
Education Financing in the Republic of Kazakhstan: Problems of Ensuring Efficiency and Effectiveness

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Abstract:

The dynamics of budget expenditures on education has been studied in this study. The share of expenditures on education in GDP has been described in comparison with other countries of the world.

The peculiarities and problems of education financing typical of Kazakhstan have been revealed.

Insufficient financing has been noted as the main reason for the weak competitiveness of national education.

The indicators of low competitiveness of education in Kazakhstan and the ways of solving problems in the education sector of the Republic of Kazakhstan have been analyzed.

Keywords: *Education financing, state budget, expenditures on education, efficiency of financing.*

JEL Classification: *I20, I21, I22.*

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1. Introduction

Education and science are the branches that, developing in correlation with globalization processes, form the basis for the development on an innovative basis with due regard to the needs of the country as a whole and of each individual. The rapid development of information technologies and telecommunications, the integration of education, science and production, the country's dependence on processes occurring in the world and the need for their research and adaptation, on the one hand, and fierce competition between higher education institutions (HEIs), on the other hand, require a change in priorities for the development of scientific and educational spheres. Reforming the education system, which is one of the fundamental factors of the formation of Kazakhstan as a modern state, its adaptation to the present-day conditions is an urgent task in achieving the state's strategic goals in order to ensure a high level of competitiveness of Kazakhstan's economy, economic growth and sustainable development. Nowadays, financial investments in education are recognized as one of the most important investments in human capital. This factor forces to search for new approaches to the solution of the issues of financing of education as an important component of human capital.

Today, education is a source of satisfaction of spiritual, cultural, and information needs of a person, as well as an investment good – a means of income growth, providing competitive advantages in the labor market and receiving other benefits. The educational capital gained in the process of education is a set of theoretical knowledge, practical skills, production experience and personal characteristics that generate income for a person during his/her working life and encourage further investment in education. Education financing is the main lever of state influence on the processes of transformations in educational institutions and the main tool of achieving positive results in the education sector (Meskhi *et al.*, 2016; Guskova *et al.*, 2016).

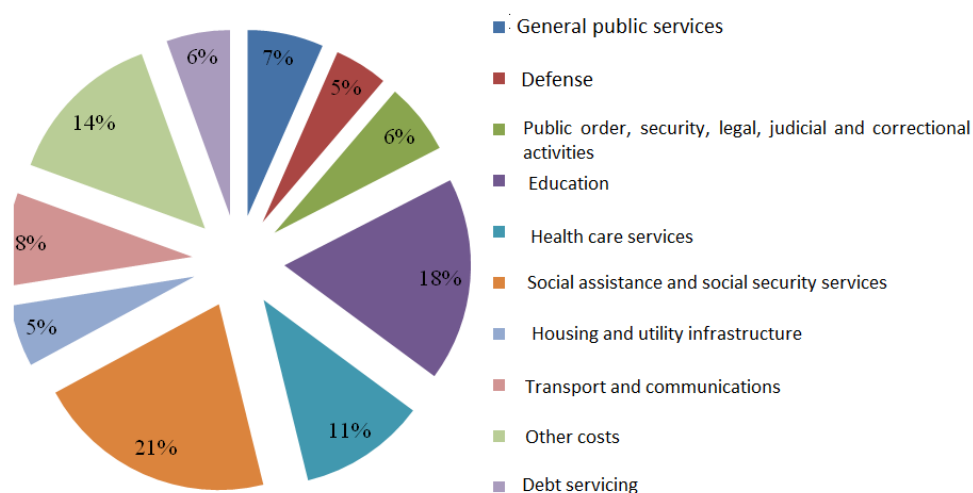
2. The state of financing of the education sector in the Republic of Kazakhstan

The education sector, which becomes an increasingly large branch of the economy year by year both in terms of consumption of resources and in terms of contribution to economic and social progress, needs constant improvement. So, despite the achievements in reforming the education sector, a number of problems facing the national education sector are still unresolved since gaining independence. The Government of the Republic of Kazakhstan adopted the *"State Program for the Development of Education and Science of the Republic of Kazakhstan for 2016-2019"* in 2016, the main goal of which was to increase the competitiveness of education and science and to develop human capital for sustainable economic growth. Graduates of foreign HEIs are in demand both in government authorities and in major companies. Most civil servants of the so-called "new generation" are graduates of the "Bolashak" program. Popular opinion is that only foreign education

opens prospects both in the sphere of public service and in major companies. Thus, in Kazakhstan national education is noncompetitive.

