Proper Development of Industry in Uzbekistan

Rakhimbaev Akmal Azatboevich

Independent researcher of Urganch State University
Khorezm, Uzbekistan
rakhimbaevakmal90@gmail.com

Abstract. **In this paper was researched proper development of industry in Uzbekistan. By author studied agglomeration is considered as a concept that means the clustering of enterprises in a certain geographical area, agglomeration economies include mechanisms that cause workers and firms to co-locate geographically.**

Keywords: Industry, agglomerations, GDP, regions, industrial zones, regional industrial policy.

1. INTRODUCTION

The main directions of the industrial policy implemented in the countries of the world are to use innovative technologies, to increase the competitiveness of the activities of industrial complexes and local clusters in the regions, and to ensure their effective integration into the global added value chain. The industrial clusters formed on the basis of the creation of agglomerations of industrialized countries such as the USA, Japan, China and Korea own more than 50% of the added value created in the world industry and more than 85% of innovations.

Countries strive to boost their regional economic growth, reduce income inequality and poverty, and this is a welfare-enhancing process that is addressed through policies aimed at ensuring economic growth throughout the region. Based on this, world countries are conducting research aimed at conducting scientific research on the use of modern approaches to the formation of industrial agglomerations in their regions. In carrying out the regional industrial policy, the main attention is focused on the creation of mechanisms that provide for the creation of added value based on the organization of industrial zones and the formation of clusters.

During the period of independent development in Uzbekistan, measures aimed at modernization and diversification of industry, digitization and innovative development were implemented. As a result of effectively implemented industrial development reforms, the share of industry in GDP increased from 18.7 percent in 2010 to 26.7 percent. However, there are still untapped opportunities to attract investment. Also, priority attention is being paid not only to the effective use and localization of the attracted TTXI, but also to the creation of conditions that can attract foreign investors.

Significant work has been done to diversify the economy, reduce dependence on traditional industries, and modernize. Uzbekistan has sought to improve the free investment environment by implementing policies that encourage the attraction of both domestic and foreign investment in industrial sectors. In order to attract investors, many innovative projects such as the establishment of special economic zones and industrial clusters have been implemented.

In Uzbekistan, a lot of work has been done on interregional balanced development of industry, and large-scale investment programs have been implemented to develop entrepreneurship in remote areas, to build and reconstruct infrastructure facilities, and to increase road, transport, and communication capabilities.

By the Decree of the President of the Republic of Uzbekistan dated January 28, 2022 No. PF-60 "On the development strategy of New Uzbekistan for 2022-2026" "Continuing the industrial policy aimed at ensuring the stability of the national economy and increasing the share of industry in the gross domestic product, the production volume of industrial products "Increase by 1.4 times" tasks have been set. Also, as the 29th goal of the development strategy, "Organization of 200 new industrial zones in the regions and development of the system of business incubators." The tasks of creating more favorable conditions for the development of entrepreneurship in districts with difficult conditions have been defined.

2. LITERATURE REVIEW

In scientific studies, agglomeration is considered as a concept that means the clustering of enterprises in a certain geographical area.[2] Agglomeration economies include mechanisms that cause workers and firms to co-locate geographically.

The benefits of an agglomeration economy can be summarized through three mechanisms: sharing, adaptation and

learning. The ability for businesses to share facilities, infrastructure, suppliers, and labor is created by agglomeration. Enterprises will be able to effectively use the specialized labor market formed in agglomerations and meet their demand for qualified labor in a timely manner. In addition, enterprises in developed agglomerations can quickly adopt new technologies and adopt business practices faster and more easily.[3] Let's take a closer look at these effects.

