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STATISTICAL ANALYSIS OF THE ROLE OF SECTORS IN ECONOMIC DEVELOPMENT

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A B S T R A C T

The article analyzes the place and role of industries in ensuring economic development, the share and dynamics of industries in the production of industrial products based on international classifications, and also notes the directions for the further strategic development of the industrial sector.

K E Y W O R D S

Industry, manufacturing, agricultural sector, services, products, GDP, GVA, production, structural shifts, industry share, rates of change.

Introduction

The development of industries will be a powerful factor in providing the local market with affordable and high-quality products in the regions of the country, creating jobs and increasing employment, as well as increasing export potential.

Industry is one of the sectors that makes a huge contribution to the development of the economy of Uzbekistan. Today, the country's industry is considered a developing sector and has reached a level where it can easily compete with foreign-made products in certain types of products. This was achieved through structural changes in industrial sectors that produce the main industrial products for both domestic and foreign markets.

Among the branches and spheres producing material goods, industry occupies the most significant place and is the leader. The added value (GV) created in the industrial sector of our republic in 2023 amounted to 23.5% of the gross domestic product (GDP) and 24.7% of the gross value added (GVA) of industries. The key to the successful growth of all sectors of the economy depends on the rate of development of this sector.

In the Resolution of the President of our country Sh.M.Mirziyoyev dated May 1, 2019 No. PP-4302 "On measures for further development of industrial cooperation and expansion of production of in-demand products," "further expansion of industrial production, wide involvement of small business entities in industrial activities, strengthening and development of industrial cooperation, reduction of the cost of manufactured products" [1] is provided.

Currently, for the sustainable development of the country's economy, opportunities are being created to strengthen export potential through the sale to the outside world of final goods that are competitive

in the world market due to the increase in the volume of production in sectors and spheres of the economy that create high added value.

In this regard, the President of the Republic of Uzbekistan Sh. M. Mirziyoyev In his Address to the Oliy Majlis on December 29, 2020 ..."economic growth is achieved primarily by creating competitive industrial chains and increasing investments in such projects"[2].

As a result of directing investments to production sectors, completely new industrial sectors were created in the country during the years of independence, including automotive, petrochemical, oil and gas engineering, modern construction materials industry, railway engineering, consumer electronics, pharmaceuticals, modern food and textile industries. This can be explained by the fact that the share of the industrial sector in the volume of investments in fixed assets in economic activity in 2023 increased by 20 percentage points compared to 2010 and amounted to 51.6 percent.

The development of enterprises operating in the real sector of the Republic of Uzbekistan and the formation of a competitive environment among them, the special role of these enterprises in the growth of the country's gross domestic product, further increases their desire to produce competitive and high-quality products.

RELATED LITERATURE REVIEW

The role of the real sector in ensuring the sustainable development of the country's economy is invaluable. Therefore, the relevance of the development of the industrial sector has always been at the center of attention of researchers. In particular, foreign scientists Yu.Rodionov, R.S.Porter, D.Deveryuks, B.Roberts, R.N.Nureev created scientific innovations on the topic, and domestic scientists A.Abduhamidov, U.Mukhitdinov, A.A.Ortikov, Kh.Ishbutaeva, Sh.Nizomova, E.Kh.Makhmudov, M.Isakov, Kh.D.Khuzhakulov conducted a number of scientific studies.

In particular, A.Ortikov "A number of opportunities, geographical and economic factors for the development of industry in Uzbekistan" [6], M.P.Narzikulov "In the process of developing an industrial development strategy, the main attention is paid to structural changes" [7], E.Kh. Makhmudov "Strategic directions for creating conditions for the development of industrial sectors, primarily the creation of a favorable macroeconomic environment, including such tools as budget, tax, monetary, credit, price, and currency policy" [8], Khudzhakulov Kh.D., Sayfullaev S.N. "Statistical study of structural changes in the industrial sector of Uzbekistan based on international classification" [9], Mamadzhanov D.G. "Assessment of the economic efficiency of the development of the industrial sector of Uzbekistan" [10].

