

ECONOMIC CHARACTERISTICS OF STRUCTURAL CHANGES AND DEVELOPMENT TRENDS OF THE CHEMICAL INDUSTRY IN UZBEKISTAN

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Abstract: *This thesis analyzes the economic characteristics and development trends of the structural changes in the chemical industry in Uzbekistan. The study was conducted on the basis of the observed production dynamics, product diversification, and the share of the sector in the industrial and GDP structure in the chemical and petrochemical industries for 2018–2025. The growth in the production volumes of mineral fertilizers, ammonia, urea, and polymer products indicates the increasing strategic importance of the sector. Based on the conclusions of scientific theories (Chenery, Rodrik, Hausmann) and international organizations (UNIDO), the chemical industry is assessed as a driver of economic growth. The results of the study substantiate the important role of the sector in ensuring industrial diversification, export potential, and national economic stability.*

Keywords: *chemical industry, industrial diversification, economic growth, mineral fertilizers, ammonia, urea, polymer products, GDP, export potential.*

INTRODUCTION

The rapid development of industry in the Republic of Uzbekistan, its diversification, and increasing the share of sectors that create high added value are among the priorities of the state economic policy. In particular, the Development Strategy of New Uzbekistan of the President

of the Republic of Uzbekistan for 2022–2026 sets out the tasks of modernizing the industry, developing the chemical and petrochemical industries based on deep processing, and expanding the production of export-oriented products (Decree of the President of the Republic of Uzbekistan, 28.01.2022, PF–60).

The chemical industry is of strategic importance in the country's industrial structure, providing resources to the agro-industrial complex, construction, energy and mechanical engineering sectors through the production of mineral fertilizers, ammonia, urea, sulfuric acid, caustic soda, polymers and other basic chemical products. The volume of production of chemical and petrochemical products is projected to increase from 17 trillion soums to 60 trillion soums in 2018–2025, and its share in the industry has increased from 6.1 percent to 8.6 percent. This indicates that the role of the sector in the economy is strengthening.

At the same time, the resolutions of the President of the Republic of Uzbekistan aimed at radically reforming the chemical industry and increasing its investment attractiveness (for example, Resolution No. PQ-4992, 13.02.2021) set the tasks of developing the industry based on corporate governance, producing high-tech products, and expanding the geography of exports. This created a mechanism for institutional support for structural changes in the chemical industry.

The impact of industrial structural changes on economic growth has also been widely studied in the scientific literature. In particular, Rodrik (2013) emphasizes that diversification in industrial sectors and an increase in the share of high-productivity sectors ensure sustainable growth of the national economy. Also, UNIDO (2022) reports note that the growth of the chemical and processing industries serves to increase export potential by expanding value-added chains.

The dynamics of chemical industry production in Uzbekistan is also showing a positive trend. For example, the production of mineral fertilizers is expected to increase from 1,061 thousand tons in 2018 to 1,790 thousand tons in 2025. This is important in terms of providing the agricultural sector with resources and strengthening food security.

Based on the above, it is a scientifically and practically relevant issue to analyze the economic characteristics of structural changes in the chemical industry in Uzbekistan, assess its share in the structure of industry and GDP, and identify development trends. This thesis analyzes the structural changes observed during 2018–2025 based on statistical data and regulatory and legal documents, and draws conclusions on the prospects for the future development of the industry.

MAIN PART

Theoretical and economic foundations of structural changes in the chemical industry.

Industrial structural changes occupy a special place in theories of economic growth. According to the classical theory of structural change (Chenery, 1979), in the process of economic development, resources move from low-productivity sectors to high-productivity sectors. Rodrik (2013) emphasizes that growth in the processing industry provides “unconditional convergence” in the national economy. From this point of view, the chemical industry is a driver of economic growth as a high-value-added, technology-based and export-oriented sector.

In Uzbekistan, the volume of chemical and petrochemical industry production is projected to increase from 17 trillion soums to 60 trillion soums in 2018–2025. Its share in the industry has increased from 6.1% to 8.6%, indicating that the sector is structurally strengthening. This is consistent with the stages of industrialization outlined by Chenery and

Syrquin (1986), namely, an increase in the share of the processing industry in the economy is an important indicator of economic development.

Production dynamics and product diversification.