Exchange efficiency in agglomerations

One of the advantages of agglomeration is that regardless of the number of participants, they will be able to share infrastructure based on their desire to save costs. Especially in large industrial zones and clusters, competitiveness is achieved through maximum efficient use of infrastructure. In these agglomerations, transport and telecommunications infrastructure grows with public investment as network density increases and encourages sharing.[4]. In this framework, one-time investments of the state are self-sustaining due to the agglomeration economy.[5]

Flexibility effect in agglomerations

Agglomeration economies offer favorable opportunities for highly educated workers, which encourages workers to better adapt to agglomeration areas. This is especially true of urbanized agglomerations. Larger cities have a larger labor force, which makes it easier for industries to find skilled workers. Areas with high density and human capital reserves are more likely to gain from agglomeration. Agglomeration does not have the same positive benefits in areas with unskilled workers.[6] The larger the labor pool, the more diverse and specialized it is. In addition, large cities disproportionately attract high- and low-skilled workers.

A study has shown that agglomeration economies occur in general labor in industrial areas, primarily in occupations related to low-skilled production. The greater the concentration in industry, particularly manufacturing, the higher the multiplier for job creation.

Learning outcomes in agglomerations

One of the main advantages of agglomeration is that it reduces the costs of generating new ideas and sharing information. Through proximity and face-to-face contact between skilled workers and firms, new ideas spread more quickly, which in turn leads to innovation, and knowledge spillovers occur.

The learning effect may be more pronounced in agglomerations of high-tech manufacturing industries. First, workers learn faster than each other. Second, the speed of technological changes forces and motivates employees to work faster. Together, these effects make hismat a key factor in promoting knowledge-based agglomeration. Employers in larger labor markets invest more in technology as they continually invest in education and science for specialized workers with the ability to develop regional production. The high level of investment in human capital is considered to be the main factor in the formation of a qualified labor force.

Based on the above, increasing investments in the infrastructure necessary for agglomeration is the main direction. The level of concentration of production is the result of transport infrastructure and the mobility of factors of production. The presence of modernized transport systems in agglomerations facilitates the concentration of production. Road and transport infrastructures create labor mobility and logistics efficiency

3.   ANALYSIS AND RESULTS

In recent years, highly positive results have been achieved as a result of the structural changes implemented in the industrial sectors, as a result of the tax-budget policy, finance and monetary policy of the state, general management and reforms to create an innovative economy, the formation of management based on market principles and the implemented measures.

The physical volume index of industrial production in the Republic of Uzbekistan in 2013 is distinguished by a significant growth rate of 7.5 percent, which indicates a significant expansion of industrial production. In the country, starting from 2016, it can be observed that the growth rate of all sectors, including industry, has increased, including that in 2018, the index of the physical volume of industry was 10.8%, providing the highest figure for 2010-2022. However, due to the impact of the COVID-19 pandemic, a minimal growth rate of 0.9% was observed in 2020, while in the last two years, the growth rates were positive at 8.8% and 5.3%, respectively, indicating a recovery or continued growth in industrial production. gives

In the industry of the republic, there is an opportunity to assess the regional industrial development based on the growth of the volume of production of industrial products and changes in the share of the total product production.

The production volume of industrial products in the regions is evaluated based on changes in the last 5 years (2018-2022). The share of the city of Tashkent in the total industrial production volume of the republic was considered the highest, and in 2018 it was 18.4 percent, and in 2022 this indicator was 19.7 percent. Compared to 2018, the following can be distinguished as relatively stable regions: Bukhara, Jizzakh, Navoi, Namangan, Tashkent and Khorezm regions

(Table 1). Surkhandarya and Syrdarya regions remained relatively unchanged, and the share of the remaining regions in the industrial production of the republic decreased.

Table 1: The share of regions in the total industrial production volume of the republic

Areas	2018	2019	2020	2021	2022*
Republic of Uzbekistan	**100**	**100**	**100**	**100**	**100**
Republic of Karakalpakstan	4.6	3.9	3.8	3.6	3.2
Andijan	11.7	10.3	9.9	7.9	9.8
Bukhara	3.7	4.6	4.8	4.6	4.9
Jizzakh	1.5	1.4	1.6	1.9	2.1
Kashkadarya	6.2	6.3	4.0	4.1	4.1
Navoi	9.7	13.8	17.7	16.1	15.3
Namangan	2.8	2.7	3.0	3.2	3.3
Samarkand	5.7	4.9	5.0	5.0	5.3
Surkhandarya	1.4	1.3	1.4	1.5	1.3
Syr Darya	2.2	2.3	2.2	2.2	2.2
Tashkent	16.0	16.6	17.9	18.3	17.0
Fergana	5.8	5.8	5.9	6.1	5.5
Khorezm	2.7	2.6	2.6	3.0	3.3
Tashkent sh.	18.4	16.4	17.9	19.8	19.7

