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ASSESSMENT OF THE EFFECTIVENESS OF INVESTMENTS IN HUMAN CAPITAL AT THE MACRO LEVEL

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Abstract: This article is devoted to the study of the problem of evaluating the effectiveness of financing the education sector as an important industry that contributes to creating conditions for accelerated economic growth. In the context of the formation and development of an innovative economy, investments in education are of a priority nature and provide important. A competitive advantage from a strategic point of view is the accumulation and development of the intellectual potential of the country. At the same time, an increase in investment in education does not mean an increase in the effect and cannot guarantee an increase in the quality of educational services. Therefore, one of the urgent issues when making investments in the industry is to assess their effectiveness. The formation of a methodology for evaluating the effectiveness of in-vestments in education at the macro level is based on a comparison of changes in national investments in education and changes in the human development index. The proposed method is tested using a specific example.

Keywords: human capital, investments, efficiency assessment, education, human capital index.

Introduction. One of the most fundamental factors determining economic growth, which largely determines income differences between countries, is often called human capital - the stock of knowledge, skills, and experience available to each species. In this sense, human capital can be considered as the same means of production as physical capital - additional investments in human capital (in the form of education or training) bring benefits and profits. At the same time, human capital differs significantly from other types of capital in its economic characteristics. Human capital is the main factor of economic growth at both the macro and micro levels. Hu - man capital has a tangible impact on the development of firms and on improving competitiveness and sustainability. The competitive advantage of the economy in the international arena, and the possibility of its development and modernization in modern conditions directly depends on the ac-cumulated and involved human capital in the country.

At the macroeconomic level, investments in human capital represent investments in the social sphere aimed at increasing labor productivity in the future and contributing to future income growth
for individual capital holders and society as a whole. Therefore, when analyzing the effectiveness of
such investments, it is customary to use indicators of the socio-economic development of a country or region. Investments of this type are heterogeneous in composition and are specified by types of costs. For example, investments in health capital, educational capital, and cultural capital are most often mentioned in the literature.

Currently, the education sector in Kazakhstan is at the stage of modernization, the main purpose
of which is to create a mechanism for sustainable development and ensure high-quality training of specialists by international standards. In this context, in industrialized countries, the policy of not only the state but also private business is the principle of priority investment in education. In our country, this principle is declared in the Law of the Republic of Kazakhstan "On Education" (with amendments and additions as of 05/01/2023). For the education system, the main source of financial
resources is the budget at all levels.

However, the lack of budget financing and the low level of attracting non-budgetary sources of investment, combined with market elements of management, significantly complicate the formation of economic conditions for the effective development of the education sector. All this does not al-low us to fully ensure the required quality of training of specialists, and mechanisms for attractingadditional investments continue to be at the stage of formation.

Therefore, one of the most pressing issues in the practice of managing investment processes in the field of education today is the effective and rational use of budget funds not only in the formation of national strategic plans but also in the implementation of the budget process by participants.

Methodology and methods. The methodological basis of this study is the provisions of modern economic theory and the theory of human capital, which are applied through systematic theoretical analysis. This study uses the works of classics of economics and philosophy, monographs, scientific and technical works, and articles by domestic and foreign scientists on the analysis and evaluation of the effectiveness of investments in human capital.

Scientific methods such as analysis and synthesis, deductive induction, etc. are used in the study of domestic and foreign works. The information base of the study is normative acts regulating in - vestment activities, including in the field of education, as well as information materials from the Ministry of Education and Science, the Statistical Committee of the Republic of Kazakhstan.

Literature Review. Currently, there is a noticeable increase in interest in human capital in the economy. Several recent studies have highlighted the positive impact of human capital on long-

term economic growth. For example, in [1, 2, 3, 4] it is emphasized that human capital plays a crucial role in the economic development of different countries. At the same time, the study [5] argues that cross-country differences in human capital cannot explain differences in per capita income between countries.

Evaluation of the effectiveness of educational investments is reflected through a system of various criteria and coefficients, according to the goals and objectives facing the researcher.

In international studies conducted within the framework of management accounting, the following cost indicators are usually considered: education costs per student (or as a percentage of GDP),
the number of students per teacher, the level of remuneration, the size of the educational area, and others. Indicators of the quality of education are the general education coverage of the population, the literacy rate as a percentage of the total population, the number of students enrolled in general education schools, and the results of an independent assessment of students' knowledge [6].

