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WAYS TO ACHIEVE ECONOMIC GROWTH THROUGH THE DEVELOPMENT OF INDUSTRY'S "DRIVER" SECTORS

Kholbozorov Muzraf Yusup o'g'li
Independent Researcher of the Department of Management
Tashkent Institute of Chemical Technology
muzrofxolbozorov6@gmail.com
ORCID:0009-0006-7832-9473

ABSTRACT

This article examines the mechanisms for accelerating economic growth in Uzbekistan through the selection and development of key "driver" sectors of industry. Based on the IMRAD approach, the criteria of sectoral share, growth rate, technological level, export potential, and cooperative linkages were assessed. As a result, mechanical engineering, chemical industry, electrical engineering, textile industry, food processing, pharmaceuticals, and construction materials were identified and substantiated as priority areas. Practical recommendations for developing an effective and results-oriented industrial policy were also developed.

KEYWORDS

Industry, driver sector, economic growth, manufacturing industry, industrial policy, structural transformation, high value added, economic complexity, export diversification, localization, industrial cooperation, innovation, digitalization, green industry, investment, cluster, labor productivity, Uzbekistan.

Introduction

The geoeconomic fragmentation taking place in the global economy, the restructuring of global value chains, changes in energy and logistics costs, the rapid diffusion of digital technologies, and the tightening of environmental standards are compelling countries to organize industrial policy based on new approaches. Whereas industrial policy was previously understood primarily as the protection of certain sectors through customs tariffs, subsidies, and import restrictions, under modern conditions it has evolved into a comprehensive system that integrates technological modernization, the commercialization of innovations, the development of skilled human capital, energy efficiency, access to export markets, and the mobilization of private investment.

The United Nations Industrial Development Organization (UNIDO) views modern industrial policy as an important instrument for achieving the Sustainable Development Goals, digitalizing the economy, creating quality employment opportunities, and decarbonizing industry. Therefore, industrial development should not be limited to increasing production volumes; rather, it should focus

on enhancing the technological complexity, domestic value added, export competitiveness, and environmental efficiency of products (UNIDO, 2024).

The distinctive role of industry in economic growth is determined by its strong multiplier effect compared with other sectors of the economy. The activities of an industrial enterprise increase demand for raw material suppliers, transportation, logistics, finance, insurance, education, research and development, information and communication technologies, and trade services. As a result of initial investment in industry, additional production and employment are generated in related sectors. Therefore, in economic policy, rather than providing equal levels of support to all industrial sectors, it is important to identify "driver" sectors that generate the greatest intersectoral multiplier effects.

In this study, the concept of a "driver sector" is interpreted as an industrial sector that, in addition to directly increasing production output, accelerates investment, innovation, employment, exports, and localization processes in other sectors, thereby creating forward and backward linkages within the economic system. Such a sector does not necessarily have to account for a large share of total production. More importantly, its impact on technological upgrading, knowledge diffusion, the emergence of new enterprises, and the increasing complexity of the export structure should be taken into consideration.

LEVEL OF RESEARCH AND LITERATURE REVIEW

Albert Hirschman argued that in the process of economic development, it is more effective to allocate resources to sectors that stimulate other types of economic activity rather than distributing resources equally across all sectors. According to his concepts of "forward linkages" and "backward linkages," certain industrial sectors can accelerate overall economic growth by generating new demand for suppliers and promoting the development of subsequent stages of production that use their outputs (Hirschman, 1958).

Nicholas Kaldor identified the development of industry, particularly manufacturing, as a fundamental condition for long-term economic growth. According to Kaldor's laws, the expansion of manufacturing output is positively associated with the growth of gross domestic product (GDP) and improvements in labor productivity. Economies of scale, technological learning, and the deepening of the division of labor in industrial enterprises contribute to higher productivity compared with other sectors of the economy (Kaldor, 1966).

Michael Porter emphasized that national competitiveness is formed not through individual enterprises, but within clusters consisting of interconnected firms, suppliers, research centers, and service organizations. From Porter's perspective, the mere availability of resources does not automatically ensure a competitive advantage. Sustainable competitive advantage requires domestic competition, sophisticated demand for innovative products and services, a developed network of suppliers, and a skilled workforce (Porter, 1990).

Dani Rodrik notes that the purpose of industrial policy is not for the government to select "winning firms" in advance, but rather to identify obstacles that hinder the development of new economic activities through continuous information exchange between the state and businesses. In his view, industrial policy should be based on experimentation, the evaluation of outcomes, and mechanisms for discontinuing ineffective support measures (Rodrik, 2004).