RESEARCH METHODOLOGY

In the research process, methods of economic and statistical analysis, synthesis, statistical grouping, expert assessment, and scientific abstraction were used.

RESULT AND DISCUSSION

If we look at the results of 2023, the country's gross domestic product increased by 6.3 percent, the volume of added value in industry - by 3.4 percent, and about 70.0 percent of the manufactured products were finished goods with high added value. The volume of industrial products produced by enterprises of our republic in 2023 in current prices amounted to 659.0 trillion soums, compared to

2010, the growth rate of added value created in the industry was 205.2 percent (171.2:90.2), and the average annual growth rate was 5.1 percent (Table 1).

Table 1 Main macroeconomic indicators of Uzbekistan volume and dynamics

Years	GDP and GVA at 2020 prices, trillion soums			per capita at 2020 prices, thousand soums		
	GDP	Branches GVA		GDP	GVA	
		Total	of which in industry		across all sectors	of which in industry
A	1	2	3	4	5	6
2010	338,9	311,3	90,2	11865,2	10898,9	3158,0
2011	364,4	335,3	94,1	12420,2	11428,3	3207,3
2012	390,2	360,4	99,5	13105,2	12104,3	3341,8
2013	418,7	387,1	106,9	13844,4	12799,6	3534,7
2014	447,6	414,2	111,8	14552,5	13466,5	3634,9
2015	479,8	444,4	117,7	15329,6	14198,6	3760,5
2016	508,1	471,1	124,0	15954,0	14792,2	3893,5
2017	530,5	491,3	130,5	16379,2	15168,9	4029,2
2018	559,1	517,4	144,6	16965,0	15699,7	4387,7
2019	591,0	547,4	151,8	17599,4	16301,1	4520,5
2020	602,2	557,8	153,2	17591,7	16294,6	4475,3
2021	646,8	599,6	166,5	18524,9	17173,1	4768,7
2022	685,6	644,5	165,6	19232,4	18079,5	4534,8
2023	728,8	693,1	171,2	20015,2	19034,7	4701,7

Source: Data from the Statistics Agency under the President of the Republic of Uzbekistan, author's calculations.

In general, industry is one of the main sectors of the republic's economy. Because industry fundamentally differs from other spheres and sectors in its creation of added value, its role in meeting the needs of the population, and its high level of production locomotive. The development of the industrial sector leads to the development of the national economy at a stable pace. In the industrial sector, the processes of diversification will be improved due to the processing of all extracted and cultivated resources, the production of new products from them, and the expansion of the range and nomenclature.

The industrial sector, being a large production institution, also plays an important role in ensuring employment of the population and creating new jobs. The average annual number of people employed in the industry was 1605.7 thousand people in 2010, 1768.7 thousand people in 2015, 1809.5 thousand people in 2020, 1826.1 thousand people in 2023, or 13.8; 13.5; 13.7 and 13.1 percent. As a result, in 2023, compared to 2010, the number of people employed in the industry increased by 13.7 percent, while in the economy as a whole this figure was 20.5 percent. Another important feature of the industrial sector in increasing employment is its activity in processing and creating added value. That is, as the number of processing enterprises increases and the value added increases, the number of employees employed in industry also increases. It can be seen that there is a direct correlation between

the growth of added value and processing and the change in the number of employees employed in the industry. Industry contributes to the coordination of economic integration processes between countries participating in the world economy and ensuring a balance between economic sectors. Ultimately, all countries will have the opportunity to rationally utilize their natural, labor, and financial resources, as well as all achievements of science and technology. This, in turn, ensures the growth of the production of products with high added value in the chemical, oil and gas, and petrochemical industries, mechanical engineering, and metals.