From a substantive point of view, a large proportion of studies devoted to the effectiveness of education spending mainly concern the analysis of financial and economic indicators and, to a lesser extent, other qualitative and quantitative characteristics of the education system. From a methodological point of view, most of the studies on the effectiveness of public spending on education conducted in recent decades can be divided into two large categories: studies based on 1) para-
metric and 2) nonparametric approaches [7].

The concept of reforming the budget process increases the efficiency of using budget allocations. The task of the supervisory authorities is to assess the effectiveness of the use of budgetary
funds and identify their misuse. Currently, such assessments are not always carried out. The reason for this is the lack of a clear methodology for conducting this effectiveness assessment. The variety of criteria and methods for evaluating the activities of budgetary organizations also makes the issue of the effectiveness of the use of budgetary funds very controversial and debatable.

Each country has its way of managing budget funds, which to a certain extent determines the effectiveness of their use. At the same time, two fundamentally different approaches can be distinguished: effective and costly.

As part of an effective approach to budget management, results are managed and monitored when determining expenditure limits (expenditure of financial resources per unit of expenditure). Budget recipients perform the specified quantitative and qualitative tasks within the limits of the appropriations allocated to them.

They can use part of the money saved by optimizing their activities for their own needs. This mechanism makes it possible to balance the conflicting interests of managers and recipients of bud
-
get funds. The presence of planned and factual indicators in an effective budget management model

ensures the independence of budget recipients in decision-making and allows you to evaluate the results of the work performed.

The essence of cost models lies in the lack of independence of budget holders in determining the expenditure of appropriations allocated to them. The lack of legally fixed performance results makes it difficult to assess the effectiveness of the use of budgetary funds. However, despite this drawback, the cost model is stable, familiar, and convenient not only for managers but also for recipients of budget funds, without requiring a "credit of trust" from budget recipients, since it provides them with a very limited amount of authority.

Considering the activities of educational institutions, it is impossible not to note some of the features inherent in their results. In particular, the peculiarity of educational services is that they are
not external objects of recipients, but the improvement of the recipients themselves, contributing to
the growth of their intellectual capital. Cognitive factors (changes in the level of knowledge, skills, and abilities of a person) must be taken into account when evaluating the effectiveness of education spending, which is difficult to express in monetary terms. At the same time, some educational services are free for the population (for example, universal compulsory secondary education), while others are paid (higher education). This means that it is impossible to establish a single and unified system of indicators that reflects the effectiveness of the use of funds in the entire field of education.

The analysis of the effectiveness of budget expenditures and the assessment of their impact on the effectiveness of the educational process is one of the most important areas of economic analysis in the field of education. The vast majority of economically developed countries of the world spend significant funds on improving the education system and improving the quality of the educational process.

According to World Bank estimates, as part of the national wealth in 192 countries, physical wealth accounts for an average of 16% of all wealth, natural capital - 20%, and human capital - 64%. For this reason, an increasing number of researchers believe that human capital is the most valuable resource in post-industrial societies, much more important than natural or accumulated wealth. In all countries, human (intellectual) capital now determines the pace of economic development and technological progress [8].

The methods of production and dissemination of knowledge come to the fore, as well as the person himself, and his intellectual capabilities. However, in most cases, this raises the question of
evaluating the effectiveness of the use of funds, since an increase in spending on education does not
mean an increase in the efficiency of using these funds.

From the point of view of evaluating the effectiveness of budget expenditures in the field of education, an important feature is the high standardization of educational programs to assimilate the

same amount of knowledge throughout the country. This feature provides a basis for a comparative analysis of the results of the educational process not only between educational institutions in different regions but also between educational institutions.

The reasons for the decrease in the effectiveness of the education sector may be related to the low level of expenditures directed to the development of the general education system. In our opinion, one of the most important tasks is the deep and comprehensive modernization of education, for which the necessary resources are allocated and mechanisms for their effective use are established, i.e. the study of the problem is of particular importance [9].

The economic effect is defined as the return on invested capital, which can be measured using various tools, including the profitability of investments, the ratio of debt to equity (debt-to-equity ratio), share price-to-income ratio or other quantitative metrics In the case of social investment, it makes sense to evaluate the effectiveness of social investments through a set of indicators characteristic of each effect, separating the economic, social and socio-economic consequences of each.