The studies by Ricardo Hausmann, Jason Hwang, and Dani Rodrik demonstrate that what a country exports has a direct impact on its future economic growth. Economies that export technologically

sophisticated and knowledge-intensive products tend to have greater opportunities to adopt new economic activities, create high-productivity jobs, and increase income levels (Hausmann, Hwang, & Rodrik, 2007).

Hidalgo and Hausmann, based on the concept of economic complexity, argue that a country's development potential depends less on the volume of its natural resources than on the diversity of knowledge, technologies, and organizational capabilities available within society. Countries typically develop new products that are relatively close to their existing productive capabilities. Therefore, industrial policy should build upon existing competencies and gradually direct the economy toward the production of increasingly complex and sophisticated products (Hidalgo & Hausmann, 2009).

In Justin Yifu Lin's theory of New Structural Economics, economic development is interpreted as a continuous process of technological upgrading, industrial diversification, and improvement of the production structure in accordance with an economy's comparative advantages. The role of the government is not to replace market mechanisms, but to address infrastructure, information, financing, and coordination constraints that are necessary for the development of new industries (Lin, 2012).

Local researchers associate the sustainable development of industry with modernization, diversification, technological upgrading, energy efficiency, and the effective utilization of regional industrial potential. Scientific studies conducted in Uzbekistan have extensively examined issues related to industrial localization, technical re-equipment, the development of industrial zones, investment activity, and the enhancement of export potential. However, the selection of driver sectors based on an integrated system that incorporates intersectoral linkages, technological sophistication, export performance, domestic value added, and regional multiplier effects has not yet been sufficiently developed.

For Uzbekistan, the relevance of this issue is determined by the fact that despite the sustained growth in industrial production, low- and lower-middle-technology products continue to dominate the country's technological structure. In 2025, Uzbekistan's gross domestic product (GDP) amounted to UZS 1,849.7 trillion at current prices, with real growth reaching 7.7%. At the same time, gross value added generated in industry reached UZS 472.7 trillion, representing real growth of 6.8%. Gross value added in manufacturing increased by 7.7% (National Statistics Committee of the Republic of Uzbekistan, 2026a).

In 2025, industrial products worth UZS 1,101.1 trillion were produced in the Republic, with 86% of total industrial output attributable to manufacturing. However, within the manufacturing sector, high-technology industries accounted for only 1.1%, while medium-high-technology industries represented 19.5%, medium-low-technology industries 39.3%, and low-technology industries 40.1%. Thus, the growth in industrial output has not yet been fully accompanied by a corresponding increase in the technological sophistication of production (National Statistics Committee of the Republic of Uzbekistan, 2026b).

The World Bank's memorandum on Uzbekistan's economy notes that the country's growth has long been highly dependent on capital investment, while economic growth has not generated a sufficient number of productive jobs. It also indicates that Uzbekistan's participation in global value chains has largely been based on raw materials and primary products, while its involvement in more advanced stages of production remains relatively limited. This situation calls for greater attention not only to the volume of investment, but also to its sectoral and technological composition (World Bank, 2024).

STATEMENT OF THE SCIENTIFIC PROBLEM, RESEARCH OBJECTIVE, AND SCIENTIFIC ASPECTS

Scientific Problem of the Study The scientific problem of the study is that industrial support measures in Uzbekistan are often evaluated primarily based on production volumes, the value of new projects, or newly created production capacities. However, insufficient consideration is given to the economy-wide multiplier effects of individual sectors, domestic value added, technological complexity, the domestic value-added share of exports, and the amount of government support allocated per job created.

The objective of the study is to develop criteria for identifying industrial driver sectors capable of accelerating economic growth, assess the current structure of Uzbekistan's industry, and propose an effective industrial policy mechanism aimed at developing driver sectors.

The scientific contribution of the study is manifested, first, in defining the concept of a "driver sector" not merely in terms of production volume, but based on criteria such as the intersectoral multiplier effect, technological complexity, export potential, and regional spillover effects. Second, an integrated assessment model for selecting driver sectors is proposed. Third, a mechanism is substantiated for linking government support not to the volume of production assets or the number of enterprises, but to measurable economic outcomes.

MATERIALS AND METHODS

The study utilizes data on industrial production and gross domestic product (GDP) published by the National Statistics Committee of the Republic of Uzbekistan for 2021–2025 and January–May 2026, as well as the World Bank's economic memorandum on Uzbekistan, UNIDO industrial development reports, the objectives outlined in the "Uzbekistan–2030" Strategy, and academic literature on industrial economics. The data for 2026 are interpreted as preliminary statistical indicators.