However, the weak competitiveness of national education is more a consequence, not a problem. In this case, the low efficiency of financing of the education sector, the consequence of which is the low quality of education, is one of the main problems (Al-Kaisi *et al.*, 2017; Gorina, 2016; Sazhin and Saraikin 2016; Nakhratova *et al.*, 2017). The education sector ranks second in the state budget expenditures. For example, the share of expenditures on education in 2016 amounted to 17.7% of total costs. Over the past 10 years, this indicator remained unchanged – 17.6% (Figure 1).

Figure 1. State budget expenditures in 2016 (The Ministry of Finance of the Republic of Kazakhstan, 2017).



Total state budget expenditures on education in 2016 increased by 22% compared to 2015 (Table 1). It should be noted that this is the highest growth rate for the last 4 years, as in the previous 3 years the volume of financing increased only by 0.5-10%. On average, the growth of budget expenditures amounted to 16% for the last 10 years. However, an increase in expenditures on this area is not an indicator of development.

Table 1. State budget expenditures for the period from 2012 to 2016

	2012	2013	2014	2015	2016	Change in % 2016/2012	Change in % 2016/2015
EXPENDITURES	6,268,972	6,852,711	7,791,867	8,227,097	9,433,745	50%	15%

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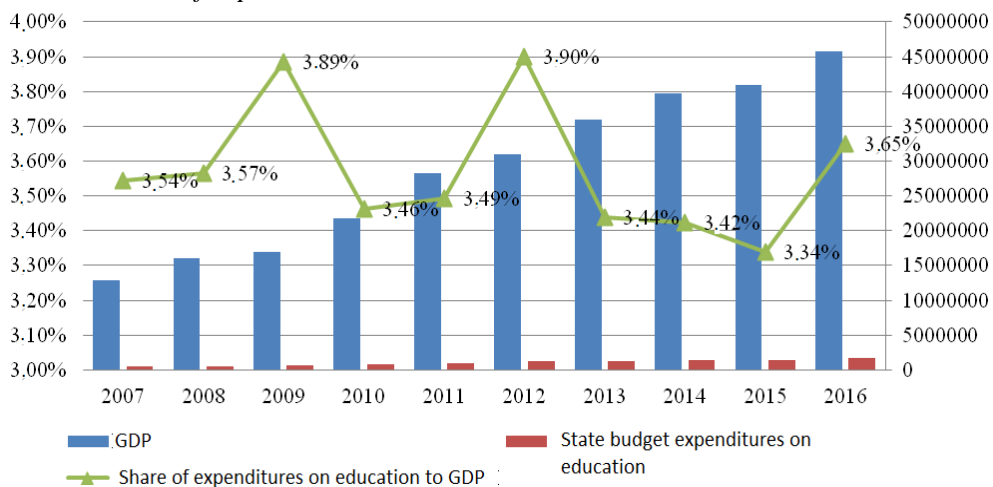
1. General public services	326,129	382,136	483,663	697,302	622,484	91%	-11%
2. Defense	341,104	396,512	431,664	453,682	438,499	29%	-3%
3. Public order, security, legal, judicial and correctional activities	558,218	608,346	601,048	557,439	584,170	5%	5%
4. Education	1,210,115	1,237,421	1,358,669	1,364,737	1,669,398	38%	22%
5. Health care services	730,820	795,092	856,222	863,899	1,039,576	42%	20%
6. Social assistance and social security services	1,239,018	1,359,664	1,549,817	1,713,451	1,977,315	60%	15%
7. Housing and utility infrastructure	438,586	472,369	554,696	443,022	507,185	16%	14%
8. Culture, sport, tourism and information space	223,065	258,431	297,795	293,775	326,653	46%	11%
9. Fuel and energy complex and subsoil use	126,613	119,606	128,656	111,533	100,423	-21%	-10%
10. Agriculture, water industry, forestry, fisheries, specially protected natural areas, environmental and wildlife protection, land relations	292,573	258,839	349,079	376,038	414,528	42%	10%
11. Industry, architectural, town-planning and construction activities	26,492	32,188	42,538	61,775	46,324	75%	-25%
12. Transport and communications	482,060	511,366	614,202	681,697	761,990	58%	12%
13. Other costs	143,659	242,682	292,204	310,015	410,181	186%	32%
14. Debt	130,520	178,057	232,793	297,327	523,214	301%	76%

