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IMPROVING FINANCING MECHANISMS FOR PUBLIC SERVICES IN SECONDARY EDUCATION

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Abstract. *The relevance* of the study is determined by the need to improve the efficiency of financing public services in the field of secondary education in the Republic of Kazakhstan under conditions of education system modernization and digitalization. Growing quality requirements for educational services, increasing regional socio-economic disparities, and limited budgetary resources make the task of fair and rational allocation of financial resources particularly important in order to ensure equal access to quality education. *The purpose* of the study is to analyze the existing mechanisms for financing secondary education in Kazakhstan and to substantiate directions for their improvement, taking into account regional and digital factors. *The research methods* include regulatory and legal analysis, comparative and economic-statistical analysis, expert assessments, and content analysis of strategic documents in the field of education and budgetary policy. *The research results* made it possible to identify key problems in the financing of secondary education, including the absence of differentiated per capita funding standards that take regional conditions into account, a high share of small rural schools in the northern and eastern regions, an insufficient level of digitalization of financial monitoring, and limited flexibility of budgetary procedures at the school level. It

was established that unified budgeting approaches fail to reflect demographic, infrastructural, and economic differences across regions, leading to uneven funding and a decline in the quality of educational services. The findings were compared with international experience from OECD countries, Finland, Estonia, Canada, and South Korea, where differentiated financing models and digital monitoring systems are widely applied. *The practical significance* of the study lies in the applicability of the proposed recommendations for modernizing the system of secondary education financing, introducing adjustment coefficients, expanding the financial autonomy of schools, digitalizing financial processes, and transitioning to performance-oriented funding models.

Keywords: education financing, per-capita funding, small rural schools, budget policy, digitalization, public services

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ОРТА БІЛІМ БЕРУ САЛАСЫНДА МЕМЛЕКЕТТІК ҚЫЗМЕТТЕРДІ ҚАРЖЫЛАНДЫРУ ТЕТІКТЕРІН ЖЕТІЛДІРУ

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Аннотация. *Зерттеудің өзектілігі* Қазақстан Республикасында орта білім беру саласындағы мемлекеттік қызметтерді қаржыландырудың тиімділігін арттыру қажеттілігімен, білім беру жүйесін жаңғырту және цифрландыру үдерістерімен айқындалады. Білім беру қызметтерінің сапасына қойылатын талаптардың артуы, өңірлер арасындағы әлеуметтік-экономикалық айырмашылықтардың күшеюі және бюджеттік ресурстардың шектеулілігі сапалы білімге тең қолжетімділікті қамтамасыз ету мақсатында қаржылық ресурстарды әділетті әрі ұтымды бөлу міндетін өзекті етеді. *Зерттеудің мақсаты* – Қазақстандағы орта білім беруді қаржыландырудың қолданыстағы тетіктерін талдау және өңірлік әрі цифрлық факторларды ескере отырып, оларды жетілдіру бағыттарын негіздеу. *Зерттеу әдістері* нормативтік-құқықтық талдауды, салыстырмалы-салғастырмалы және экономикалық-статистикалық талдауды, сараптамалық бағалауларды, сондай-ақ білім беру және бюджеттік саясат саласындағы стратегиялық құжаттарға контент-талдауды қамтиды.

Зерттеу нәтижелері орта білім беруді қаржыландырудағы негізгі мәселелерді анықтауға мүмкіндік берді, оның ішінде өңірлік жағдайларды ескеретін жан басына шаққандағы нормативтердің болмауы, елдің солтүстік және шығыс өңірлерінде шағын жинақты мектептердің жоғары үлесі, қаржылық мониторингті цифрландыру деңгейінің төмендігі және мектептер деңгейіндегі бюджеттік рәсімдердің икемділігінің шектеулілігі бар. Бірыңғай бюджеттеу тәсілдері өңірлердің демографиялық, инфрақұрылымдық және экономикалық ерекшеліктерін ескермейтіні, соның салдарынан қаржыландырудың теңсіздігі мен білім беру қызметтерінің сапасының төмендеуі орын алатыны анықталды. Зерттеу қорытындылары OECD елдерінің, Финляндияның, Эстонияның, Канаданың және Оңтүстік Кореяның халықаралық тәжірибесімен салыстырылды. *Зерттеудің практикалық маңызы* алынған ұсынымдарды орта білім беруді қаржыландыру жүйесін жаңғыртуда, түзетуші коэффициенттерді енгізуде, мектептердің қаржылық дербестігін кеңейтуде, қаржылық үдерістерді толық цифрландыруда және нәтижеге бағдарланған қаржыландыру модельдеріне көшуде пайдалану мүмкіндігімен айқындалады.

