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INVESTMENTS IN THE EDUCATION SECTOR IN THE REPUBLIC OF UZBEKISTAN: DYNAMICS, STRUCTURE, AND EFFICIENCY (2021–2025)

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Annotation

This article provides a comprehensive analysis of investment in education in the Republic of Uzbekistan for 2021–2025. It examines funding trends, the structure of investment sources, institutional reforms, and their impact on human capital development. Key trends in investment growth, as well as challenges in resource allocation efficiency, are identified. The results demonstrate sustainable investment growth while structural imbalances persist.

Key words: investment, education, human capital, government spending, Uzbekistan, economic growth.

1. Introduction

The modern economy is characterized by a transition to a knowledge-based model, where education is becoming a key factor in the development of human capital and sustainable growth. In the Republic of Uzbekistan, reforming the education system is a priority area of state policy.

In recent years, the country has been implementing a large-scale education modernization program, including:

- expanding access to higher education,
- digitalization of the educational process,
- attracting foreign investment,
- development of the private educational sector.

The analysis of the effectiveness of investment flows is particularly relevant in conditions of limited resources and the need to increase the return on investment.

The purpose of the study is to comprehensively assess the dynamics, structure, and effectiveness of investments in education for the period 2021–2025. The objectives of the study are to analyze the dynamics of investments in education, study the structure of funding sources, identify key trends and challenges in the development of the sector, and assess the impact of investments on the effectiveness of the education sector in the period 2021–2025.

2. Research Methodology

The methodology of this study is based on a comprehensive approach to the analysis of investment processes in the field of education and includes a combination of quantitative and qualitative methods to ensure the reliability and scientific validity of the results obtained.

The theoretical basis of the study is based on the principles of modern economic investment theory and the concept of human capital, formulated within the framework of the economics of education. Specifically, the approach adopted considers investments in education as long-term investments aimed at increasing labor productivity and economic growth.

The methodological base also relies on:

- human capital theory (G. Becker , T. Schultz),
- the concept of endogenous economic growth,
- models of state regulation of the educational sector.

These approaches allow us to consider educational investments not only as a social but also as an economic category.

The following were used as an empirical basis:

- official statistical data of the State Statistics Committee of the Republic of Uzbekistan;
- materials of the Ministry of Higher Education, Science and Innovation;
- reports of international organizations (World Bank, UNDP, OECD);
- analytical reviews and scientific publications.

The study period covers **2021–2025** , which allows us to assess current trends and dynamics of investment processes in the context of active reforms.

To ensure comparability of data, the following were used:

- nominal indicators (in billion soums);
- relative indicators (growth rates, shares);
- index indicators.

3. Results

An analysis of statistical data for the period 2021–2025 reveals a steady positive trend in investment in education in the Republic of Uzbekistan. During this period, funding volumes have increased significantly, driven by the implementation of state programs to modernize the education system, the expansion of the network of educational institutions, and increased demand for educational services.

In 2021, investment volume amounted to 648.8 billion soums, while by 2025, this figure reached 2,499.1 billion soums. Thus, the overall growth over the five-year period amounted to more than 285%, demonstrating the strategic priority of the education sector in state economic policy.

Particularly pronounced growth is observed in 2024, which may be associated with the intensification of investment programs and the expansion of private sector participation in the educational sector.

A structural analysis shows that the state budget remains the primary source of funding for education, accounting for approximately 70% of all investments. This confirms the high level of government involvement in education development and its strategic importance for the national economy.

The second most important source is public funds, the share of which is gradually increasing due to the growth of paid educational services and the expansion of private educational institutions. The private sector and foreign investment still account for a relatively small share, but are showing a gradual upward trend.

This structure indicates the initial stage of the formation of a mixed model of education financing, where the state retains a leading role, but the influence of market mechanisms is gradually increasing.

The analysis identified the following key trends:

- steady growth in investment volumes in education throughout the entire study period;
- strengthening the role of infrastructure projects, including the construction of new schools and universities;
- active implementation of digital technologies in the educational process;
- gradual expansion of private sector participation in education financing.

In addition, there is an increasing interest in international cooperation in the field of education, which is expressed in the opening of branches of foreign universities and the implementation of joint educational programs.

Despite the positive dynamics, a number of problems remain in the educational sector that affect the efficiency of investment resource use.