The research methodology encompasses systematic analysis, logical generalization, dynamic and structural analysis, comparative analysis, statistical grouping, the index method, expert assessment, graphical modeling, and scenario-based approaches. The study distinguishes between gross industrial output and gross value added indicators and analyzes them separately. This distinction is important because a high level of production output does not automatically imply a high level of domestic value added generated within a sector.

The following composite index is proposed for selecting driver sectors:

$$\mathbf{DSI_j = 0{,}20G_j + 0{,}20L_j + 0{,}15E_j + 0{,}15T_j + 0{,}15M_j + 0{,}10B_j + 0{,}05H_j}$$

Here, $\mathbf{DSI_j}$ represents the driver potential index of sector j; $\mathbf{G_j}$ denotes the growth potential of production and demand; $\mathbf{L_j}$ indicates the degree of forward and backward intersectoral linkages; $\mathbf{E_j}$ represents export potential and the capacity of external markets; $\mathbf{T_j}$ reflects technological complexity and innovation intensity; $\mathbf{M_j}$ denotes the potential for localization and effective import substitution; $\mathbf{B_j}$ represents the capacity to create productive and sustainable employment; and $\mathbf{H_j}$ indicates the potential for spillover effects on the regional economy.

The indicators are normalized on a scale from 0 to 100 points. A score above 80 points is interpreted as a **strategic driver**, 70–79 points as a **high-potential driver**, 60–69 points as a **supporting sector**, while a score below 60 points is interpreted as an area that should primarily be developed through market mechanisms. The proposed index is not intended to serve as an official ranking of industrial

sectors; rather, it is a scientific and methodological tool designed to identify priorities for state industrial policy.

In the study, the following indicator is proposed for assessing the effectiveness of government support:

SSE = (ΔQV + ΔEX + ΔSOL) / DK

Here, SSE represents industrial policy efficiency; ΔQV denotes the additional value added created; ΔEX represents the additional growth in exports; ΔSOL denotes additional tax revenues; and DK represents the total value of government support. This approach makes it possible to compare subsidies, tax incentives, preferential loans, and infrastructure expenditures against a unified set of economic outcomes.

RESULTS

Economic Growth and Industrial Dynamics in Uzbekistan

Table 1. Dynamics of Gross Domestic Product (GDP) in Uzbekistan

Years	GDP, trillion UZS	Real Growth,%	Industrial Output per Capita, UZS million
2021	861,2	8,2	13,1
2022	1 041,9	6,1	15,5
2023	1 261,8	6,3	18,0
2024	1 535,4	6,7	23,7
2025	1 849,7	7,7	29,1

Source: Compiled based on data from the National Statistics Committee of the Republic of Uzbekistan.

The data in the table show that the real size of the economy expanded by nearly 40% between 2021 and 2025. Industrial output per capita increased in nominal terms from UZS 13.1 million to UZS 29.1 million. Although this indicates an acceleration in the quantitative development of industry, nominal indicators also incorporate changes in prices. Therefore, the quality of industrial policy should be assessed through changes in the technological structure of production, real labor productivity, and growth in value added.

In 2025, the gross value added of the industrial sector reached UZS 472.7 trillion. Of this amount, UZS 384.2 trillion, or 81.3%, was generated by the manufacturing sector. While gross value added in manufacturing increased by 7.7%, growth in mining and quarrying was 3.5%, electricity and gas supply also recorded 3.5% growth, and water supply and waste management increased by 2.6%. Therefore, the main source of industrial growth was manufacturing activities.

Sectoral Structure of Industrial Production

Table 2. Main Structure of Industrial Production in Uzbekistan

Industrial Sector	2025 Output, UZS trillion	2025 Share, %	2025 Physical Volume Index, %	January–May 2026 Output, UZS trillion	January–May 2026 Index, %
Mining and Quarrying Industry	77,0	7,0	103,5	34,7	106,3
Manufacturing Industry	947,2	86,0	107,7	436,2	108,6
Electricity, Gas and Steam Supply	70,8	6,4	103,5	32,4	103,7
Water Supply and Waste Management	6,1	0,6	102,6	2,7	107,7
Total	1 101,1	100,0	106,8	505,9	107,9

Source: Data from the National Statistics Committee of the Republic of Uzbekistan. The 2026 indicators are preliminary data.