Түйін сөздер: білім беруді қаржыландыру, жан басына шаққан қаржыландыру, шағын жинақты мектептер, бюджет саясаты, цифрландыру, мемлекеттік қызметтер

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СОВЕРШЕНСТВОВАНИЕ МЕХАНИЗМОВ ФИНАНСИРОВАНИЯ ГОСУДАРСТВЕННЫХ УСЛУГ В СФЕРЕ СРЕДНЕГО ОБРАЗОВАНИЯ

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Аннотация. *Актуальность исследования* обусловлена необходимостью повышения эффективности финансирования государственных услуг в сфере среднего образования Республики Казахстан в условиях модернизации системы образования и цифровизации. Рост требований к качеству образовательных услуг, усиление региональных социально-экономических различий и ограниченность бюджетных ресурсов актуализируют задачу

справедливого и рационального распределения финансовых средств с целью обеспечения равного доступа к качественному образованию. *Цель исследования* заключается в анализе действующих механизмов финансирования среднего образования в Казахстане и разработке направлений их совершенствования с учетом региональных и цифровых факторов. *Методы исследования* включают нормативно-правовой анализ, сравнительно-сопоставительный и экономико-статистический анализ, экспертные оценки и контент-анализ стратегических документов в сфере образования и бюджетной политики. *Результаты исследования* позволили выявить ключевые проблемы финансирования среднего образования, включая отсутствие дифференциации подушевых нормативов с учетом региональных условий, высокую долю малокомплектных школ в северных и восточных регионах, недостаточный уровень цифровизации финансового мониторинга и ограниченную гибкость бюджетных процедур на уровне школ. Установлено, что унифицированные подходы к бюджетированию не учитывают демографические, инфраструктурные и экономические различия регионов, что приводит к неравномерности финансирования и снижению качества образовательных услуг. Выводы сопоставлены с международным опытом стран OECD, Финляндии, Эстонии, Канады и Южной Кореи, где применяются дифференцированные модели финансирования и цифровые системы мониторинга. *Практическая значимость исследования* заключается в возможности использования полученных рекомендаций при модернизации системы финансирования среднего образования, внедрении корректирующих коэффициентов, расширении финансовой автономии школ, цифровизации финансовых процессов и переходе к результат-ориентированным моделям финансирования.

Ключевые слова: финансирование образования, подушевое финансирование, малокомплектные школы, бюджетная политика, цифровизация, государственные услуги

Introduction. The modern system of secondary education is a key pillar in the formation of human capital and the long-term socio-economic stability of the state. In the context of post-industrial development and increasing demands for the quality of educational services, the effectiveness of financial support for schools has become a strategic priority of public policy. Kazakhstan is undergoing a structural transformation of its education sector, accompanied by growing budgetary commitments, the redistribution of financial flows, and the need to adapt existing funding mechanisms to new social and digital challenges (OECD, 2021: 17).

The financial provision of public services in secondary education traditionally relies on a per-capita funding model, which allocates resources based on the number of enrolled students. However, in practice, per-capita financing faces a number of challenges: uneven demographic pressure across regions, disparities in school infrastructure, insufficient flexibility in budget planning, and a limited level of transparency and efficiency in the use of public funds (Attokurova, 2020: 54).