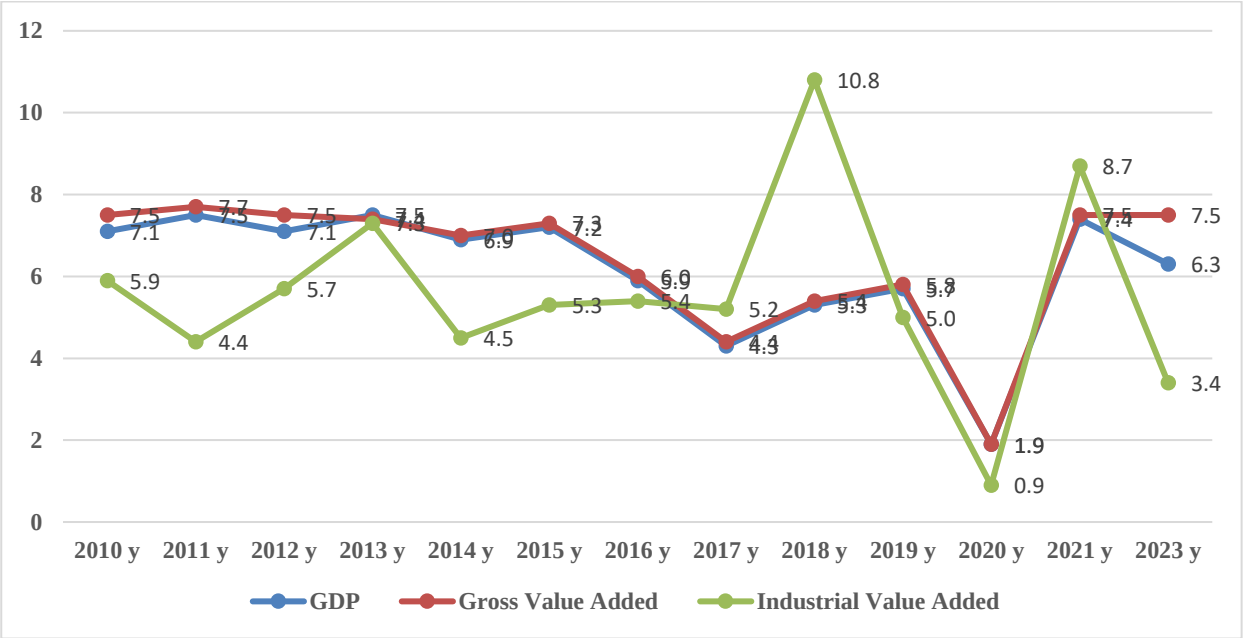

Diagram 1. Gross domestic product (GDP), gross value added (GVA) of industries and added value created in industry
Additional growth rates of GVA, in percent.

The Decree of the President of the Republic of Uzbekistan "On the Action Strategy for five priority areas of development of the Republic of Uzbekistan in 2017-2021" specifically emphasizes the tasks of "further modernization and diversification of industry by transferring it to a qualitatively new level, aimed at the accelerated development of high-tech processing industries, primarily the production of finished products with high added value based on deep processing of local raw materials" [3].
It should be noted that structural changes have occurred in the sectors and spheres of the economy in recent years. In 2023, compared to 2010, the share of industry in GDP and gross value added of industries increased by 7.0 and 6.0 percentage points, construction by 2.3 and 2.1 percentage points, services by 4.0 and 0.9 percentage points, respectively, while agriculture, forestry and fisheries decreased by 6.5 and 9.0 percentage points.