From a methodological point of view, the main research in the field of the effectiveness of government spending on education in recent decades has been divided into two broad categories - these are studies based on parametric and nonparametric methods. Of particular interest are nonparametric methods for evaluating the effectiveness of the use of budgetary funds and the quality of education. Its strength lies in building a "critical production capacity" of the education sector for an individual educational institution, its group, or a region of the country, based on the actual amount of funding and the level of results achieved, regardless of the ratio between them. The introduction of results-based management mechanisms in the social sphere, as well as principles of results-based budgeting, requires a deeper scientific development of theoretical and practical issues of evaluating the effectiveness of social investments in the industry.

Quantitative and qualitative growth in the production of goods and services requires an increase in production capacity and human development, that is, the development of all components of the capital, of which he is the owner. In turn, human development leads to the emergence of new needs.

All components of this capital require additional resources or investments in reproduction. An increase in demand leads to an increase in investment in human capital. On the other hand, the level of investments depends on their effectiveness. The more efficient the use of investments in human capital, the less human capital is required, and vice versa.

Results and discussion. The units of human labor are not always equal to each other, and the realization that investing in a person can increase their productivity is far from new. Like many

other economic concepts, the concept of human capital goes back to A. Smith, who compared education with investments in equipment: "When some kind of doric machine is being built, it is usually expected that there will be a large amount of work that it will work until it wears out, at least to replace the capital spent on it with ordinary profit. A person, having put in a lot of effort and long training, has learned that any occupation that requires extraordinary dexterity and skill can be compared with no less expensive cars. It should be expected that the work he has been trained in, in addition to the usual wages for simple work, reimburses all the expenses he has spent on education, at least with the usual rate of return on capital equal to these expenses... This is the basis for the difference in wages between skilled and ordinary labor" [10]. This short quote formulates the basic idea of the theory of human capital, which was fully developed only 200 years later.

The essence of what is commonly called the theory of human capital is the application of the standard theory of capital to some economic phenomena that have not previously been studied from this point of view. Its basic premise is that people spend various resources on themselves not only to meet current needs but also to generate future income (monetary and non-monetary). Thus, many processes - for example, education, healthcare, job search, access to information, immigration, on-the - job training - can be considered not only as consumption, but also as investments, and the results of these investments as forms of capital (human capital). Then, to analyze such phenomena, you can use the standard tools of capital theory and try to explain the effects observed in reality.

Based on the fact that spending on education, health, nutrition, and immigration are investments in a person, the theory leads to the following important conclusions. First, differences in wages (between people in one country and between countries) can be explained by differences in investments in human capital. As a result of training, a person accumulates knowledge, performs work better and faster, and his productivity increases, which means that his income should also increase. Secondly, the growth of total human capital will lead to an increase in national income. An increase in individual human capital increases the stock of human capital at the national level, and human capital is used in the economy to produce more high-tech goods [11].

The term "investment", applied to the costs of the formation and development of human capital, gives these costs a new connotation so that they begin to be considered as productive rather than consumer, in other words, as investments in individuals that generate income from investing funds. tangible long-term economic and/or non-economic impact. In this regard, investments in human capital are an integral part of the successful development of companies and society as a whole

(Fig.
1).