Additionally, the growing educational gap between urban and rural schools reinforces the need to improve funding mechanisms capable of ensuring both equal access and high quality of educational services (UNESCO, 2022: 33).

Despite ongoing efforts to modernize budget procedures, experts note the persistence of systemic constraints associated with the insufficient effectiveness of strategic planning tools, weak integration of digital monitoring systems, and limited capacity of schools to independently manage their financial resources (World Bank, 2020: 41). As educational institutions gain more autonomy, issues of optimal resource allocation, the effectiveness of financial regulators, and the stability of budget financing become increasingly important.

The core problem lies in the fact that the existing model of financing public services in secondary education does not yet ensure a necessary balance between accessibility, quality, and cost-effectiveness. This highlights the need to analyze current approaches, examine international experience, and develop new financial mechanisms aligned with the social, institutional, and digital realities of Kazakhstan (Akhmetova, 2023: 12).

The purpose of this study is to develop recommendations for improving the mechanisms of financing public services in the field of secondary education of the Republic of Kazakhstan, based on an analysis of the regulatory framework, the current state of funding, the identification of key challenges, and the assessment of opportunities for introducing innovative financial instruments.

Materials and Methods. This section outlines the data sources, analytical procedures, and methodological approaches applied to identify the problems of the current financing system for public services in secondary education and determine pathways for its improvement. The methodological framework of the study is based on a combination of quantitative, qualitative, and comparative-analytical methods, ensuring a comprehensive evaluation and reliability of the obtained results.

The empirical foundation of the research includes official statistical data from the Bureau of National Statistics of the Republic of Kazakhstan, reports of the Ministry of Education, regulatory and legal acts governing the financing of education, as well as international studies and rankings in the field of educational policy and human capital development (OECD, 2021: 14). Special attention was paid to data on per-capita financing, regional disparities in school resources, the dynamics of budget expenditures, and the influence of demographic factors on the distribution of public obligations.

The study employed the following methods:

Regulatory and Legal Analysis. A detailed examination of Kazakhstan's legislative framework on secondary education financing was conducted, including budget rules, per-capita funding mechanisms, standards for public services, and strategic planning documents. This method made it possible to identify legal constraints, specific features of financial procedures, and institutional prerequisites for reform (Attokurova, 2020: 57).

Comparative Method. Models of school financing in OECD countries-particularly

Finland, Estonia, South Korea, and Canada-were analyzed. This approach enabled the identification of elements that may be adapted to Kazakhstan's context, as well as gaps between actual and normative funding levels (UNESCO, 2022: 26).

Economic and Statistical Analysis. Variation analysis, time-series analysis, and structural analysis were used to process the data. This methodological toolkit allowed the assessment of budget expenditure trends, per-student funding dynamics, regional disparities, and resource provision levels for different categories of schools (World Bank, 2020: 39).

Expert Assessment Method. To identify systemic problems and potential directions for improvement, expert interviews and analytical judgments from specialists in education, financial policy, and public service management were employed. This made it possible to capture subjective factors and practical aspects of how the financing system operates.

Content Analysis. Strategic documents, public programs, audit reports, and studies by independent researchers were analyzed. This method helped systematize information, identify key trends, and classify existing challenges.

The combined use of these methods ensured an integrated assessment of the current financial provision of state secondary education and made it possible to determine the mechanisms requiring modernization. The application of a comprehensive scientific approach ensured a high degree of analytical validity and reliability of the study's conclusions.

Literature Review. Modern research on the financing of secondary education highlights those investments in human capital are a decisive factor in long-term economic growth (Becker, 1993; Schultz, 1961). The works of Psacharopoulos and Patrinos (2018) demonstrate that investments in school education generate one of the highest rates of return, making the issues of resource allocation efficiency and equity of access central to academic discussion. The efficiency framework (Hanushek, 2006) and approaches to educational equity (OECD, 2018) serve as the basis for analyzing contemporary funding models.