During January–May 2026, industrial production increased by 7.9%, while manufacturing grew by 8.6%. The share of manufacturing in total industrial production reached 86.2%. This indicates that manufacturing activities continue to be an important source of economic growth. However, the expansion of industrial sectors also increases demand for energy and imported components. Therefore, growth in production volumes should be coordinated with the development of domestic industrial cooperation, energy capacity, and logistics infrastructure.

Within the internal structure of the manufacturing sector, food products, beverages, and tobacco accounted for **19.6%**, while textiles, clothing, leather, and related products represented **15.8%**. The group comprising machinery, electrical equipment, electronics, motor vehicles, and metal products accounted for **18.5%**, while chemicals, rubber, and plastic products represented **6.9%**. These four major groups collectively accounted for **60.8%** of total manufacturing output.

Table 3. Technological Structure of the Manufacturing Industry

Technological Group	2024-year, %	2025-year, %	Change, percentage points
High-Technology	1,2	1,1	–0,1
Medium-High-Technology	21,1	19,5	–1,6
Medium-Low-Technology	36,9	39,3	+2,4
Low-Technology	40,8	40,1	–0,7
Total	100,0	100,0	—

Source: Compiled based on data from the National Statistics Committee of the Republic of Uzbekistan.

In 2025, the combined share of high-technology and medium-high-technology activities accounted for 20.6%, representing a decrease of 1.7 percentage points compared with 2024. In contrast, the share of medium-low-technology industries increased by 2.4 percentage points. This indicates that although industrial output is growing, technological transformation is not progressing at a sufficient pace.

The relatively small share of high-technology industries indicates the comparatively weak development of research and development expenditure, industrial patents, engineering competencies, experimental and design activities, venture financing, and university–industry cooperation. The problem lies not only in the limited production of high-technology finished products, but also in the insufficient modernization of technological processes, materials, energy management, and quality control systems in traditional industries.

"Integrated Assessment of Driver Sectors"

Based on the proposed criteria, the driver potential of Uzbekistan's industrial sectors was assessed using an expert-analytical approach. In the integrated assessment, the current size of a sector was not considered the primary criterion; rather, priority was given to its impact on other segments of the economy, its capacity to expand domestic and external demand, and its potential for technological upgrading.

Table 4. Integrated Assessment of Driver Sectors in Uzbekistan's Industry

Sector or Group of Sectors	Composite Score	Key Driver Factor	Strategic Status
Mechanical Engineering, Electrical Engineering, and Automotive Components	86	High-Level Cooperation, Technology Transfer, and Import Intensity	Strategic Driver
Chemicals, Petrochemicals, and Pharmaceuticals	83	Deep Processing of Local Raw Materials and High Value Added	Strategic Driver
Digital Industrial Services and Industrial Electronics	81	Improving Productivity and Management Efficiency Across All Sectors	Strategic Horizontal Driver
Textiles and Ready-Made Garments	79	Employment, Exports, and Full Value Chain Development	High-Potential Driver
Food Processing and Agro-Processing	78	Regional Coverage, Food Security, and Exports	High-Potential Driver
Metallurgy and Fabricated Metal Products	76	Intermediate Products for Mechanical Engineering and Construction	High-Potential Driver
Construction Materials	73	Domestic Demand, Regional Development, and Infrastructure Projects	High-Potential Driver
Energy Equipment and Green Technologies	82	Energy Security, Decarbonization, and New Markets	Strategic Driver

Source: Author's expert-analytical assessment.

Mechanical Engineering, Electrical Engineering, and Automotive Components

This industrial cluster is one of the sectors with the highest intersectoral multiplier effects. The production of automobiles, household appliances, electrical equipment, and agricultural machinery generates substantial demand for metallurgy, plastics, chemicals, electronics, software, logistics, and service industries. The production of 457.9 thousand passenger cars in Uzbekistan in 2025 indicates that the country's production base has reached a significant scale. The emergence of new manufacturers in the electric and hybrid vehicle segment also demonstrates the ongoing diversification of the country's industrial product structure.

However, the final assembly of automobiles or electrical equipment alone does not guarantee high value added. For the sector to become a genuine driver of economic growth, it is necessary to develop local production of electronic control units, sensors, electric motors, battery components, industrial software, engineering design, molds, and specialized materials. Localization should be assessed not by the number of locally produced components, but by the share of domestic value added in the total cost of the final product.

