

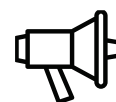
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IMPROVING THE MECHANISMS OF BUDGETARY FINANCING IN HIGHER EDUCATION INSTITUTIONS

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Abstract: In a context where the quality of human capital is increasingly tied to investments in education, budgetary financing remains a key component of education policy. This article examines the existing models of budgetary financing for educational institutions, their effectiveness, and applicability in the context of Uzbekistan. Using comparative analysis methods, financing efficiency indices, and data from international organizations, the authors develop recommendations to improve the system's efficiency. Special attention is given to the transition to a results-based approach and the expansion of institutional autonomy. The article includes empirical data, tables, and charts that reflect the current state and opportunities for improvement.

Key words: budgetary financing, education, economic efficiency, Uzbekistan, per capita normative financing, KPI, higher education institutions' autonomy, IEF index.

INTRODUCTION

In all countries of the world, financing education through the state budget is recognized as a foundation for sustainable economic growth, social justice, and the consistent development of human capital. Education systems, particularly at the general and higher education levels, require not only stable but also efficient allocation of public resources. In the context of post-pandemic recovery, inflationary pressures, and digitalization, there has emerged a need to revisit traditional approaches to the distribution of budgetary funds.

In recent years, Uzbekistan has initiated large-scale reforms in the education system accompanied by increased investments. However, the effectiveness of current financing models remains questionable. Significant disparities in access to quality education persist across regions, and institutional management practices are overly regulated. Standardized and approximate funding that does not account for actual performance limits opportunities for innovation and local initiatives.

This article aims to provide a comprehensive analysis of the existing approaches to budgetary financing of educational institutions, identify the main barriers, and propose improvements based on international standards and the specific conditions of Uzbekistan.

REVIEW OF LITERATURE ON THE SUBJECT

Global practices in budget-based education financing illustrate a range of approaches from traditional budgeting to innovative results-based models. The OECD report *Education at a Glance (2022)* emphasizes the importance of transparency, accountability, and efficiency as conditions for the sustainable growth of the education sector. According to the World Bank (2023), developing countries often face the challenge of a mismatch between increased spending and the quality of education.

Buzrukxonov S M (2022) emphasizes the need to reform existing financing mechanisms in Uzbekistan, taking into account international experience. Saidov M Kh (2011) analyzes the impact of decentralization and financial autonomy on spending efficiency, particularly within regional institutions.

UNESCO research (2023) shows that per capita normative funding has a positive impact on coverage and equity of access, but it also highlights risks associated with inadequate funding for disadvantaged regions. In countries with a high IEF index such as Finland, Canada, and Lithuania, there is a stable balance between basic financing and incentive components aimed at quality improvement.

Overall, the literature indicates that hybrid models combining basic budgetary stability with flexible performance-oriented mechanisms are the most effective.

RESEARCH METHODOLOGY

This research is based on an interdisciplinary approach that combines both quantitative and qualitative methods to enable a comprehensive and in-depth understanding of the challenges and prospects of budgetary financing in educational institutions.

First, a content analysis was conducted of Uzbekistan's key regulatory and legal documents, including the Law on Education, resolutions of the Cabinet of Ministers, and budget reports from the Ministry of Finance and the Ministry of Higher Education. This made it possible to identify the organizational and legal foundations for the formation and allocation of budgetary funds in the education sector.

The second component of the methodology involves statistical analysis of official data from the World Bank, OECD, UNESCO, and the State Committee of the Republic of Uzbekistan on Statistics, covering the years 2018 to 2024. This analysis encompasses the dynamics of financing, enrollment levels, student performance outcomes, and the ratio of educational expenditures to GDP.

In addition, a comparative analysis was conducted on the budget-based education financing models used in four countries: Uzbekistan, Kazakhstan, Lithuania, and Finland. For each model, key parameters were examined, including the level of institutional autonomy, transparency of fund allocation, focus on results, and resilience in the face of external and internal challenges.