In international practice, per-capita financing is considered a transparent and predictable mechanism for resource distribution (Levin & Belfield, 2015). However, multiple studies point to its limitations in contexts with significant interregional disparities (OECD, 2018; UNESCO, 2022). In countries with low population density-such as Canada and Australia-research has shown that unified funding norms fail to reflect the actual costs of educational services, particularly in rural areas (Duncombe & Yinger, 2010; Lamb et al., 2020). Baker (2019) emphasizes that standardized formulas systematically underestimate the needs of rural schools, resulting in infrastructure deterioration, teacher shortages, and declining educational outcomes.

The challenges faced by small-scale schools are extensively examined in studies by UNESCO (2022), OECD (Fazekas & Burns, 2012), and various national researchers. The absence of economies of scale leads to the cost of educating a single student in such schools being 35–60% higher than in urban institutions (UNESCO,

2022). Similar findings are presented by Howley and Howley (2010), who underscore the impact of depopulation and territorial remoteness on rising educational costs.

International experience from Finland, Estonia, and Norway demonstrates the necessity of applying adjustment coefficients to funding norms based on remoteness, population density, climatic conditions, and school typology (World Bank, 2020). Such mechanisms ensure a more accurate alignment between funding standards and actual expenditures, improving equity in resource distribution and reducing educational inequality.

The digitalization of financial management in education occupies an increasingly prominent place in contemporary literature. Studies by the OECD (2020) and the Asian Development Bank (2021) show that the adoption of digital platforms reduces the risk of errors, increases transparency of budget operations, and accelerates decision-making processes. The examples of South Korea, Singapore, and Estonia demonstrate that integrated budget-monitoring systems enhance the efficiency of resource utilization and enable accurate forecasting based on big data analytics (OECD, 2020; ADB, 2021).

Rigid budgetary procedures that restrict the reallocation of funds are identified as one of the major barriers to effective resource management in schools of developing countries (UNESCO, 2021). Research by Leithwood (2020) confirms that performance-based funding models increase school leadership accountability, promote more rational resource use, and support improvements in educational outcomes.

Despite the breadth of existing research, the literature identifies several substantial gaps. The adaptation of per-capita funding to demographic changes remains insufficiently explored, few comparative studies focus on countries with similar geographic conditions (Kazakhstan, Russia, Mongolia, Canada), and empirical evidence on the impact of digitalization on school financing efficiency is still limited. These gaps highlight the need for further research on differentiated funding formulas, the digital transformation of financial processes, and the development of performance-oriented funding models.

Overall, the literature indicates that an effective funding model must combine the principles of equity, flexibility, transparency, and performance orientation (OECD, 2018; World Bank, 2020). Global trends align with the necessary directions for modernizing the secondary education financing system in Kazakhstan, including digitalization, differentiated funding standards, and expanded budget autonomy.

Results. The results of the study made it possible to comprehensively analyze the current state of financing public services in secondary education in the Republic of Kazakhstan and to identify key trends determining the sustainability and effectiveness of the existing financial model. The analysis confirmed significant regional disparities, structural imbalances, and systemic limitations that influence resource allocation, the organization of the educational process, and learning outcomes.