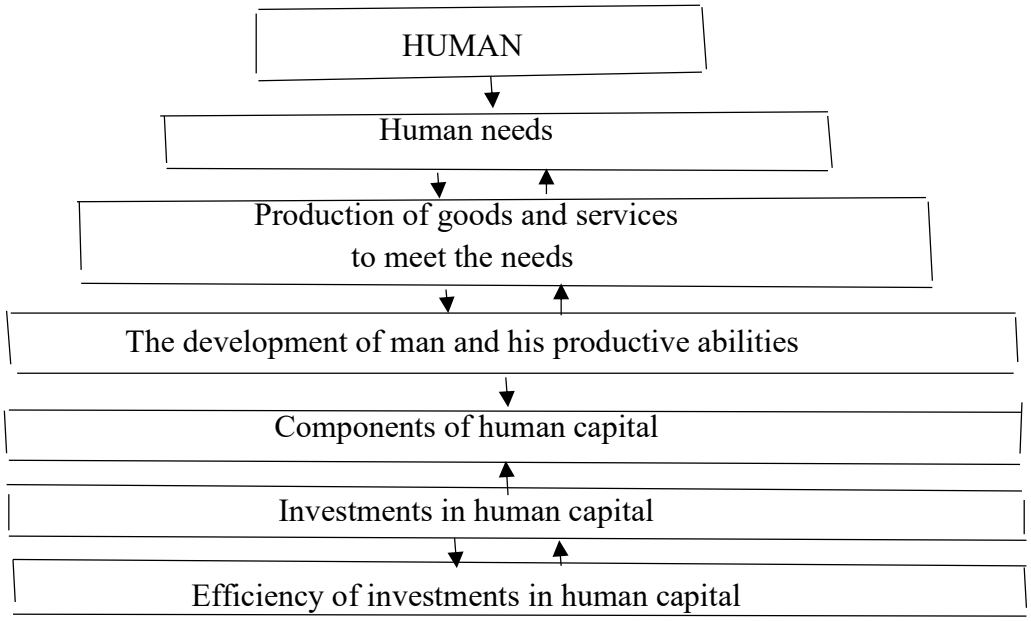


Figure 1. The role of investments in the process
of reproduction of human capital
Note: Developed based on sources [12, 13]

It can be seen that the theory initially considers investments in human capital at the individual level. The decision to get an education is made by each person individually, based on some personal
qualities (a tendency to postpone current consumption), qualities (talents), or personal motives. Thus, by comparing people's standard of living (taking into account their income, consumption, or quality of life), it seems possible to track the return of people on their investments in human capital. Many empirical studies have shown that graduating from high school or college significantly increases individual income, even when adjusted for direct and indirect costs, adjusted for background, and access to education.

The first illustration of this fact is the Mintzer equation, a theoretical model of the dependence of individual income on education and work experience [14, 15]:

$$\log w(s, x) = \lambda + \rho s + \beta_1 x + \beta_2 x, \quad (1)$$

where: w is salary, p is the interest rate, s is the number of years of study, and x is the length of service.

The first part of the equation (1) is related to training and can be obtained as a condition of equality in a model in which the same agents optimally invest in human capital to maximize the current value of their future incomes.

The second part of equation (1) appears if we additionally take into account the work experience associated with investments in human capital after basic education.

In any case, the interest rate p plays a key role in the Mintzer equation, which can be interpreted as the rate of return on investment in human capital. All other things being equal (if p is not very high), an extra year of study is associated with a salary loss and, thus, is an investment that increases future wages, i.e. leads to additional profit. Therefore, the Mintzer equation can be used as an econometric model to assess the return on education at the individual level (return rates).

The view that human capital largely determines the economic development of a country has also attracted the attention of theoretical economists. By creating a variety of mathematical models, the main theoretical mechanism of the influence of human capital on economic growth is determined. Let's briefly focus on the main provisions of the neoclassical theory of economic growth.

Output (Y) in the economy is determined by the aggregate production function, which depends on a set of factors of production (usually physical capital K and labor L) and the cumulative productivity of factor A: Y = F (K, A, L). At the same time, aggregate productivity can be associated with both efficiency (economic organization, institutions, proper allocation of resources, etc.) and technological progress, that is, the level of technical development available to society. In the latter case, productivity is described in terms of R&D, knowledge level, and scientific developments.

For convenience and simplicity of presenting the results, Cobb-Douglas-type production functions are often considered in theoretical models [16]:

$$Y = K^{\lambda}(A, L)^{\beta}, \quad (2)$$

where $0 < \alpha$ and $\beta < 1$. According to the model, variable A can be interpreted as labor efficiency or technological progress that increases labor.

The famous Solow model [17] began to develop modern growth theory in the 1960s, showing that the accumulation of physical capital occurs due to decreasing returns (more capital, slower accumulation, output slower growth), there are no guarantees of sustainable economic growth. Long-term economic growth in the Solow model and similar exogenous growth models is provided under the assumption that technological progress A is growing at a constant and predetermined growth rate (1 + g):

$$A_{t+1} = (1 + g)A_t. \quad (3)$$

In this case, the growth rate of per capita production in the long term coincides with the growth rate of technological progress (1 + g), but this constant growth rate has no explanation other than a simple assumption.

The effectiveness of investments in education is assessed from the point of view of how the results of the functioning of the education system achieve the goals that guide the activities of the system. In this context, they talk about the internal effectiveness of investments in education.