Looking at the average annual growth of the volume of production of industrial products in the regions (Table 2), positive trends of average growth in 2018-2022 can be observed in all regions. If we compare the average growth trend of the production of industrial products in the republic, it can be observed that Andijan, Jizzakh, Samarkand, Surkhandarya, Syrdarya, Tashkent, Khorezm and Tashkent city are higher.

Table 2: Growth rates of industrial production by region, in percent compared to last year

Areas	2018	2019	2020	2021	2022*	average growth, %
Republic of Uzbekistan	**110.8**	**105.0**	**100.9**	**108.8**	**105.3**	106.2
Republic of Karakalpakstan	104.2	105.1	102.5	107.4	100.5	103.9
Andijan	130.6	114.7	106.3	98.7	122.8	114.6
Bukhara	101.6	110.5	101.5	100.1	106.0	103.9
Jizzakh	108.9	103.5	118.4	110.4	108.2	109.9
Kashkadarya	104.2	94.0	102.9	115.4	110.1	105.3
Navoi	101.8	104.3	109.1	107.0	106.1	105.7
Namangan	110.8	110.4	115.3	118.2	109.1	112.8
Samarkand	112.3	105.6	105.4	111.0	108.6	108.6
Surkhandarya	106.0	107.1	106.7	109.7	104.2	106.7
Syr Darya	104.2	103.2	100.9	118.5	109.1	107.2
Tashkent	114.8	107.3	105.8	112.8	105.7	109.3
Far g' mother	106.3	102.6	104.2	108.5	104.5	105.2
Khorezm	107.9	107.5	106.1	117.2	115.0	110.7
Tashkent sh.	110.2	105.5	100.2	116.2	106.3	107.7

Tables 1 and 2 show that differences in regional development are high. In order to determine the leading regions in the regional development of industrial production, it is possible to divide them into 4 categories in terms of average growth and share, including:

A1-regions with high growth and share;
B1-regions with high growth and low share;

S1-regions with low growth and high share;
D1-regions with low growth and low share;