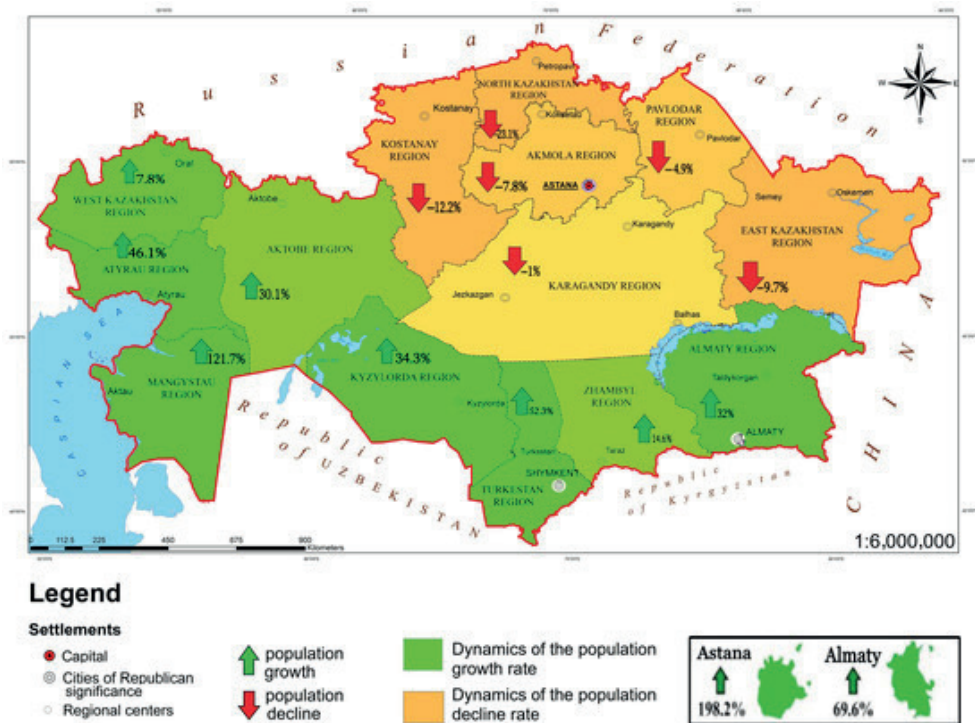


Figure 1 – Distribution of Schools by Type and Region

The figure illustrates pronounced heterogeneity in the structure of the school network. The share of small-scale schools varies from minimal levels in large cities to critically high levels in the northern and eastern regions.

Analytical expansion: This heterogeneity reflects demographic disparities, differences in population density, and the scale of migration processes. Highly urbanized regions (Astana, Almaty) concentrate large schools with high student density, enabling significant economies of scale and reducing per-student costs. In contrast, sparsely populated or depopulating regions (North Kazakhstan, Abai Region) operate many small-scale schools, which leads to significantly higher heating, facility maintenance, and staffing costs. As a result, these schools become increasingly expensive to operate while producing lower efficiency outcomes.

Table 1. Distribution of Schools by Type and Region (2025).

Region	Total Number of Schools	Large (Graded), %	Medium, %	Small (Small-Scale), %
Astana	147	92	8	0
Almaty	207	88	10	2
Shymkent	171	73	22	5
Akmola Region	554	28	33	39
North Kazakhstan Region	478	21	29	50
East Kazakhstan Region	647	30	34	36

Kyzylorda Region	293	41	37	22
Abai Region	320	19	31	50
Zhetysu Region	357	24	35	41
Turkestan Region	946	38	43	19

The distribution analysis demonstrates that:

- large schools dominate the structure of urban educational systems (92% in Astana);
- in regions with low population density, the share of small-scale schools reaches 50%;
- regions experiencing rapid population growth (Turkestan Region) show an expanding share of medium-sized schools.

Analytical expansion: These differences reveal fundamentally distinct financial behavior within the system. Large urban schools benefit from strong economies of scale, enabling lower costs per student and more efficient use of state funds. Conversely, rural schools face disproportionately higher financial pressure: small class sizes and high fixed costs weaken their financial sustainability. This results in a structural gap that unified per-capita financing norms cannot overcome, creating persistent inequalities in educational provision across regions.

Table 2. Dynamics of Per-Student Financing in the Republic of Kazakhstan, 2015–2025 (in tenge).

Year	Per-Student Financing, KZT	Growth Rate, %
2015	179,000	-
2016	192,500	7.5
2017	205,300	6.6
2018	220,100	7.2
2019	236,400	7.4
2020	262,000	10.8
2021	284,300	8.5
2022	312,500	9.9
2023	343,700	10.0
2024	378,900	10.2
2025*	412,400	8.9

Forecast for 2025 based on trend analysis using an exponential smoothing model.