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15. Transfers	-	-	-	1,407	11,804	-	739%
<i>Note: The table is compiled by the authors by using the source (The Ministry of Finance of the Republic of Kazakhstan, 2017).</i>							

The Law of the Republic of Kazakhstan "On Education" considers efficiency and effectiveness as one of the most important principles of the education financing system. Therefore, ensuring efficiency and effectiveness of financing of the education sector is a priority task today. It should be noted that with the current level of financing and distribution of public funds, Kazakhstan will not be able to provide a sufficient number of citizens with quality education and to conduct the necessary amount of scientific research to achieve the required level of innovation. Insufficient financing is the main reason for the weak competitiveness of national education.

Thus, the share of public expenditures on education in GDP in 2016 was 3.65%. Over the past 10 years, this indicator averaged 3.56%. At the same time, the largest share of expenditures on education in GDP was 3.9% in 2012 (Figure 2). Thus, we can consider the static nature of this indicator, which does not allow speaking about an increase. It should also be noted that Kazakhstan will not reach the level of education financing recommended by UNESCO, 5-6% of GDP, to ensure its sustainable development.

Figure 2. The volume of GDP, state budget expenditures on education in million KZT, the share of expenditures on education to GDP in %.



According to data for 2014, the share of state expenditures on education averaged 5.5% of GDP across OECD countries. Iceland (7.7%) and Denmark (7.2%) invest in education more than the other countries. In Kazakhstan, the level of state expenditures on education is still lower than in advanced countries of the world (National Report on the State and Development of the Educational System of the

Republic of Kazakhstan for 2015, 2016; Law of the Republic of Kazakhstan No. 319-III "On Education" (with amendments and additions as of July 11, 2017, 2007).

International research confirms the effectiveness of financial investments in education in terms of their importance for every person and society as a whole. At the same time, the highest return on financial investments in preschool education (PE) is observed. The contribution to preschool education of a person predetermines his/her success in the life cycle. According to studies, up to \$8 or more return to society from \$1 invested in PE (Schweinhart, 2005). In 2015, expenditures on PE amounted to 0.58% of GDP. This indicator practically corresponds to the average across the OECD, but lags behind the developed countries, for example, Denmark with a rate of 1.6%.

It should be noted that over the past six years Kazakhstan's total expenditures on PE increased by 7.5 times. The increase in expenditures is due to the desire of the state to ensure that all the children receive preschool education regardless of the place of residence and family income. This was facilitated by the successfully implemented Program for the Provision of Children with Preschool Education "Balapan" for 2010-2020, later integrated into the State Program for the Development of Education of the Republic of Kazakhstan for 2011-2020 (SPDE).

The UNESCO Report "*Education for All 2000-2015: Achievements and Challenges*" (UNESCO, 2015), published in 2015, noted that the number of countries with a high preschool education coverage coefficient (PECC) (80% and above) more than doubled (from 32 to 70 countries). Kazakhstan is in the second group (low level: 30-69.37%). In the near future, it is necessary to continue work on joining the third group of the PECC (70-79%), and then – to the fourth group (> 80%). To solve the problem, the mechanism of public-private partnership in the sphere of preschool education is actively being introduced in Kazakhstan. According to the data of the Kazakhstan Public-Private Partnership Center, in 2016-2017 contracts for the construction of 15 new and reconstruction of 4 kindergartens in 7 cities of Kazakhstan were concluded (The Official Website of the Kazakhstan Public-Private Partnership Center). Thus, the Government is trying to solve this problem by attracting private investments.

The largest share of public expenditure on education in the Republic of Kazakhstan is on secondary education, 2.2% of GDP. However, despite an increase in the indicator compared to 2011 (1.9%), it is also less than the average level across the OECD by 1.5 times.

Financing of secondary education and its distribution within the industry are key factors that determine the effectiveness of all aspects of school activities. A differentiated approach to the financing of schools is needed. This involves taking into account such features as the remoteness of rural schools from district centers and the availability of qualified personnel.