Therefore, two concepts of efficiency are introduced - external efficiency and internal efficiency - to assess the results of education in terms of the implementation of two different goal systems - what society as a whole seeks to achieve by financing education, and what the education system seeks to achieve. the system itself directs the goals of its activities.

The effectiveness of investments in education largely depends on the form (source) of investments [18, 19]:

1. *Government spending.* The state receives a material return on investments in education due to the labor and social realization of its citizens. This is manifested in an increase in the quality, intensity, and productivity of labor, an increase in tax revenues, and an increase in the level of employment due to increased professional mobility of the population. All this makes it possible to characterize public spending on education as a long-term investment. Evaluation of the effectiveness of investments in education is carried out through a system of various criteria and coefficients, depending on the goals and objectives facing investors and researchers.

2. *Budget financing (project financing).* The effectiveness of using budget funds for the implementation of individual programs in the field of education can be assessed based on a comprehensive assessment of the achievement of specific program goals. However, most education projects are funded from the budget (co-financed) but do not contain project performance indicators.

3. *Private investments of citizens.* The level of education of a person is a guarantee of income and social mobility, which minimizes the risk of unemployment. The effectiveness of private investment in education can be assessed by the rate of return on private investment in education. Statistical studies conducted in Kazakhstan and abroad have proven a strong relationship between a person's level of education and lifetime earnings.

4. *Operating funds*. Methods for evaluating the effectiveness of investments in corporate education can also be based on the theory of human capital. In this case, the knowledge and qualifications of employees are considered their income-generating capital, and the time and money spent on acquiring this knowledge and skills is an investment in it.

5. Public-private partnership projects in the field of education. There are many forms of public-private cooperation, and its essence is to provide certain advantages for each participant. At the same time, the desired effect may lie in different areas for each interested party with different criteria that do not depend on the area of financial performance.

Considering the activities of educational institutions, it is impossible not to note some of the features inherent in their results. In particular, the specificity of educational services lies in the fact that for recipients they are not external objects, but the improvement of the recipients themselves, contributing to the growth of their human capital. Cognitive factors (changes in the level of knowledge, skills, and abilities of a person) must be taken into account when assessing the

effectiveness of education costs, which are difficult to express in monetary terms. At the same time, some educational services are free for the population (for example, universal compulsory secondary education), while others are paid (higher education). This means that it is impossible to establish a single and unified system of indicators that reflects the effectiveness of the use of funds in the entire field of education.

The analysis of the effectiveness of budget expenditures and the assessment of their impact on the effectiveness of the educational process is one of the most important areas of economic analysis in the field of education. The vast majority of economically developed countries of the world spend significant funds on improving the education system and improving the quality of the educational process.

Evaluating effectiveness is a difficult task, especially when it comes to public investments aimed at achieving positive socio-economic results that cannot be directly measured in monetary terms. It is necessary to measure changes in social, environmental, sectoral, and other circumstances
after the implementation of certain budget projects, i.e. to focus on non-economic factors. Analytical methods can be used as a tool for evaluating the implementation of public policy objectives [20]:

- Cost-benefit analysis (CBA);
- Cost and performance analysis (CPA);
- Cost-utility analysis (CUA);
- Cost and Weighted Performance Analysis (CWPA).

Cost-benefit analysis assumes that any government initiative is aimed at achieving social benefits at certain costs (or costs), both public (for example, in the form of taxes or targeted budget programs) and private. Public benefits and costs are based on monetary valuation. Since the national initiative has a period, the discounted cash flow method is used, assuming that the value of money today is higher than the value of money tomorrow. If the benefits of the discount outweigh the costs, then this is good for national initiatives. Therefore, it is understood that a national initiative should be cost-effective, i.e. aimed at obtaining the maximum possible benefit at minimum cost. In
addition, all government goals are considered important, therefore, in a comparative analysis, governments should give priority to those initiatives that maximize the overall well-being (benefits) per
unit of money spent in the national budget.

Cost and performance analysis is a set of analytical tools that allow you to determine the re - sources spent on achieving specific goals set by the public sector, and from this point of view, choose the optimal solution. The scope of this analysis includes not only the measurement of productivity itself but also productivity and economics since they directly affect productivity. At the
same time, cost-benefit analysis does not involve comparing disparate outcomes between them. As part of the cost-benefit analysis, costs are estimated in kind or cash, and results are estimated

in
kind or using specially designed indicators that directly reflect industry characteristics and goals.