To evaluate the efficiency of the systems, an integral indicator was calculated: the Index of Educational Financing Efficiency (IEF), determined by the following formula:

$$\text{IEF} = (\text{Enrollment Index} \times \text{Average PISA Score}) / \text{Share of Education Expenditure in GDP (\%)}$$

This indicator provides a quantitative assessment of how effectively budgetary funds are being converted into tangible educational outcomes.

Finally, a case study analysis was conducted on selected educational institutions located in both urban and rural areas of Uzbekistan. The analysis was based on the following criteria: level of financial autonomy, existence of internal mechanisms for evaluating efficiency, and implementation of digital tools for budget management and needs assessment.

The methodological foundation of the study draws from modern approaches in public administration, particularly the concept of results-based budgeting, principles of decentralization, and the New Public Management doctrine, which emphasizes efficiency, accountability, and client orientation in the delivery of public education services.

ANALYSIS AND RESULTS

The research findings are presented across four logical directions: an analysis of the current levels of education financing in Uzbekistan, the structure of fund distribution across education levels, a comparative assessment of budget financing efficiency in an international context, and an evaluation of the applied models of fund allocation.

An analysis of Uzbekistan's budget data for the period from 2018 to 2024 shows a positive trend in both the absolute amount of education expenditures and their share relative to GDP and the total state budget. However, the rate of growth is slowing, and the figures still lag behind international benchmarks (table 1).

Table 1. Dynamics of budgetary expenditures on education in Uzbekistan (2018 to 2024)

Year	Education expenditure (% of GDP)	Share in total budget (%)	Average spending per student (USD)	Annual growth (%)
2018	5.2	22.5	340	–
2019	5.3	23.1	370	+8.8
2020	5.5	23.8	410	+10.8
2021	5.6	24.3	460	+12.2
2022	5.7	25.1	490	+6.5
2024	5.4	24.6	530	+8.2

As the table shows, despite the overall growth in financing, a slight decline in the share of education expenditure in GDP is observed in 2024. This may be attributed to macroeconomic factors such as inflation and the reallocation of budgetary priorities.

The distribution of budget funds across education levels indicates a clear prioritization of general secondary education. At the same time, despite increasing demand for infrastructure and academic research, higher education continues to receive a relatively smaller share of the total budget.

The efficiency level of budget expenditures was compared using the Education Financing Efficiency Index (IEF), which is calculated as the ratio of educational outcomes to the share of expenditures in gross domestic product (Figure 1).

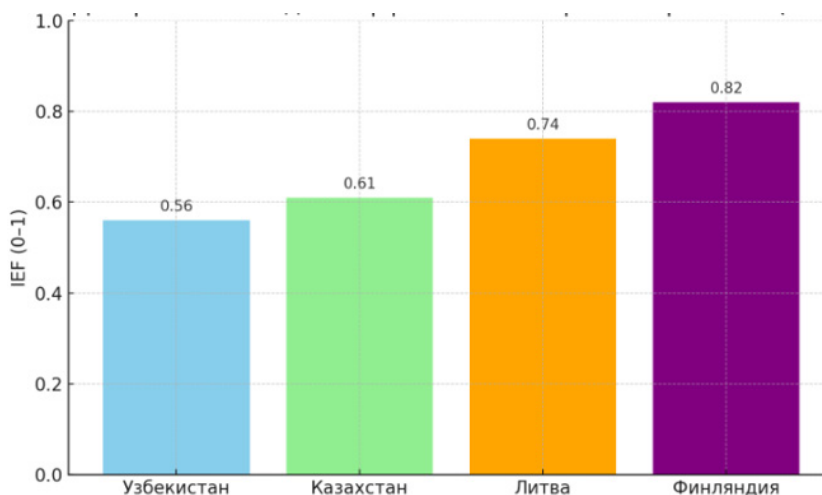


Figure 1. Education Financing Efficiency Index (IEF)

The findings indicate that Uzbekistan still significantly lags behind highly developed countries in terms of the investment efficiency coefficient within the education system. This highlights the need to reconsider the existing funding allocation model and to implement mechanisms focused on quality and outcomes.

