1)$$

(1.34) (60.11)

The research period is 1997-2016, the growth rate is a percentage of the previous year, the author estimates. According to the results, the regression coefficient is 1.05. The results of the econometric analysis show that the evaluation results of this empirical equation ($R^2 = 0.995, F = 361297, t_{\beta_2} = 60.11$) are high, which confirms that the above relationship is typical for the industry of Kashkadarya region.

As a result of the analysis, it was found that the development of processing industries in Kashkadarya region stimulates the development of non-processing industries. This confirms that the development of the food and light industries of the processing industry can lead to the growth of agriculture, forestry and fisheries. The development of the processing industry also has a strong impact on the development of the services sector (banking, insurance, communications, trade and transport).

In particular, several sectors of the service are directly related to the processing industry, including the promotion of this type of activity through the delivery of industrial goods to consumers. The processing industry also has a positive impact on the development of research, wholesale and retail trade, car repair and maintenance.

The empirical analysis confirmed that the following quantitative approach is appropriate for the economy of Kashkadarya region:

$$\ln p_{nm} = 0.04 + 0.69 \ln(g_m), R^2 = 0.53, F = 17.02 \quad 2)$$

(0.66) (4.12)

This quantitative relationship confirms that there is no linear relationship between the growth rate of manufacturing output in the processing industry and the growth rate of labor productivity in the non-manufacturing sector. According to the results obtained, the coefficient of determination (R^2) and the calculated values of Fisher (F) are relatively low. However, since $\alpha = 0.05$ the table values of Fisher and Student are likely to be 4.54 and 2.13, respectively, the hypothesis H_0 for this model is rejected.

In the socio-economic development of Kashkadarya region, as well as in the maximum satisfaction of the growing needs of the growing population in the region, the development of regional industries, thereby increasing the volume of production is of great economic importance today. This is because the industry can effectively fill regional consumer markets with necessary goods, ensure balance in the domestic market and increase local competitiveness, localize production, increase employment and incomes, which are extremely important for the region.

Quantitative study of changes in the industrial sectors of the region, the timely identification of problems in the development trends of production, plays an important role in the development of strategies for socio-economic development of the region. This requires scientific knowledge of changes in the development trend of the industry in the future. Forecasting and its methods serve as a reliable scientific tool in achieving such goals.[14]

Conclusions

As a result of scientific research, the following conclusions were drawn:

1. Industry is the main driving force of economic development, and compared to other sectors of the economy, industry has a high opportunity to use a new combination of innovation and knowledge. The dynamic nature of the industrial sector also has a significant positive impact on the development of other sectors and industries of the economy. In particular, the development of the food and light industries will stimulate the development of agriculture, forestry and fisheries. The development of the processing industry also has a strong impact on the development of the services sector.
2. According to statistical analysis, the share of Kashkadarya region in the republic's industry in 2018 will be second only to Tashkent (18.6% in the republic's industry), Tashkent (15.3%), Andijan (11.8%) and Navoi regions (9.9). It is 6.2% and ranks 5th in the country. Similarly, Kashkadarya region ranks 4th in the country in terms of "the share of industry in GDP." Also, labor productivity in the industry of Kashkadarya region is significantly higher than the national average.
3. According to the analysis, the share of raw materials in the industry of Kashkadarya region, which has the largest industrial production potential in the country, remains relatively high. Therefore, the development of processing industries in the region and their effective placement in the regions, as well as the construction of industrial development based only on GDP growth can lead to a one-sided approach to determining the future direction of the region. rather, it was found methodologically expedient to predict the amount of value added to be created in the region.
4. Analysis of the problems identified in the course of the study shows that there is a big difference between the share of districts in the regional distribution of industrial products produced in the region. In particular, 62.3% of the gross industrial output of the region fell to only 3 regions, namely, the city of Karshi (12.1%), Guzar district (20.8%) and Mubarek districts (29.5%). 6% is produced by other districts of the region. Therefore, given the sufficient raw material base of industry and cheap labor in the region, it is necessary to actively attract investment and its efficient distribution in the region, ultimately reducing the gap between the manufacturing industries of the regions.

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