3. Problems of financing of the education sector of the Republic of Kazakhstan

In an attempt to solve the problem of secondary education financing the first attempt was made in 1999 to introduce per capita financing of schools. In 2011-2013 the project on the development and the pilot introduction of normative per capita financing in secondary education of the Republic of Kazakhstan was implemented. The Ministry of Education and Science of the Republic of Kazakhstan approved the Methodology of Normative Per Capita Financing of Secondary Education Institutions. Since 2012 a new financing system was implemented in five pilot regions of the Republic of Kazakhstan: the Akmola, East Kazakhstan, Mangistau, Pavlodar and South Kazakhstan regions.

However, research results show that the current methodology does not fully reflect the principles of per capita financing, because of certain reasons according to international experts:

- the methodology is aimed at meeting the teachers' needs in wages and does not focus on the needs of schoolchildren;
- exclusion from the per capita financing of ungraded schools and other types of schools strengthens the inefficiency and injustice of the secondary education financing system, which is reflected in the existence of several financing mechanisms, increases management costs;
- a large number of coefficients complicates the formula of per capita financing and makes it specific for each school and the application of the formula becomes a complex, expensive and non-transparent process.

The revision of the per capita financing formula will allow identifying the problematic issues of the pilot project and minimizing their impact during the implementation period. This will contribute to improve the equality of access to quality education through equitable financing of schools, including the ungraded methos (Soros Foundation-Kazakhstan and Sange Research Center, 2013).

The indicator of public expenditures on tertiary education (technical and vocational education, bachelor's, master's, doctoral programmes) is 0.7% of GDP and below the average level of OECD countries by 0.5% (National Report on the State and Development of the Educational System of the Republic of Kazakhstan for 2015, 2016). Research shows that the main problem is that the share of state financing of higher education is allocated through the system of educational grants, which currently has a number of shortcomings:

- 1) the different cost of grants in the context of HEIs and programmes of study, which limits the academic mobility of grant holders. This does not promote the growth of fair competition among HEIs. Besides, this factor causes the difference in the level of wages in different HEIs;

- 2) the current system does not provide enough support to disadvantaged population;
- 3) in the field of postgraduate education, especially for Ph.D. programme, the system of grants does not allow one to choose an educational institution independently, as grants are allocated to particular universities and the effectiveness of financing is not taken into account in the allocation of grants.

It is required to expand the channels for higher education financing, not only through the system of educational grants, but also through investment projects. For example, in developed countries such indicators as employment, research practice, communication with employers, etc. are taken into account in the process of financing of HEIs. Much of financing for research is through direct subsidies, without using criteria based on indicators of their effectiveness (OECD and the International Bank for Reconstruction and Development/World Bank, 2007).

Thus, the above conclusions actualize the need for a long-term increase in the volume of investments in education and its maintenance at the level of OECD standards (5-6% of GDP) (OECD and World Bank, 2015) and/or at least 15-20% of total public expenditures. At the same time, ensuring high efficiency from investments in the education system as an indicator of improving the quality of education is mandatory.

4. Indicators of low competitiveness of education in Kazakhstan and the ways of solving the problems of the education sector of the Republic of Kazakhstan

The weak competitiveness of national education is explained by the following indicators:

1. Low level of academic achievements based on the results of external evaluations. This is evidenced by test results of Kazakhstani students in the framework of the Programme for International Student Assessment developed for 15-year-old students – PISA-2015. Despite significant improvements in performance compared to PISA-2009, 2012, Kazakhstan ranked 42nd among 72 countries (PISA 2015: Results in Focus, n.d.; World Forum on Education 2015).
2. None of the national HEIs is included in the top-200 of QS-WUR rating. Only 2 Kazakhstan HEIs in this rating are in the top-300.
3. Low remuneration in the education sector. The wage of education sector workers is one of the lowest – 70% of the average wage across the republic. This fact does not contribute to raising the status and social relevance of the teaching profession. Besides, the low remuneration of the academic staff stimulates corruption and constant employers' complaints about ill-preparedness of graduates for working in their speciality.
4. In educational institutions, the aging process of teaching staff has a persistent tendency: one in five teachers is aged 50 years or over. About 60% of full-time teachers of HEIs are aged 40 years or over. Of these, teachers of retirement age

amount to 28% (women over 58 years old, men over 63 years old). The annual replenishment of young staff in schools is only 2.6%, which is one of the factors of reduction of the innovative potential of the education system (National Report on the State and Development of the Educational System of the Republic of Kazakhstan for 2015, (2016).