Table 2 GDP and gross value added (GVA) of industries in Uzbekistan volume change indicators

Years	The rate of change of GDP and GVA, %			Sectors Share of GVA in GDP, %		Share of industry value added, %	
	GDP	GVA					
		across all sectors	of which in industry	across all sectors	of which in industry	Networks are in CLS	In the volume of industrial production
A	1	2	3	4	5	6	7
2010	107,1	107,5	105,9	88,0	16,5	18,7	34,1
2011	107,5	107,7	104,4	88,7	15,4	17,4	33,5
2012	107,1	107,5	105,7	88,8	16,1	18,1	35,6
2013	107,3	107,4	107,5	89,6	16,6	18,5	35,9
2014	106,9	107,0	104,5	90,2	17,2	19,1	38,3
2015	107,2	107,3	105,3	90,9	17,4	19,1	39,4
2016	105,9	106,0	105,4	91,2	17,8	19,5	40,6
2017	104,4	104,3	105,2	89,0	18,8	21,1	40,0
2018	105,4	105,3	110,8	89,3	22,6	25,3	40,1
2019	105,7	105,8	105,0	91,5	25,7	28,1	42,2
2020	101,9	101,9	100,9	92,6	25,4	27,5	41,5
2021	107,4	107,5	108,7	92,8	25,8	27,8	41,1
2022	106,0	107,5	100,0	94,0	24,1	25,7	43,5
2023	106,3	107,5	103,4	95,1	23,5	24.7	43,7

Source: Author's calculations based on data from the Statistics Agency under the President of the Republic of Uzbekistan.

As a result of such structural shifts, the share of sectoral GVA in GDP increased by 4.3 percentage points, and the share of net taxes on products decreased from 9.2 to 4.9 percent (Tables 2 and 3).
According to the analysis results, in our republic in 2023, compared to 2022 and 2010, the growth rate of GDP was 106.3 and 215.0 percent, the gross value added of industries was 107.5 and 222.6 percent, and the added value created in the industrial sector was 103.4 and 189.8 percent, respectively, and in 2010-2023, the average annual growth rate of GDP, the added value of industries and industry was 6.1; 6.3 and 5.1 percent, respectively, the coefficient of value added decrease in the industrial sector was 0.883 or 88.3 percent (1.898:2.150) and 0.852 or 85.2 percent (1.898:2.226) relative to GDP and gross value added of industries. These data indicate that the growth rate of production in the industrial sector was somewhat low in dynamics. Based on the conducted research and analysis, in 2010-2023, the volume of GDP per capita, GVA of sectors and industry amounted to 1.687; 1.746 and 1.489 times (Tables 1 and 2).

Table 3 Change in the share of sectors in GDP and GVA in Uzbekistan (in percent)

Years	GDP volume, in current prices, trillion soums	Share of industries, % (excluding industry)					
		Agriculture, forestry and fisheries		Construction		Services	
		In GDP	Networks are in CLS	In GDP	Networks are in CLS	In GDP	Networks are in CLS
A	1	2	3	4	5	6	7
2010	78,9	27,0	30,6	4,8	5,4	39,9	45,3
2011	103,2	29,7	33,5	4,4	4,9	39,2	44,2
2012	127,6	28,9	32,6	4,4	4,9	39,4	44,4
2013	153,3	27,8	31,0	4,8	5,3	40,5	45,2
2014	186,8	28,7	31,8	4,9	5,4	39,4	43,7
2015	221,4	29,2	32,1	5,1	5,7	39,1	43,1
2016	255,4	29,3	32,1	5,1	5,6	39,0	42,8
2017	317,5	28,7	32,2	4,8	5,4	36,8	41,4
2018	424,7	26,8	30,0	5,2	5,8	34,8	38,9
2019	529,4	24,6	26,9	5,8	6,3	35,3	38,7
2020	602,2	25,1	27,1	6,2	6,7	35,8	38,7
2021	738,4	25,0	26,9	6,1	6,6	36,8	39,6
2022	995,6	20,9	22,3	7,3	7,8	41,5	44,2
2023	1192,2	20,5	21,6	7,1	7,5	43,9	46,2

Source: Author's calculations based on data from the Statistics Agency under the President of the Republic of Uzbekistan.