Firstly, there remains a high dependence on public funding, which limits the flexibility of the system and reduces its adaptability to market changes.

Secondly, there is regional unevenness in the distribution of investments, which leads to differences in the quality of educational services between the capital and the regions.

Thirdly, the system for assessing investment efficiency is not sufficiently developed, which makes it difficult to analyze the real return on investment.

The study's findings demonstrate that increased investment has a positive impact on the development of the educational sector. Specifically, the following is observed:

- expanding public access to education;
- improving the material and technical base of educational institutions;
- improving the quality of educational services;
- growth in the number of students in higher education institutions.

Moreover, investments contribute to the formation of human capital, which is a key factor in long-term economic growth.

The analysis shows a steady increase in investment in the education sector.

Table 1
Investment dynamics[1]

Year	Volume, billion soums	Growth rate, %	Absolute increase
2021	648.8	—	—
2022	986.3	52.0	+337.5
2023	1125.5	14.1	+139.2
2024	1842.3	63.7	+716.8
2025	2499.1	35.7	+656.8

An analysis of investment dynamics shows that overall funding for the education sector increased by over 285% during the study period, demonstrating the government's strong investment activity in human capital development. The most intense increase in investment was observed in 2024, which may be related to the implementation of large-scale educational reforms and increased government support for the sector. At the same time, the observed undulating growth rate indicates that investment processes are dependent on institutional reforms and changes in socioeconomic policy.

[1]Source: https://stat.uz/ru/press-tsentr/novosti-goskomstata/60593-ta-lim-sohasidagi-xizmatlar-hajmi-2322

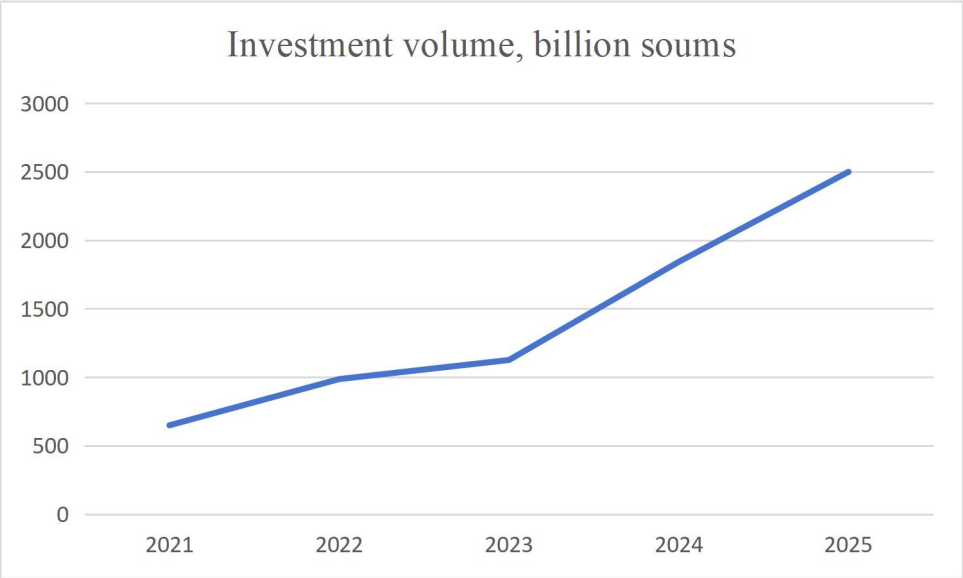


Figure 1 – Dynamics of investments in education in the Republic of Uzbekistan for 2021–2025.[2]

A graphical interpretation of the results confirms a steady upward trend in investment activity in the education sector in the Republic of Uzbekistan throughout the entire study period. A visual analysis of the dynamics reveals a significant acceleration in investment growth after 2023, which may be related to the intensification of government reforms and increased funding for the education sector. Furthermore, the identified dynamics demonstrate the significant impact of government education modernization programs aimed at developing infrastructure, digitalizing the educational process, and expanding access to educational services.

Investments in education in the Republic of Uzbekistan are generated by a combination of public and non-governmental funding sources. The structure of investment flows reflects the specifics of the modern educational system development model, in which the state continues to play a key role, providing the bulk of financial investment in the sector.