Mineral fertilizers occupy a leading position in the chemical industry. The production volume of mineral fertilizers, which was 1,061 thousand tons in 2018, is projected to reach 1,790 thousand tons by 2025. This is important in terms of increasing agricultural efficiency and ensuring food security.

Production dynamics and product diversification. Mineral fertilizers occupy a leading position in the composition of chemical industry products. The production volume of mineral fertilizers, which was 1,061 thousand tons in 2018, is projected to reach 1,790 thousand tons by 2025. This is important in terms of increasing agricultural efficiency and ensuring food security.

Large enterprises and institutional reforms.

The role of large enterprises in the structural transformation of the chemical industry is crucial. For example, Navoiyazot JSC is a strategic enterprise that produces ammonia, ammonium nitrate, nitric acid, nitron and other products. The enterprise operates several production lines and has a production capacity of hundreds of thousands of tons of products.

According to UNIDO (2022) reports, institutional reforms, corporate governance and the introduction of innovations in the processing industry are a decisive factor in increasing the efficiency of the sector. State resolutions aimed at modernizing the chemical industry in Uzbekistan (PQ-4992, 2021) serve to attract investments, diversify exports and stimulate the production of high value-added products.

The impact of the chemical industry on economic growth

The economic significance of structural changes in the chemical industry is manifested in the following areas:

- creating high added value in the industrial structure;
- creating a multi-sectoral multiplier effect by providing the agricultural sector with resources;
- increasing export revenues;
- replacing imports.

The share of the chemical and petrochemical industry in GDP increased from 3.0% to 4.3% in 2018–2025. This indicates that the industry is directly contributing to economic growth. McMillan and Rodrik (2011) study noted that the reallocation of resources to high-productivity sectors accelerates economic growth. The increasing share of the chemical industry in Uzbekistan reflects this process.

The chemical industry in Uzbekistan expanded structurally in 2018–2025, product diversification increased, production volumes increased, and its share in the industrial structure strengthened. According to scientific theories (Chenery, Rodrik, Hausmann) and conclusions of international organizations (UNIDO), such trends are of great importance in ensuring the stability of economic growth. National statistical data confirm that the chemical industry is becoming a strategic driver of the country's economy

CONCLUSION

The structural changes observed in the chemical industry in Uzbekistan during 2018–2025 indicate that the national economy is moving to a new qualitative level during the industrialization phase. The analysis shows that the volume of production of chemical and petrochemical products is projected to increase from 17 trillion soums to

60 trillion soums, and its share in the industry has increased from 6.1% to 8.6%. This indicates that the strategic importance of the sector in the industrial structure is being strengthened.

Analysis of the composition of products showed a steady growth in the production volumes of mineral fertilizers, ammonia and urea. In particular, the production of mineral fertilizers is expected to increase from 1,061 thousand tons to 1,790 thousand tons. This indicates that the chemical industry is increasingly closely linked to the agricultural sector and its role in ensuring food security. At the same time, the increase in the production of polymer and plastic products confirms the diversification of the sector and the expansion of the share of high value-added products.

In the case of large enterprises, in particular, the activities of Navoiyazot JSC, it is observed that the processes of modernization and expansion of production capacities are being consistently implemented in the industry. Regulatory and legal documents and investment projects adopted by the state serve to institutionally support the industry, increase export potential and improve corporate governance.

From the point of view of scientific theories (Chenery, Rodrik, Hausmann), structural changes in the chemical industry reflect the process of redirecting resources to areas with high productivity. This is an important factor for sustainable and long-term economic growth. As noted in UNIDO reports, the development of the processing industry and the chemical industry strengthens the country's integration into global value chains.

In general, the economic characteristics of the structural changes in the chemical industry in Uzbekistan are manifested in the following:

- an increase in the share of high value-added products in the industrial structure;
- increased cooperation between the agricultural and industrial sectors;
- an expansion of the production of export-oriented products;
- an increase in the production of import-substituting products.

Thus, the chemical industry has emerged as a strategic driver in the economy of Uzbekistan, playing an important role in ensuring industrial diversification, export potential, and national economic stability. In the future, the introduction of innovations in the sector, increasing energy efficiency, and expanding production in accordance with environmental standards will further strengthen its competitiveness.

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