The cost-utility analysis analysis is a slightly more complex modification of the cost-benefit analysis, based on a comparison of costs measured in monetary terms with the benefits that the population receives from budget expenditures expressed in units of utility (for example, in QALY units) - years
of life, adjusted for quality - the number of years of life extension). The assessment of the expediency of budget expenditures is based on the analysis of the following criterion: C/U = Utility / Cost.

Cost and weighted performance analysis is often used in estimating budget expenditures related
to education and health care. The benefits to society from these costs often cannot be measured in monetary terms. In addition, such expenses lead to different results, so it is necessary to combine them to obtain a decision-making tool. The final formula for calculating the performance criteria is
as follows:

$$wCE = cost / \sum w_i E_i, \quad (4)$$

where: Ei - is the i-th effect, wi - is the weight of the i- th effect.

The analysis made it possible to conclude that, taking into account the available information base, the most adequate method of evaluating the effectiveness of investments in human capital education is the method of cost-benefit analysis. The application of this method is not difficult, since
the effects must be evaluated with expressions that are not typical of them, which is an indispensable condition for analysis within the framework of cost-effective methods. When using the classical CEA method, the cost-benefit indicator is expressed in an incremented form. Therefore, the effectiveness of investments in human capital can be expressed as:

$$E = [\Delta I_t / (1 + i_t)] / \Delta HDI, \quad (5)$$

where: ΔI_t – is the increase in costs (investments), ΔHDI is the increase in productivity, and i is the projected inflation rate for the period t.

The interpretation of this indicator is as follows: the lower the value of indicator E, the lower the costs associated with achieving a certain level of effectiveness and, therefore, the more effective
the intervention in question.

The following case can be considered as an example of such an analysis. Let's analyze the implementation of the State Program for the Development of Education and Science of the Republic
of Kazakhstan for 2020 - 2025. The sources and volume of investments (S) are as follows [21]:

- the republican budget is 9565 billion tenge;
- local budget - 716 billion tenge;

• the World Bank - 13 billion tenge;
• private investments - 1284 billion tenge.
A total of 115.78 billion tenge, including by year, are shown in Table 1.
Table 1 – Dynamics of macroeconomic indicators of the Republic of Kazakhstan