Source	Share	Trend
State budget	~70%	stable growth
Population	~20%	rapid increase
Private sector	~7%	development
Foreign investment	~3%	limited

During the period under review, the largest share of investment came from the state budget, reflecting the high social significance of education and the need to implement large-scale reforms in this sector. At the same time, there has been a gradual increase in public and private sector

[2] Source: compiled by the author based on data from the State Statistics Committee of the Republic of Uzbekistan

participation, driven by the expansion of the educational services market, the growing number of non-state educational institutions, and the development of public-private partnerships.



Fig. Investment structure[3]

Despite the relatively small share of foreign investment, its importance is gradually increasing thanks to the development of international cooperation, the opening of branches of foreign universities, and the implementation of joint educational programs. Overall, the investment structure indicates a gradual transition from a predominantly state-based funding model to a more diversified system of investment support for the education sector.

In recent years, the education system in the Republic of Uzbekistan has undergone significant institutional reforms aimed at improving the accessibility and quality of educational services. One of the key results of these reforms was the more than doubling of the number of higher education institutions, which has expanded opportunities for higher education.

Higher education enrollment has also increased significantly, reaching approximately 40%, demonstrating expanded access to educational services for young people. Furthermore, the private and foreign university sector is actively developing, fostering increased competition, the introduction of modern educational technologies, and improving the quality of training.

Investments in education have a significant impact on the economic development of the Republic of Uzbekistan, contributing to increased productivity, higher employment, and the development of an innovative economy. Improving the quality of education ensures the training of qualified personnel in demand in the context of today's digital and technological transformation of the economy.

4. Discussion

The obtained results indicate that investments in the education sector in the Republic of Uzbekistan demonstrate a stable upward trend, which is consistent with the general patterns of transition economies undergoing active institutional modernization.

[3]Created by the author source: https://stat.uz/ru

According to human capital theory (Becker , Schultz), the observed increase in investment reflects the growing role of education as a key factor in economic development. Increased funding is accompanied by expanded access to educational services, which in the long term should contribute to increased labor productivity and accelerated economic growth.

However, it is important to note that a quantitative increase in investments in itself does not guarantee an increase in their effectiveness, which is confirmed by a number of international studies (World Bank, OECD), indicating the need to assess not only the volume, but also the results of the use of educational resources.

A comparative analysis shows that the structure of investment in education in Uzbekistan has a number of common features with other emerging market economies.

Firstly, the dominant role of state funding remains, which is typical for the countries of Central Asia and some Eastern European countries at the reform stage.

Secondly, the share of private and foreign investment remains relatively low, which limits the diversification of funding sources and reduces the level of competition in the education sector.

At the same time, the observed investment growth rates exceed the average for a number of comparable countries, which indicates the high priority of educational policy in the national development strategy.

An analysis of investment efficiency reveals a structural gap between the volume of investments and their ultimate returns. Despite significant funding increases, the system for assessing the effectiveness of education investments remains underdeveloped.

Major limitations to effectiveness include:

- insufficient linkage of funding to the performance of educational institutions;
- weak system of monitoring the quality of education;
- limited use of KPI models in the management of educational organizations;
- low level of commercialization of educational services.

In accordance with modern approaches to public investment management, increased efficiency is only possible through the transition to results-oriented budgeting.

Despite the positive dynamics, institutional constraints that affect the sustainability of the investment process remain.

The most significant are:

1. Regional asymmetry

Investments are concentrated primarily in large cities, while rural regions remain underserved by educational infrastructure.

2. Institutional inertia

The education management system partially retains its administrative-distributive nature, which reduces the effectiveness of market mechanisms.

3. Limited private capital

The low share of private investment limits the innovative development of the sector and slows the implementation of competitive education models.

From a theoretical perspective, the results of the study support the hypothesis that investment in education is a key factor in endogenous economic growth.

From a practical perspective, the results highlight the need to:

- transition to a mixed model of education financing;
- strengthening the role of public-private partnerships;
- implementation of mechanisms for assessing the effectiveness of educational investments;
- development of digital platforms for managing educational resources.

Despite the comprehensiveness of the analysis, the study has a number of limitations.

Firstly, aggregated macrostatistics are used, which does not allow for taking into account micro-level differences between educational institutions.

Second, there is a lack of detailed data on the return on investment (ROI) in human capital.