Structural changes and the share of industries in the production of industrial products according to the new structure of the OKED in our republic are characterized by the data presented in Table 4. The table data indicate that in 2010, 13.4% of the total industrial output was created in the mining and quarrying industry (B), 75.4% in the manufacturing industry (C), in 2023 these indicators were 8.4% and 84.0%, respectively, i.e., compared to 2010, they decreased by 5.0 percentage points and increased by 7.6 percentage points. In the manufacturing industry (S-section), the metallurgical industry has the largest share, which amounted to 19.2% in 2023 and accelerated by 6.4 percentage points compared to 2010.
The Statistics Agency under the President of the Republic of Uzbekistan determines the growth rate and dynamics of industrial production based on the index of the physical volume of added value created in the industry. We must acknowledge the methodological correctness of such accounting, since not all manufactured products are final products in the economy, which is explained by the presence of repeated calculations and intermediate consumption. However, it is advisable to analyze the economic process by determining the volume of output and its dynamics for individual economic entities.
The most important factor in increasing the efficiency of the economy is the reduction of production costs.

Table 4 Proportion and dynamics of output by type of economic activity in the structure of industrial production

Industrial sectors by enlarged sections	Years							
	2010	2015	2016	2017	2018	2019	2020	2023
Volume of industrial production (B, C, D, E) - total, billion soums	38119,0	97598,2	111869,4	148816,0	235340,7	322535,3	368740,2	658991,7
Including, % of the total:								
B. Mining and quarrying	13,4	9,7	8,1	10,3	12,3	13,5	9,0	8,4
C. Manufacturing industry	75,4	80,5	81,8	81,1	80,6	79,0	83,0	84,4
D. Electricity, gas, steam supply and air conditioning	10,7	9,2	9,4	7,8	6,2	6,8	7,4	6,7
E. Water supply, sewerage system, waste collection and disposal	0,5	0,6	0,7	0,8	0,9	0,7	0,6	0,5
Index of physical volume of industrial production (compared to the previous year, %)								
Throughout the industry	105,9	105,3	105,4	105,2	110,8	105,0	100,9	106,3
B. - section	94,8	102,9	100,8	117,6	126,5	99,4	78,0	99,5
C. - by section	108,9	105,9	106,7	104,2	107,9	106,6	107,9	107,4
D. - by section	118,5	105,1	103,6	95,5	103,1	105,1	106,8	109,5
E. - by section	118,6	106,8	110,0	108,0	111,3	102,2	99,1	103,2

Source: Calculated based on data from the Statistics Agency under the President of the Republic of Uzbekistan.

Therefore, it is necessary to ensure cost savings for intermediate consumption in the production of products and services using advanced modern high technologies in industries. Although the share of intermediate consumption in the production of industrial products decreased from 65.9% in 2010 to 56.3% in 2023, it still has a high share (Table 2, Diagram 2).