Different countries apply various budget financing models that differ in terms of transparency, flexibility, and focus on results. The comparative analysis made it possible to classify these models according to key criteria (Table 2).

Table 2. Characteristics of Budget-Based Education Financing Models

Financing Model	Financial Autonomy	Transparency	Link to Results (KPIs)	Stability	Countries
Input-Based Financing	–	*	–	–	CIS, Turkmenistan
Normative Per Capita Model	*	+	*	+	Uzbekistan, Kazakhstan
Performance-Based Financing	+	+	+	+	Finland, Canada

As the table shows, the most effective and stable model is the performance-based model, as it promotes competition and increases institutional motivation.

The study demonstrates that rather than simply increasing the volume of funding, there is a need to improve the quality of budget management. Strategic reallocation of funds and a focus on the effectiveness and flexibility of financial policy are essential to improve the overall performance of the education system.

The study revealed both positive developments and structural challenges within Uzbekistan's system of budget financing for education that require a systematic modernization approach.

First, a steady increase in the volume of funding has been observed in absolute terms. By 2024, the share of education expenditures in the national budget reached 24.6 percent, and average per-student spending rose from 340 US dollars in 2018 to 530 dollars in 2024. This reflects the government's prioritization of the education sector. However, an increase in funding alone, without institutional reforms, does not guarantee improvements in the quality of educational services.

Second, the traditional input-based financing model, which remains partially in use in several institutions, has proven ineffective. Its key weaknesses include low flexibility, weak connection with learning outcomes, and

lack of motivation for quality improvement. Funding is often based on historically defined norms rather than the real needs of students or the efficiency of educational processes.

The analysis shows that in a competitive environment with growing demand for educational quality, performance-oriented models are the most effective. Countries like Finland and Lithuania, which apply contractual financing systems with clearly defined performance indicators (KPIs), demonstrate significantly higher efficiency indexes (IEF 0.82 and 0.74 respectively) compared to Uzbekistan (IEF 0.56).

Disparities in the allocation of resources between urban and rural areas remain a pressing issue. Case analysis revealed that schools in rural areas face several constraints, including low budget provision, a shortage of qualified personnel, and limited access to the internet and digital tools. Moreover, the normative per capita approach to funding does not account for regional specificities, contributing to increased inequality in education.

There is a clear need to introduce mechanisms of decentralization and financial autonomy. Granting educational institutions the authority to independently allocate resources, form internal budgets, procure goods and services through competitive processes, and manage staffing enhances the rational use of funds. International experience shows that autonomous institutions demonstrate higher rates of academic performance and resource efficiency.

Furthermore, a key direction of transformation involves shifting from a single-tier financing model to a multi-tier system. In this approach, alongside basic (guaranteed) per capita funding, additional incentive-based resources are allocated to support innovative programs, promote digitalization, foster inclusiveness, and improve educational outcomes. This model creates conditions for competition among institutions and directs attention to achieving measurable learning results.

The need to digitize education budget management must also be emphasized. In European Union countries, digital platforms such as Open Budget Education and MySchool Budget enable parents, teachers, and local authorities to monitor every budget transaction and assess the efficiency of expenditures. These tools increase transparency and public engagement in the budgeting process.

Another critical challenge is the preparation of management personnel. The financial literacy of education institution leaders, their understanding of performance-based budgeting principles, and their ability to interpret KPIs are becoming essential competencies in the context of ongoing reforms. This necessitates a revision of the approaches used to train and retrain school principals and university rectors.

CONCLUSIONS AND SUGGESTIONS

Improving budget-based education financing is not only about increasing allocations but also about transitioning to a new paradigm of performance-oriented management. Greater institutional autonomy, transparency, and a focus on measurable quality indicators must form the foundation of this approach. Only under such a framework can Uzbekistan build a balanced, equitable, and sustainable education system that contributes meaningfully to the country's development.

Uzbekistan is on the right path, yet it requires strong institutional support, the development of financial management capacities, and active public participation in the monitoring of budget expenditures.

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