Based on the data of Tables 1 and 2, it is possible to group industries in the regions according to the stage of development, based on the calculation of the average growth indicators of the production of industrial products and changes in their share in 2018-2022. Figure 1 shows the results of grouping the regions of Uzbekistan according to the level of industrial development.
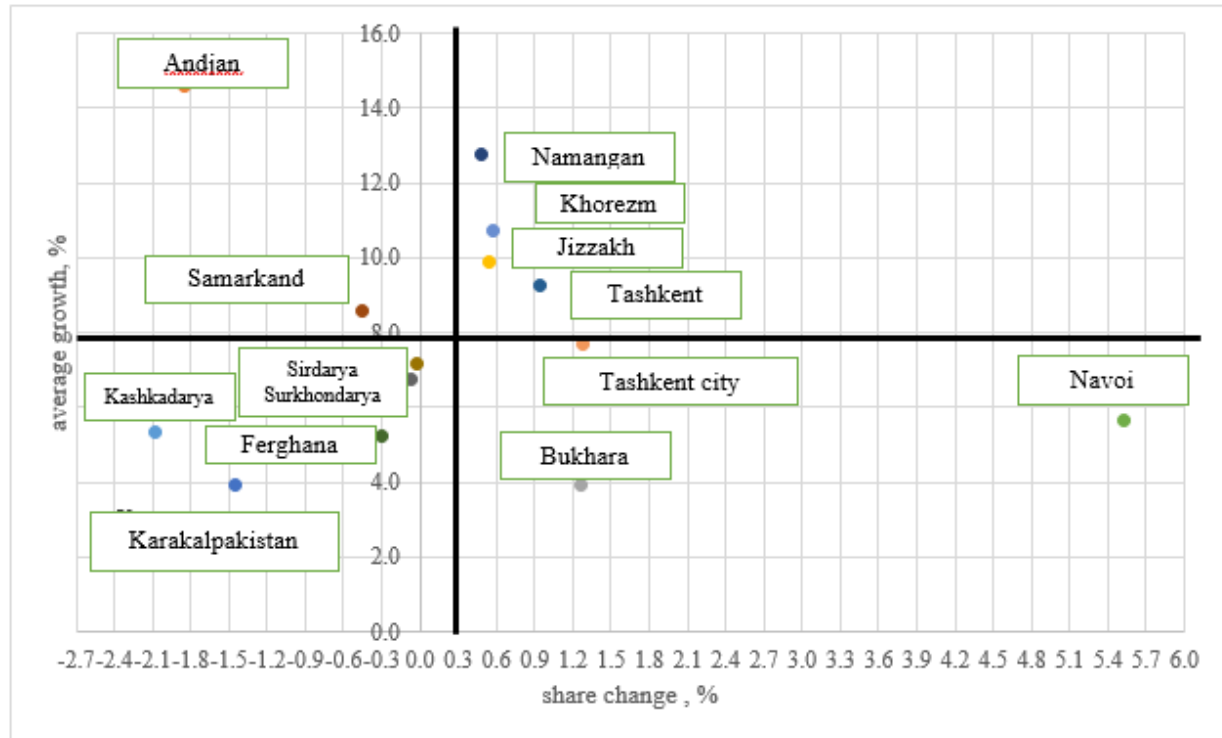

Figure 1. Grouping of regions of Uzbekistan according to the level of development of production of industrial products

According to the results of grouping the regions of Uzbekistan according to the level of development of the production of industrial products, the following were determined:

Regions with A1-high growth and share: Namangan, Khorezm, Jizzakh, Tashkent regions;

Regions with high growth and low share of B1: Andijan and Samarkand regions.

S1-areas with low growth and high share are: Tashkent city, Bukhara and Navoi regions.

D1-regions with low growth and low share are: Republic of Karakalpakstan, Kashkadarya, Fergana, Surkhandarya and Syrdarya regions.

From the results of the grouping, it is known that strategic goals aimed at increasing the industrial potential should be defined differently in all regions. It is an urgent task to develop strategic directions, especially for regions with low growth and low share.

4. Conclusion

Based on the results of the analysis, for the proportionate development of the industry in the regions, importance should be attached to the following:

- Development of comprehensive plans for regional development, taking into account the existing economic forces, resources and potential of each region.
- Planning investment in infrastructure development such as transport, communication and energy to improve connectivity and accessibility in all regions, taking into account regional differences;
- Encourage different sectors in each region to avoid over-dependence on one sector. This will help create a stable and competitive economic base.

- Using a system of indirect benefits to establish the activities of business entities in regions with no industrial development. This may include tax credits, subsidies or other financial support to attract investment.
- Invest in education and training programs to improve human capital in all regions. Skilled workforce is necessary for the development of various industries.
- Facilitate the transfer of technology and knowledge from industrialized regions to less developed regions. This will help bridge the technology gap and foster innovation.
- Development of cooperation between the public and private sector for industrial development. Public-private partnership allows attracting investments and efficient use of resources.
- Ensuring the implementation of industrial development in an ecologically sustainable manner. This includes promoting environmentally friendly practices and mitigating potential negative environmental impacts.
- Creating mechanisms for monitoring and evaluating the progress of regional industrial development. Regular evaluation helps identify challenges and adjust strategies accordingly.

Taking into account social inclusion in the development process, ensuring that the benefits of industrial development are equally distributed among different segments of the population. As a common goal, a high priority should be placed on creating a more balanced and inclusive economic landscape in which each region contributes to and benefits from industrial development. Balanced development helps reduce regional disparities, promotes economic stability and increases the overall stability of the national economy.

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