5. There is a disparity in access to quality educational services for various reasons: economic (rich/poor families), territorial (city/village), ethnic (schools with different languages of study), health condition (only 27% of children with developmental disabilities have access to educational services) and other reasons.
6. The infrastructure of the education sector is not developed. According to statistics, only 30.7% of schools are located in adapted buildings, 3,825 pupils (12.2%) cannot study at the place of residence because of the lack of schools in the locality.
7. Insufficient material and technical resources, especially in higher education. The main source of state funding for HEIs is an educational grant, of which up to 70% of expenditure is directed to current costs associated with ensuring the educational process. Accordingly, the costs of HEIs related to the development and strengthening of the material and technical resource base are underfunded. The state order amounts to 94% of public expenditure on higher education; 6% – other costs, including maintenance of the material and technical resource base. Financing from extrabudgetary funds for these purposes is insignificant.
8. The Kazakhstan approach to financing of the institutional development and applied scientific research in priority areas differs significantly from the approach to financing of education. As for teaching and learning (with the exception of Nazarbayev University), Kazakhstan does not invest sufficiently in developing scientific potential, creating and maintaining educational institutions that would meet the needs of the population.

All the mentioned problems are not new and attempts to resolve them have been undertaken for many years. Currently, in order to solve the existing problems in the sphere of education financing, the following has been adopted:

- ✓ "State Program for the Development of Education and Science of the Republic of Kazakhstan for 2016-2019";
- ✓ "Strategic Plan of the Ministry of Education and Science of the Republic of Kazakhstan for 2017-2021".

in the sphere of ensuring the effectiveness of public financing:

- ✓ "Strategic Plan of the Ministry of Finance of the Republic of Kazakhstan for 2014-2018".

These programs clearly describe the measures and target indicators for addressing existing problems.

The message of the President of the Republic of Kazakhstan N. Nazarbayev to the people of Kazakhstan dated January 31, 2017 *"The Third Modernization of Kazakhstan: Global Competitiveness"* refers to the need for a radical increase in the efficiency of budget expenditures.

In 2017, state development programs, including the programs in the education sector, will be fully provided with the necessary resources. The message notes the need to verify the effectiveness of the use of funds by ministries and departments, especially in the sphere of social protection of the population, health care services, education and science, which account for more than 40% of the republican budget.

In addition, according to the message, the fourth priority is to improve the quality of human capital, the main way to achieve it is to change the role of the education system. For example, the project "Free Vocational and Technical Education for All" was launched in 2017. Accordingly, the budget funds will be allocated in this direction (Message of the President of the Republic of Kazakhstan N. Nazarbayev to the people of Kazakhstan "Third Modernization of Kazakhstan: Global Competitiveness", 2017).

Thus, the current vector of state development is directly related to ensuring the effectiveness of financing of the education sector as one of the highest priority sectors.

5. Conclusion

In modern conditions, when Kazakhstan, like most countries of the world, has recognized the formation of a new postindustrial type of society as a priority, which is characterized by the creation of a new model of the economy, knowledge-driven economy, education becomes one of the key factors of economic growth and sustainable development of the state. A significant increase in the volume of education financing is required to meet the challenges facing the education sector. This will ensure the dynamic development of the educational sector, stimulate the processes of commercialization of knowledge, strengthen the market positions of state HEIs, and increase their competitiveness since education will fulfill its mission of developing the country's human potential with reliable and stable sources of financing.

At the same time, it should be noted that the process of allocation of budgetary funds spent on education requires improvement. It is necessary to develop a scientifically based methodology for calculating the efficiency and effectiveness of programs for the development and modernization of education and the allocation of budget funds for these purposes. It would be useful to introduce an independent expertise to verify the actual quality of education and the actual level of training of people who have completed a certain stage of training. We consider it expedient to reorient the allocation of budget resources from higher education to secondary education. For

this purpose, higher education should be more focused on the labor market and the needs of the country's socio-economic development. As a consequence, contracts with final consumers of educational services will partially replace the state order. This will allow directing the released funds to the financing of priority programs for the development of general secondary education: the acquisition of modern equipment, the computerization of rural schools and their provision with access to the Internet, improvement of the quality of foreign languages, financing of research and innovative experimental teaching methods.

Further scientific research should be directed to the development of financing models and other organizational-economic mechanisms aimed at ensuring accessibility and quality of education, as well as at increasing the effectiveness of budget expenditures on education.

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