At the core of industrial engineering policy should be not the provision of preferential treatment to large enterprises, but rather the development of local small and medium-sized suppliers to meet international quality standards. To achieve this, it would be advisable to implement supplier development programs and make effective use of industrial metrology, accredited laboratories, engineering centers, and long-term procurement contracts.

Chemicals, Petrochemicals, and Pharmaceuticals

Uzbekistan possesses natural gas, non-ferrous metals, phosphorites, and other mineral resources. However, the export of raw materials or primary chemical products limits the country's economic complexity. To transform the chemical industry into a key driver of economic growth, it is necessary to shift toward the production of polymers, composite materials, specialty coatings, catalysts, pharmaceutical active ingredients, industrial reagents, and high-purity chemical products.

In the pharmaceutical industry, compliance with clinical, technological, and quality requirements is of critical importance. To reduce the domestic market's dependence on imports, it is necessary to develop local capabilities in the production of pharmaceutical active ingredients, original and generic medicines, and biotechnological products.

The chemical and pharmaceutical industries, government support should be linked to clearly defined stages, such as product development, obtaining international certification, deeper processing of local raw materials, and entering export markets. Providing long-term support to projects that do not cooperate with research institutions or undertake technological upgrading may lead to an inefficient allocation of resources.

Textiles and Ready-Made Garments

The textile industry has significant potential in Uzbekistan due to its raw material base, labor resources, established production infrastructure, and accumulated export experience. However, it is necessary to move beyond yarn and basic fabrics toward ready-made garments, technical textiles, design, fashion, logistics, and brand management.

In 2025, 592.9 thousand tons of yarn were produced. Although this indicates the existence of a substantial production base, from the perspective of increasing value added, the production of ready-made garments, home textiles, medical textiles, fabrics for the automotive industry, and composite fibers is more economically advantageous than exporting yarn.

Textile industry policy should be complemented by indicators related not only to production volumes and employment, but also to environmental certification, water efficiency, product design, branding, and integration into international trade networks. Partially compensating exporters for the costs of adapting to international standards, developing design centers, and supporting trading houses in foreign markets would contribute to increasing the sector's value added.

Food Processing and Agro-Processing

The food industry is one of the major branches of manufacturing and occupies an important position in terms of the number of enterprises and geographical coverage. Since the sector is directly linked to agriculture, it has a significant impact on the distribution of income across regions and the development of small businesses.

The driver potential of the food industry is closely associated with the deep processing of agricultural products, as well as the development of storage, refrigeration, packaging, and export logistics infrastructure. A shift from exporting raw fruits and vegetables toward concentrates, dried products, natural ingredients, functional foods, and finished branded products can substantially increase value added.

When supporting the sector, it is essential to comprehensively assess the seasonality of raw materials, water resources, refrigeration infrastructure, export standards, and market demand before establishing new production capacities. Otherwise, capacity utilization may remain low, while preferential resources may fail to generate adequate economic returns.

Metallurgy and Construction Materials

Metallurgy supplies intermediate products to the mechanical engineering, energy, construction, and transport infrastructure sectors. Moving from raw metals or semi-finished rolled products toward high-precision alloys, specialized cables, pipes, industrial profiles, and finished metal structures strengthens the sector's forward linkages and enhances its contribution to value creation.

In the construction materials industry, strong domestic demand, urbanization, and the expansion of infrastructure projects are key drivers of growth. In 2025, Portland cement production reached 20.2 million tons, representing a substantial increase compared with 2023. However, cement production is an energy- and carbon-intensive activity. Therefore, rather than focusing primarily on quantitative expansion, the sector should prioritize energy efficiency, the use of waste as secondary raw materials, the development of new binding materials, and the adoption of green certification.

Digital Industry and Green Technologies

Digital industrial services may not be classified as a separate industrial sector under conventional statistical classifications; however, they represent a horizontal productivity driver for all key industrial sectors. ERP, MES, SCADA, the Industrial Internet of Things (IIoT), artificial intelligence, digital twins, robotics, and predictive maintenance help reduce production losses, increase equipment utilization, and improve control over energy consumption.

In 2025, the gross value added of information and communication services grew at a high rate. The widespread adoption of digital technologies in industrial enterprises is creating new multiplier linkages between the information technology sector and manufacturing. In this context, digitalization should not be limited to the automation of accounting and document management; it should also encompass production processes, quality control, supply chain management, and energy management.

The green technology segment includes solar panel components, energy storage systems, electric vehicles, heat pumps, energy-efficient electric motors, waste recycling technologies, and water-saving equipment. Under conditions of constraints in energy supply, improving industrial energy efficiency is economically as important as developing new generation capacity.