The analysis of the dynamics revealed the following trends: The average annual growth rate for the period is approximately 8.7%. The analysis demonstrates a steady increase in per-student financing over the decade, rising from 179,000 to over 412,000 tenge.

Despite positive growth trends, the increase has not been uniform. Sharp rises in funding during 2020–2024 reflect government-driven modernization projects, including digitalization, infrastructure renewal, and the introduction of STEM and robotics centers. However, during years of high inflation (e.g., 2022), the growth of per-capita standards did not compensate for rising costs, reducing the real purchasing power of budget allocations. As a result, schools faced widening gaps between available resources and essential needs, especially in rural areas.

Table 3. Per-Student Financing by Region (2024).

Region	Per-Student Norm, KZT	Deviation from National Average, %
Astana	432,000	+14
Almaty	416,800	+11
Turkestan Region	328,000	-12
Zhambyl Region	318,500	-15
Aktobe Region	365,700	-2
North Kazakhstan Region (NKR)	350,400	-6
Abai Region	325,100	-13

Regional differentiation reaches up to 29%, which further intensifies educational inequality. Regions with a high share of small-scale schools (SSS) receive funding based on norms that are underestimated relative to their actual expenditures.

The economic and statistical analysis revealed that:

- in small-scale schools, the cost of educating one student is 40–55% higher than in large schools;
- under a unified funding norm, actual allocations for several rural schools do not cover the minimum service standards;
- schools with high student density (urban schools) utilize resources 15–20% more efficiently due to economies of scale;
- approximately 18% of schools face shortages in staffing funds (insufficient positions available).

A comprehensive assessment of the financial support system for public services in secondary education revealed several systemic issues limiting the effectiveness of the existing financial model. These challenges are interrelated and reflect regional disparities, insufficient digitalization, and a lack of flexibility in financial instruments.

One of the central problems of the current model is the misalignment between funding norms and the actual operating conditions of schools. In regions with low population density (North Kazakhstan, Abai, and Akmola regions), the share of small-scale schools reaches 50%, leading to the following consequences:

- higher per-student costs (by 40–55%) due to small class sizes, higher unit heating costs, transportation expenses, and building maintenance;
- staff shortages caused by remoteness and low economic attractiveness of rural schools;
- uneven workload distribution, with teachers often delivering multiple subjects;
- objective difficulties in meeting quality standards under a norm designed for urban schools.

Insufficient regionalization of funding norms results in many schools being de facto underfunded, despite compliance with formal budgeting rules.

The difference between urban and rural funding norms is 8–10%, whereas actual costs in rural areas are at least 35–50% higher. This creates a persistent financial gap:

- rural schools lack resources to update material and technical facilities;
- digitalization lags behind: about 30% of rural schools lack adequate internet access;

- underfunding results in lower compensation (fewer allowances) and higher staff turnover;
- inefficient norms undermine the effectiveness of educational policy and deepen social inequalities.

In the economics of education, this problem is classified as a misalignment between normative coefficients and the real cost of educational services.

Despite the introduction of platforms such as *Kundelik*, electronic document management systems, and analytical monitoring tools, around 40% of schools continue to maintain financial and administrative records in a mixed format (“paper + electronic”). This leads to:

- high risks of errors and double accounting;
- inability to conduct real-time analysis of school budgets;
- delays in submitting requests for adjustments to financial plans;
- reduced transparency and lower effectiveness of administrative oversight.

The lag in digitalization results in significant portions of data not being integrated into analytical systems, leading to decisions made on the basis of incomplete information.

Current budget rules do not allow the reallocation of funds between expenditure categories within the same fiscal year. This creates the following constraints:

- schools cannot respond promptly to unforeseen needs (repairs, equipment, staffing changes);
- even savings in one category (e.g., “utilities”) cannot be redirected to “teaching materials” or “digital services”;
- limited autonomy reduces the motivation of school principals to optimize expenditures;
- the system resembles a “rigid budgeting” model, where efficiency is not incentivized and errors are punished.