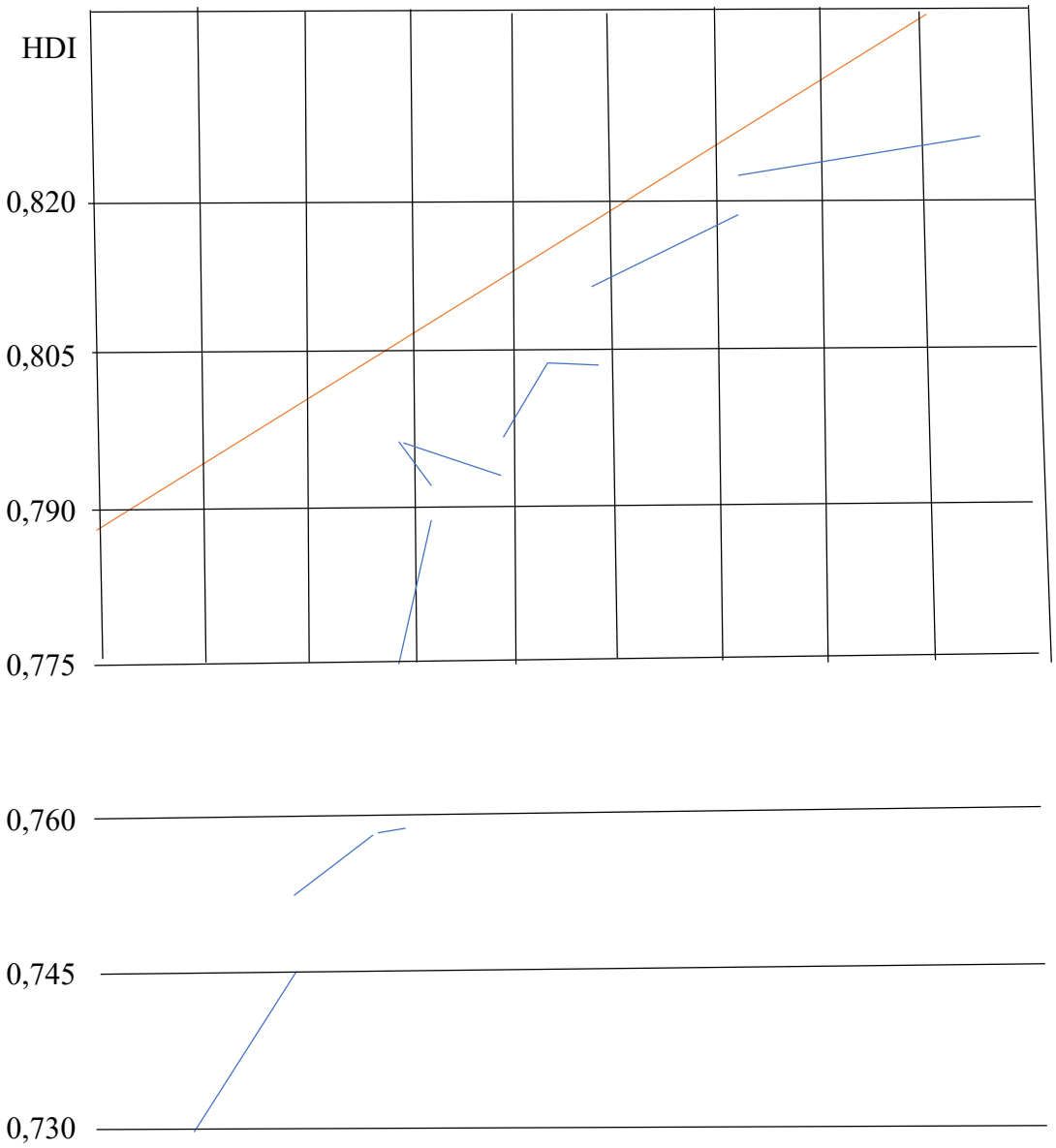
Years	Actual values					Predicted values				
	HDI	ΔHDI	I	ΔI	i, %	HDI	ΔHDI	I	ΔI	i, %
2010	0,714	-0,09	797,4	50,9	7.97	-	-	-	-	-
2011	0,745	0.031	1000,3	202,9	7.43	-	-	-	-	-
2012	0,754	0	1255,6	255,3	6.06	-	-	-	-	-
2013	0,757	0.003	1284,4	28,8	4.90	-	-	-	-	-
2014	0,788	0.031	1471,7	187,3	7.54	-	-	-	-	-
2015	0,794	0.006	1364,8	-10,.9	13.53	-	-	-	-	-
2016	0,788	-0.006	1679,4	314,6	8.29	-	-	-	-	-
2017	0,800	0.012	1843,2	163,8	7.22	-	-	-	-	-
2018	0,800	0	1948,5	105,3	5,43	-	-	-	-	-
2019	0,817	0,017	2332,0	383,5	5,43	-	-	-	-	-
2020	0,825	0,008	2151.5	-180.5	6,37	-	-	-	-	-
2021	-	-	-	-		0,757	-0.068	1336	-815.5	8,50
2022	-	-	-	-		0,781	0,024	1708	372	8,25
2023	-	-	-	-		0,821	0.040	2311	603	8,00
2024	-	-	-	-		0,825	0,004	2383	72	7,70
2025	-	-	-	-		0,845	0,020	2679	296	7,50

The result of investments in education will be the Human Development Index (HDI), an integral indicator calculated annually for cross-country comparisons and measurements of living standards, literacy, education, and life expectancy as key characteristics of human potential in the field
under study. This is a standard tool for general comparison of living standards in different countries and regions. The index was developed in 1990 by a group of economists led by Mahbub ul-Haq from Pakistan; its conceptual framework was created thanks to the work of Amartya Sen. The HDI has been published by the United Nations Development Programme since 1990 in its annual Human
Development Report.

The Human Development Index is compiled by the United Nations Development Programme and is used as part of a special series of Reports on the development of human potential of the United Nations. The HDI is a composite indicator of a country's human development, measuring the
country's achievements in terms of longevity, education, and a decent standard of living for the citizens for whom the index is evaluated.