DISCUSSION

The findings of the study indicate that although industrial growth in Uzbekistan remains stable in quantitative terms, the pace of structural and technological transformation remains insufficient. The 1.1% share of high-technology activities suggests that the primary objective of industrial policy should shift from simply increasing production volumes toward developing complex products, technological capabilities, and higher productivity.

In accordance with Hirschman's theory, the most effective drivers for Uzbekistan are the mechanical engineering, chemical, metallurgy, food-processing, and textile sectors, as these industries have extensive linkages with other sectors of the economy. However, the driver potential of these sectors is determined not merely by the presence of large enterprises, but also by the development of supplier networks and domestic value chains.

Drawing on the approaches of Hausmann and Hidalgo, Uzbekistan's industrial transformation should focus not on adopting products that are completely new and distant from the country's existing capabilities, but on gradually moving toward technologically more sophisticated products that are relatively close to established competencies. For example, the transition from yarn to technical textiles, from copper to electrical equipment and electronic components, from natural gas to specialty chemical products, and from rolled metal to machine parts and finished structures represents this type of transformation.

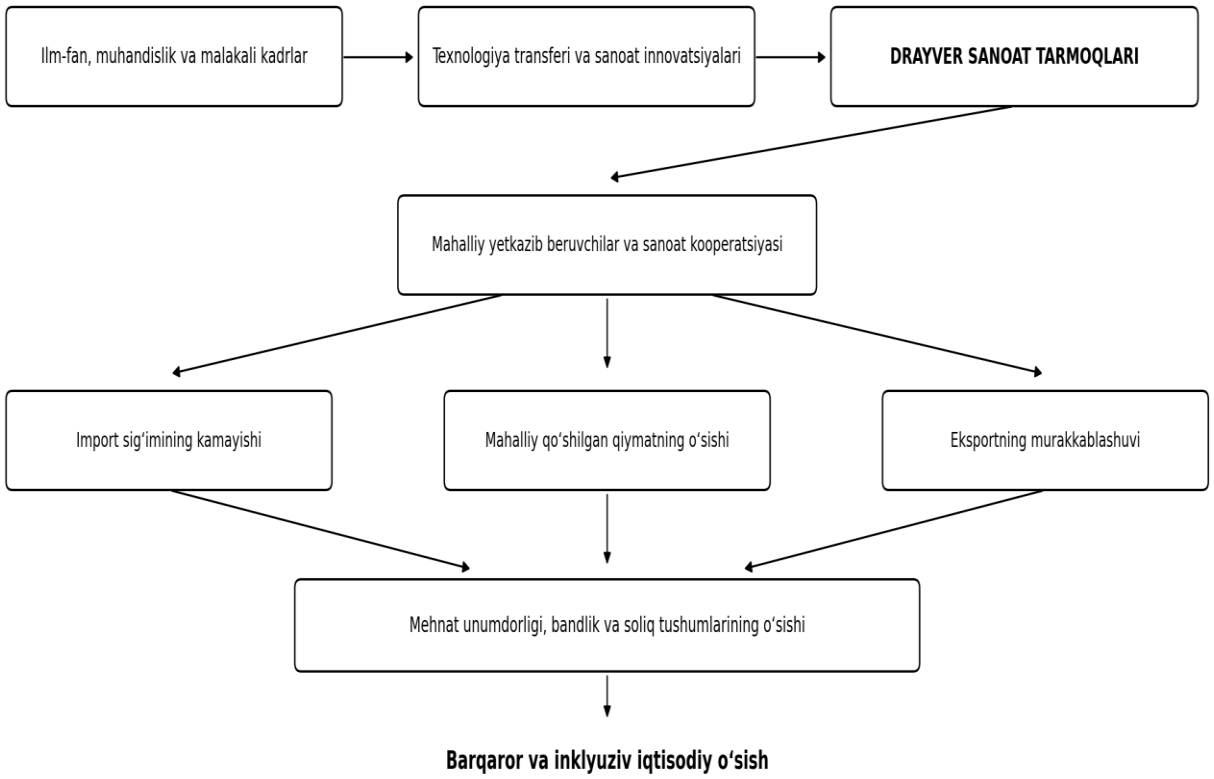

Figure 1. Mechanism for Accelerating Economic Growth through Driver Industrial Sectors
Source: Author's own elaboration.