Thirdly, forecast estimates are scenario-based and depend on the stability of the macroeconomic environment.

Future research may focus on:

- construction of econometric models of the impact of education on GDP;
- analysis of the effectiveness of individual educational programs;
- assessing the long-term returns on educational investments at the household level.

Increased investment activity in the Republic of Uzbekistan's education sector has had a positive impact on the development of the education system and the improvement of human capital. This primarily reflects the expansion of access to educational services due to the increase in the number of educational institutions and the growth of higher education enrollment. Significant changes have also been associated with the modernization of infrastructure, including the construction of new academic buildings, the provision of educational institutions with modern equipment, and the development of a digital educational environment.

The active implementation of digital technologies is particularly important, as it enhances the efficiency of the educational process and expands distance learning opportunities. Furthermore, increased investment positively impacts the quality of personnel training, ensuring the education system adapts to the modern demands of the labor market and the innovative economy.

Despite the positive results of the reforms, a number of systemic problems remain in the education sector, limiting the effectiveness of investment policy. One of the key issues remains the low share of private investment, indicating insufficient business participation in the development of the education sector.

Regional inequality, manifested in differences in the level of educational infrastructure and access to quality education across the country's regions, is also a significant constraint. An additional problem is the inefficient distribution of financial resources, due to the limited use of investment performance evaluation mechanisms.

In addition, the education system remains weakly integrated with the needs of the labour market, which leads to a discrepancy between the level of training of graduates and the modern requirements of the economy.

A comparative analysis shows that the Republic of Uzbekistan ranks relatively high among developing countries in terms of investment activity in education. Significant amounts of public funding demonstrate the high priority of education policy and the state's commitment to ensuring the long-term development of human capital.

At the same time, the efficiency of investment resource utilization remains below average compared to a number of countries successfully implementing results-based education management models. This highlights the need for further improvement of resource allocation mechanisms, increased transparency of investment processes, and stronger links between the education system and innovative economic development.

5. Conclusion

The study provided a comprehensive assessment of the dynamics, structure, and effectiveness of investments in education in the Republic of Uzbekistan for the period 2021–2025. Based on statistical and analytical analysis, key trends characterizing the transformation of the education sector in the context of active institutional reforms were identified.

First and foremost, it should be noted that investment in education has demonstrated a steady positive trend. Over the period under review, its volume has more than tripled, demonstrating the high priority placed on education in government policy and the strategic focus on human capital development.

A structural analysis revealed that the state budget continues to play a dominant role in funding the education system. However, public and private sector participation is gradually increasing, indicating the emergence of elements of a mixed funding model. However, the share of non-state sources remains limited, demonstrating the sector's continued high dependence on public investment.

The study's findings also confirm that increased investment is accompanied by the expansion of educational infrastructure, increased higher education enrollment, and the adoption of digital technologies. These changes have a positive impact on human capital formation and contribute to the country's long-term economic potential.

At the same time, structural constraints were also identified. Key issues include regional unevenness in investment distribution, insufficient effectiveness of investment performance assessment mechanisms, and limited diversification of funding sources. These factors reduce the potential return on investment and require further institutional improvement.

From an economic theory perspective, the obtained results confirm the concept of human capital, which posits that investment in education is a key factor in sustainable economic growth. However, empirical data also point to the need to shift from quantitative investment increases to improving their qualitative effectiveness.

Based on the analysis, a number of practical recommendations can be formulated to improve the effectiveness of investment policy in education. Specifically, expanding public-private partnerships is advisable, as more active involvement of the private sector will contribute to the diversification of funding sources and strengthen the competitiveness of the education system. Furthermore, it is necessary to improve mechanisms for assessing the effectiveness of investments by implementing a results-based approach to funding educational institutions, whereby the amount of allocated funds is linked to the achieved performance. Another important area is reducing regional disparities, which requires increasing investment support for regions with underdeveloped educational infrastructure. Furthermore, the digitalization of education management is particularly important, as the use of modern digital platforms will increase the transparency of resource allocation processes and improve the manageability of the education system as a whole.

Investment in education is thus a key element of Uzbekistan's sustainable development strategy. Despite significant progress in increasing funding, further improvements in resource efficiency are critical to achieving long-term socioeconomic development goals and establishing a competitive knowledge economy.

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