According to the Human Capital Report of the United Nations Development Program for 2010-
2020, the HDI of human development in Kazakhstan demonstrates positive dynamics of human capital development. It is worth noting that if in 2008 the republic was in the group of countries with an average level of human capital development, then since 2009 It joined the group of countries with a high level of development and has managed to maintain its position so far. The human development index has increased due to increased investment. Our task is to determine in which year investments in education are effective, based on the years of implementation of
the project under consideration. To do this, it is necessary to determine the dependence of HDI on changes in investment volumes (Fig. 2):

$$HDI = 0{,}6697 + 0{,}00006534 \cdot I. \quad (6)$$



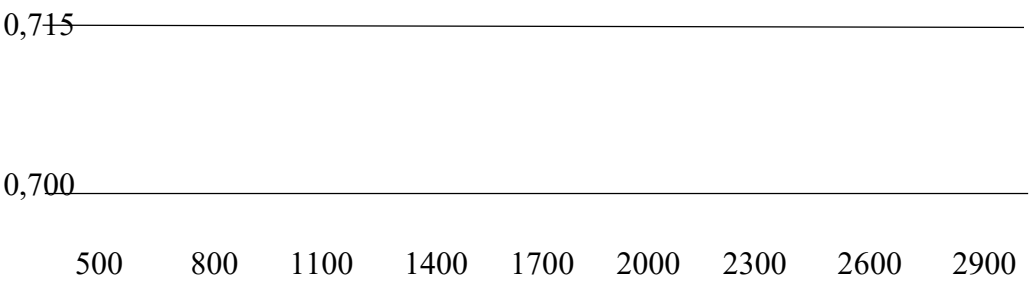


Рисунок 2. Взаимосвязь индекса человеческого развития и инвестиций в образование

According to the traditional incremental analysis of costs and results, the following conclusions
can be drawn:

• the costs that ensured the growth of HDI to 0.781 in 2022 amounted to 1708 billion tenge;

• the costs that ensured the growth of HDI to 0.821 in 2023 amounted to 2311 billion tenge, etc.

The effectiveness of investments in education, according to the State Program for the Development of Education and Science of the Republic of Kazakhstan for 2020 - 2025, is shown in Table 2.

Table 2 - Calculation of the effectiveness of investments in education

Years	E	Years Years	E
2020	0	2023	13958,3
2021	11053,1	2024	16713,1
2022	14318,7	2025	13767,4

Conclusion. The application of the standard theory of capital to several economic phenomena (mainly education and training), which were previously considered as consumption rather than investment, turned out to be a fruitful idea. Consideration of education costs (along with healthcare, nutrition, and immigration) As an investment in human capital, there are important consequences at
both the individual and the aggregate level. From a microeconomical point of view, everyone has an
incentive to accumulate human capital, as this increases their productivity and personal income. At
the macroeconomic level, the accumulation of human capital has a non-decreasing return on scale, which contributes to long-term economic growth, and can also produce positive external effects

that
enhance this effect, which is justified.

The results of many empirical studies confirm that human capital is one of the main factors explaining the differences in the level of well-being in different countries. This raises an important question for theoretical economists, namely, what is the mechanism by which human capital influences economic growth? As mentioned earlier, at this stage of the development of science, there are
many theoretical approaches to the study of these mechanisms. The difference between them is not
determined by the relationship between individual human capital and total human capital (most models assume the presence of a representative agent, so the total level of social human capital coincides with the level of the individual human capital of a representative agent) Instead, how to model the relationship between human capital stock, capital, and technological progress, as well as
the law of accumulation of human capital in the model. Of course, each model has its technical features, which make an additional contribution to the theory of human capital.

Education spending is one of the most important components of any country's investment in human capital. The money spent on educating the younger generation shortly will determine the level of education of the country's population and, accordingly, the country's competitiveness in the world
market.

It should be noted that human capital can only be formed through effective investments, and in
this respect, it is similar to physical capital. Investments are justified if they have a sufficiently high
rate of profit and profitability, the main types of which are special training, the physical condition of
a person, and the emotional behavior of employees. The formation of human capital is influenced by many factors that cannot be ignored when calculating the return on investment. For the education system, the source of funding is budgets of various levels. The concept of budget reform implies a more efficient use of funds. One of the tools to achieve this goal is to empower budget recipients with greater powers, which brings the existing costly model of budget resource management closer to an effective one.

From the point of view of the effective use of budgetary funds in the field of education, in our opinion, the most important is the human development index.

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