In the proposed mechanism, the industrial driver does not operate in isolation, but rather as an integrated system interconnected with research and development, education, logistics, finance, and digital services. If any one of these elements is weak, industrial investment may fail to generate the expected multiplier effect. For example, if the construction of a new plant does not contribute to the development of local suppliers, it may increase import demand and foreign-exchange expenditures. Similarly, newly installed advanced equipment may fail to operate at full capacity due to a shortage of qualified engineers.

World Bank studies indicate that exporting manufacturing firms in Uzbekistan tend to have higher productivity than non-exporting firms, while the share of private firms engaged in exporting remains relatively low. In addition, the level of firms' research and development activities and adoption of basic digital technologies remains insufficient by international standards. This underscores the need to make export performance and innovation key conditions for receiving government support.

The success of industrial policy depends not on the scale of incentives, but on the ability of state institutions to select priority sectors, evaluate projects, measure outcomes, and terminate ineffective forms of support. Unlimited tax incentives or subsidies provided regardless of market performance may weaken firms' incentives to improve productivity. Therefore, all support instruments should be time-bound, conditional, and subject to periodic review.

First, the principle of technological additionality. Government support should finance new technologies, export standards, research and development, or energy efficiency rather than simple capacity expansion that enterprises could undertake using their own resources.

Second, the principle of performance-based support. Incentives should be granted not merely on the basis of installed production capacity, but according to actual outcomes, including product sales, export performance, increases in domestic value added, and reductions in energy consumption.

Third, the principle of competitive neutrality. Government support should not be aimed at artificially strengthening the market position of individual enterprises. Instead, it should be directed toward laboratories, engineering centers, logistics, workforce development, and standardization infrastructure that can benefit the entire sector.

Fourth, the principle of temporary support. Each support program should have a clearly defined implementation period, performance indicators, intermediate evaluations, and an exit strategy.

Fifth, the principle of transparency and accountability. The economic outcomes of tax incentives, subsidies, credit guarantees, and infrastructure expenditures allocated to industrial sectors should be publicly disclosed.

Uzbekistan's objective of increasing gross domestic product to USD 200 billion by 2030 requires structural transformation based on exports and productivity rather than simple quantitative growth driven by domestic demand. Unless the impact of investment on domestic industrial value added, technological modernization, and export diversification is strengthened, capital intensity may increase while the marginal return on investment may decline.

PRACTICAL SIGNIFICANCE AND DIRECTIONS FOR IMPLEMENTATION IN THE CONTEXT OF UZBEKISTAN

The practical significance of the research findings lies in the possibility of applying unified criteria to the selection of driver sectors, allocation of government support, specialization of industrial zones, and evaluation of regional investment programs.

First, a Portfolio of Industrial Drivers should be developed at both the national and regional levels. At the national level, mechanical engineering, chemicals, electrical engineering, and pharmaceuticals, which have high technological and export potential, should be prioritized. At the regional level, sectors should be selected according to local raw materials, human resources, logistics, and market conditions. If every region seeks to develop the same industrial sectors, this may result in duplicated production capacities, excessive competition, and inefficient allocation of resources.

Second, sectoral development programs should begin not with lists of enterprises, but with product and technology maps. For example, in the electrical engineering sector, it is necessary to identify which components are currently imported and determine the materials, equipment, standards, and skills required for their local production. Subsequently, enterprises with the capacity to produce these products should be selected for government support through transparent competitive procedures.

Third, industrial zones should be transformed from areas that primarily provide land and tax incentives into industrial ecosystems offering shared engineering, laboratory, logistics, waste-recycling, and workforce-training services.

Fourth, cooperation between higher education institutions and industrial enterprises should not be limited to the employment of graduates. Universities should establish engineering laboratories, experimental design bureaus, and joint doctoral programs based on the needs and orders of industrial enterprises. A mechanism allowing enterprises to deduct a portion of their research and development expenditures from the taxable base using an enhanced deduction coefficient could further stimulate innovation activity.

Fifth, public procurement should be transformed from an instrument that merely protects domestic producers on the basis of price into an innovation-oriented instrument that creates demand for new products and standards. For example, long-term public demand could be established for energy-efficient electric motors, locally produced medical equipment, water-saving technologies, and products manufactured from recycled materials. At the same time, international requirements concerning quality, price competitiveness, and delivery reliability should not be compromised.