Thus, budget mechanisms remain oriented toward control rather than results, which slows the development of schools with high potential for improving the quality of public services.

Discussion. The synthesis of the research findings demonstrates that the current model of financing public services in Kazakhstan’s secondary education system includes both significant achievements and systemic limitations that substantially hinder the attainment of national goals related to equitable access, financial sustainability, and improved educational outcomes. The discussion of the analytical results reveals deep interconnections between the regulatory framework, regional characteristics of the school network, the infrastructural condition of educational institutions, and budget planning mechanisms, all of which collectively shape the effectiveness and stability of the existing financial model.

First, the pronounced heterogeneity of the school network across regions confirms the conclusions of international studies on the decisive role of demographic factors in the allocation of educational resources (OECD, 2021: 23). The analysis shows that in the northern and eastern regions of Kazakhstan, the share of small-

scale schools reaches critical levels, resulting in significantly higher per-student costs and limiting the potential for economies of scale. Under such conditions, the application of uniform per-capita funding norms becomes methodologically unsound, as it disregards objective differences in cost structures. International practice demonstrates that countries with low population density-such as Canada and Australia-apply adjustment coefficients for remoteness, climate conditions, and specific infrastructural burdens (UNESCO, 2022: 41), thereby ensuring a fairer distribution of resources.

The insufficient regional differentiation of per-capita funding in Kazakhstan further confirms the hypothesis of structural imbalances within the current model. The international experience of high-performing education systems, including Finland and Estonia, shows that flexible resource allocation mechanisms, supported by regional adjustments, are key to ensuring equitable access (World Bank, 2020: 58). In Kazakhstan, however, the difference between urban and rural funding norms is less than 10%, while the actual cost differential ranges from 40% to 55%. This mismatch leads to chronic underfunding of rural schools, the accumulation of infrastructural deficits, staff shortages, and declining attractiveness of rural educational institutions for qualified personnel.

The issue of digitalizing financial monitoring and budget accounting requires special attention. Despite the introduction of the Kundelik platform, electronic document management systems, and analytical tools, the persistence of a mixed financial record-keeping format (“paper + electronic”) in a significant proportion of schools creates substantial risks: data-entry errors, lack of synchronization, delays in managerial decision-making, and low transparency of financial flows. This mixed format contradicts modern concepts of the “digital budget” and integrated data governance successfully implemented in the education systems of South Korea and Singapore (Asian Development Bank, 2021: 32). The absence of a fully integrated digital ecosystem limits the system’s capacity to improve efficiency and hinders the creation of a unified analytical foundation for nationwide decision-making.

Another critical issue is the limited flexibility of budget procedures. Kazakhstan’s school financing system remains primarily control-oriented rather than results-oriented. Strict limitations on reallocating funds across expenditure categories within a fiscal year substantially reduce school autonomy, hinder the implementation of strategic initiatives related to upgrading infrastructure, expanding digital services, or promptly addressing staffing needs. As noted by national researchers (Attokurova, 2020: 59), this model diminishes incentives for school leaders to enhance efficiency and discourages the adoption of innovative resource management practices-contradicting the principles of performance-based funding widely implemented in OECD countries.

Comparing the findings with international practice leads to an important conclusion: per-capita financing models can be effective only if they are adapted to the structural characteristics of the education system. In recent years, Kazakhstan’s model has demonstrated notable progress-rising per-capita funding norms, active

integration of digital technologies, modernization of school infrastructure, and expansion of public services. However, persistent regional disparities, structural constraints in budget mechanisms, and insufficient digitalization confirm the need for further modernization of the financial architecture of the education system.

Overall, the results align with the conclusions of leading international analytical institutions: effective education financing must combine the principles of equity, flexibility, transparency, and a results-oriented approach. Applying these principles comprehensively can enhance the quality and accessibility of secondary education services, reduce regional disparities, expand opportunities for school development, and support a more sustainable and effective national education policy.