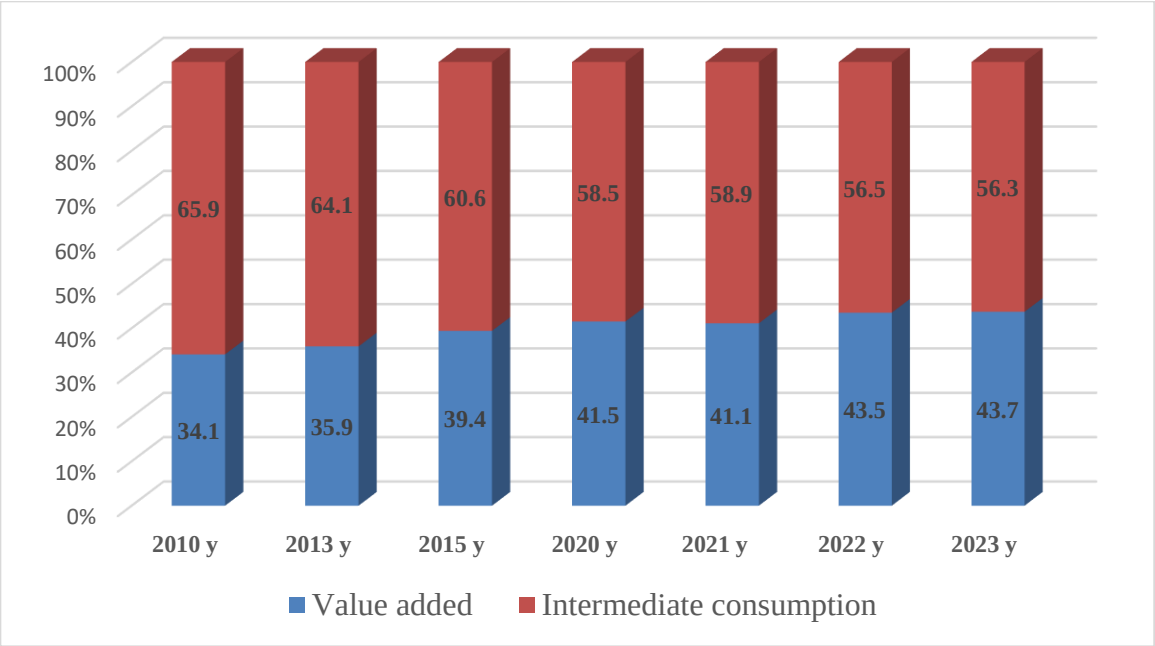

Diagram 2. of value added in the volume of industrial production and the share of intermediate consumption (as a percentage of the total).

In the development of the economy, the application and widespread introduction of advanced high technologies in industries and spheres is of great importance. The volume of work carried out in this area is not yet at the required level. Let's say that in the structure of the manufacturing industry, which is considered the driver of the economy, the share of high-tech production in 2020 was 2.0 percent, medium-high-tech - 22.4 percent, medium-low-tech - 39.9 percent, and low-tech - 35.7 percent, and in 2023 these indicators were 1.5; 24.6; 37.5 and 36.4 percent.

Therefore, based on this situation, it is advisable to increase the share of high-tech industries.

In 2023, compared to 2010, the physical volume indices for the total industry amounted to 206.9 percent, including 129.5 percent in section B, 250.1 percent in section C, 166.0 percent in section D, and 169.8 percent in section E of industrial production. 7.3; 4.0 and 4.2 percent (Table 4).

RESULT

In order to increase the share of industry in the gross value added of industries, it is necessary to implement a set of measures to support and stimulate enterprises carrying out structural transformations, production based on deeper processing of local mineral resources, as well as active diversification and modernization of leading industries.

Despite the fact that in recent years, as a result of structural changes in the industrial sector, the potential of the industry in the country's economy has significantly increased, however, investments in the industrial complex do not contribute to an increase in the share of industry exports at the required level.

- In the future, we propose the following directions that will ensure the development of the country's industry:
- development of scientifically based projects aimed at the development of investment production, meeting large-scale needs;
- improving the innovative potential of enterprises, creating new enterprises that require science and high technologies, and producing products that can compete with imported products;
- ensuring the growth of export volumes based on the acceleration of the policy of importing modern equipment and technologies for the production of industrial products of developed countries;
- increasing the share of the private sector and small business in industry;
- increasing the share of joint ventures in the development of industry;
- expansion of the scale of exports of manufactured products, etc.

In the 3 priority areas of the Decree of the President of the Republic of Uzbekistan "On the Development Strategy of New Uzbekistan for 2022-2026," the tasks of "Continuing the industrial policy aimed at ensuring the stability of the national economy and increasing the share of industry in the gross domestic product, increasing the volume of industrial production by 1.4 times" [3] and in the 47th goal of the "Uzbekistan-2030" strategy, bringing the volume of added value in industry to 45 billion dollars and creating 2.5 million high-income jobs" [3] have been defined.

In conclusion, it should be noted that all the reforms being implemented in the republic are aimed at ensuring and increasing the macroeconomic stability of our country and improving the well-being of the population.

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