Table 5. Proposed Roadmap for Implementing a Driver-Oriented Industrial Policy

Stage	Key Measures	Outcome Indicators
2026–2027: Diagnostics	Assessment of Product Maps, Import Structure, Value Chains, and Regional Competencies	Baseline Indicators and Product Portfolios for Each Driver Sector
2027–2028: Infrastructure Development	Testing Laboratories, Engineering Centers, and Industrial Digitalization Platforms	Certification Time, Number of New Technologies, and Share of Digitalized Enterprises
2028–2029: Industrial Cooperation	Supplier Development and Long-Term Procurement Contracts	Domestic Value Added and Number of Local Suppliers
2029–2030: Export Expansion and Scaling	Export Financing, Branding, International Distributors, and Technological Partnerships	Export Revenue, New Markets, and Share of High-Technology Products
Continuous Monitoring	Evaluation of the Effectiveness of Incentives and Subsidies	Value added and tax revenue generated per one UZS of state support

Source: Author's own elaboration.

When monitoring the effectiveness of industrial policy, it is not sufficient to rely solely on production volumes or the value of investment. The evaluation system should also incorporate indicators such as the share of high- and medium-high-technology sectors in manufacturing; real value added per worker; the share of domestic value added in the cost of final products; the share of processed products in industrial exports; the number of sustainable jobs created per USD 1 million of investment; energy and water consumption per unit of output; firms' research and development expenditures; the number of products meeting international standards and holding relevant certifications; industrial cooperation agreements with small and medium-sized suppliers; and the additional tax revenue generated per unit of government support provided.

If these indicators are published on a digital platform by region, sector, and state-owned enterprise, the transparency and accountability of industrial policy will be strengthened. Furthermore, based on program outcomes, policymakers will be able to make evidence-based decisions on whether to continue, reduce, or terminate funding.

CONCLUSION AND RECOMMENDATIONS

The conducted study demonstrates that Uzbekistan has established stable rates of economic and industrial growth; however, the technological structure of manufacturing has not yet become sufficiently sophisticated. In 2025, GDP increased by 7.7%, while industrial production grew by 6.8%, indicating a high level of economic activity. The 7.9% growth in industrial production recorded during January–May 2026 further confirms the continuation of this positive trend.

At the same time, the 1.1% share of high-technology activities and the 19.5% share of medium-high-technology activities in manufacturing indicate that a significant portion of industrial growth is still being generated by low- and medium-low-technology sectors. Although such a structure can increase production and employment in the short term, it may constrain the long-term growth of labor productivity, export revenues, and economic complexity.

According to the findings of the study, mechanical engineering, electrical engineering, automotive components, chemicals, petrochemicals, pharmaceuticals, textiles, food processing, metallurgy, construction materials, industrial digitalization, and green energy equipment represent the key driver sectors capable of accelerating Uzbekistan's economic growth. Their development requires not only an increase in the production capacity of large enterprises, but also the integration of local suppliers, research institutions, engineering services, logistics, and export infrastructure into unified value chains.

The central task of industrial policy should be to shift the focus from the question of **"which enterprises should receive preferential treatment?"** to **"which technological and market challenges should be addressed?"** Government support should be linked not to the production capacity of enterprises, but to measurable outcomes such as value added, export performance, innovation, energy efficiency, and sustainable employment.

The first recommendation is to introduce a National Driver Industry Index and a Product Map. Each industrial sector should be assessed annually based on criteria such as growth, intersectoral linkages, technological level, exports, localization, employment, and regional multiplier effects. Government investment and preferential support should be directed primarily toward products and value chains that demonstrate the highest results according to the composite index.

The second recommendation is to provide government support through performance-based industrial agreements. Clear commitments should be established between enterprises and the government regarding domestic value added, exports, energy consumption, research and development expenditures, the number of suppliers, and tax revenues. If the agreed targets are not achieved, preferential support should be reduced or withdrawn, while projects demonstrating strong performance should receive additional financial support.

The third recommendation is to establish a Fund for the Development of Regional Industrial Cooperation and Shared Technological Infrastructure. The Fund's resources should not be used to finance the working capital of individual enterprises, but rather directed toward laboratories, engineering centers, pilot production lines, industrial digitalization platforms, green energy infrastructure, and waste-recycling facilities. As a result, multiple enterprises can benefit from a single public investment, thereby increasing the multiplier effect of industrial policy.

The implementation of these recommendations would accelerate Uzbekistan's transition from a model of quantitative industrial expansion toward a development model based on technological advancement, export competitiveness, and high value added. Consequently, excessive dependence of economic growth on investment would be reduced, while productivity, innovation, private-sector activity, and participation in global value chains would be strengthened.

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