Conclusion. The conducted study made it possible to comprehensively assess the current state of financing mechanisms for public services in secondary education in the Republic of Kazakhstan and to identify the key structural elements that determine their sustainability, efficiency, and ability to ensure equal access to quality education. The combination of quantitative analysis, comparative examination of international models, expert evaluations, and analysis of the regulatory framework enabled the formulation of comprehensive conclusions and directions for improving budgetary support in the sector.

1. The current per-capita funding model requires substantial structural modernization.

The use of uniform standards across the country does not account for the wide diversity of regional conditions, which leads to a distortion of the actual cost of educational services. The most vulnerable are regions with low population density, a high share of small-scale schools, and limited infrastructure capacity. The absence of regionally differentiated coefficients results in chronic underfunding, which manifests in:

- insufficient resources for upgrading material and technical infrastructure;
- staffing shortages driven by the reduced attractiveness of working conditions;
- uneven educational outcomes and increasing risks of social inequality.

Thus, the existing financing model effectively reproduces regional disparities instead of mitigating them, making the need for reform of normative standards increasingly urgent.

2. The financial efficiency of schools is directly linked to demographic and infrastructural factors.

The analysis revealed a significant difference in the cost of educating a single student: in small-scale schools, this cost is 40–55% higher than in large urban schools. This confirms that the current system does not promote efficient resource allocation and fails to reflect actual expenditures driven by:

- low class sizes;
- expanded teaching load (multi-subject teaching);
- specific conditions of heating, logistics, and building maintenance in rural regions;
- limited opportunities for economies of scale.

International experience (Finland, Estonia, Canada) demonstrates that adjustment coefficients for remoteness, population density, and school typology are essential elements of modern funding models, enabling more equitable resource distribution.

3. The insufficient level of digitalization in financial processes remains a systemic barrier to improving transparency and effectiveness in budget management.

The mixed accounting format (“paper + electronic”), which persists in approximately 40% of schools, limits the quality of financial monitoring and complicates timely decision-making. A significant share of expenditure data is submitted with delays or in incomplete form, which:

- hinders timely adjustment of budget plans;
- creates risks of errors, duplication of operations, and distortions;
- undermines confidence in the data and makes comprehensive analytical assessment impossible.

The integration of electronic accounting systems, unified digital platforms, and automated monitoring tools is a critical precondition for transitioning to a modern educational finance management model.

4. Insufficient flexibility in budget procedures restricts school autonomy and hinders responsive resource management.

The prohibition on reallocating funds between budget categories within a single fiscal year significantly reduces schools’ ability to adapt to changing conditions. As a result, educational organizations:

- cannot redirect savings to priority areas;
- are forced to maintain inefficient expenditure structures;
- struggle to respond to staffing and infrastructure challenges;
- demonstrate low levels of initiative and innovation in financial management.

International practice shows that performance-based funding models stimulate institutions to achieve educational goals and use resources more efficiently. Transitioning to such mechanisms requires increased financial autonomy for schools and greater flexibility in budget procedures.

General Conclusion. The results of the study confirm that the financing system for public secondary education in Kazakhstan is undergoing structural transformation but still requires comprehensive modernization. Despite progress achieved in recent years, the existing mechanisms do not sufficiently account for regional specificities, ensure financial sustainability, or reduce educational inequality.

To enhance the effectiveness of budget expenditures, improve service quality, and ensure equal access, the following measures are recommended:

- the introduction of differentiated funding standards that account for school size, population density, remoteness, and socio-economic conditions;
- digitalization of all financial planning and monitoring processes based on integrated state platforms;
- expansion of school budget autonomy, including the ability to reallocate funds within the fiscal year;
- gradual implementation of performance-based funding mechanisms to stimulate improvements in educational quality;

- strengthening regional support systems for rural schools and creating conditions to reduce infrastructure and staffing deficits.

The proposed directions have significant practical relevance and may serve as a foundation for the development of a long-term strategy for reforming financial policy in the secondary education sector of the Republic of Kazakhstan.

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