

ECONOMIC ASSESSMENT OF THE QUALITY OF HUMAN CAPITAL**¹A.M. Nassyrova*** , **²A.R. Kuznetsova** , **³G. Kenges** ¹Astana International University, Astana, Kazakhstan²Ufa University of Science and Technology, Ufa, Russian Federation³Kazakh Agro-Technical Research University named Saken Seifullin, Astana, Kazakhstan*e-mail: anar_nassyrova@mail.ru

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Abstract. In the context of the dynamic development of the education economy and digital transformation, the importance of human capital as the main resource for sustainable economic growth and competitiveness of countries and organizations is increasing. The quality of human capital, determined by educational opportunities, skills, health, and innovation, is becoming a major factor affecting labor productivity and overall productivity levels. An economic assessment of the quality of human capital makes it possible to quantify its contribution to the development of the economy and identify priority areas for investment in education, healthcare and vocational training.

The purpose of this work is to identify effective methods of research and analysis of approaches to the economic assessment of the quality of human capital. The study examines traditional and modern assessment models, including human development indices, production functions, income models, as well as methods based on indicators of health and standard of living of the population. Special attention is paid to a comprehensive assessment that combines the quantitative and qualitative characteristics of human capital.

The practical significance of economic assessment lies in the possibility of its use for shaping public policy in the field of education and employment, developing professional development programs, as well as making managerial decisions at the company level. The results of the study indicate the need for constant updating of the systematic approach and methodological foundations to the assessment of human capital, taking into account changes in the socio-economic environment.

Thus, the economic assessment of the quality of human capital is an important tool for analyzing and forecasting development at the macro and micro levels, contributing to a more efficient use of human resources.

Keywords: investment, competitiveness, Kaizen system, innovation, Industry 4.0, production infrastructure, social infrastructure, strategic direction.

ЭКОНОМИЧЕСКАЯ ОЦЕНКА КАЧЕСТВА ЧЕЛОВЕЧЕСКОГО КАПИТАЛА

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Аннотация. В условиях динамичного развития экономики образования и цифровой трансформации возрастает значение человеческого капитала как основного ресурса устойчивого экономического роста и конкурентоспособности стран и организаций. Качество человеческого капитала, определяемое возможностями образования, квалификации, здоровья и инновационной деятельности, становится основным фактором, влияющим на производительность труда и общий уровень производительности. Экономическая оценка качества человеческого капитала позволяет количественно измерить его вклад в развитие экономики и определить приоритетные направления инвестиций в образование, здравоохранение и профессиональную подготовку.

Цель данной работы - выделить эффективные методы исследования и анализа подходов к экономической оценке качества человеческого капитала. В исследовании рассматриваются традиционные и современные модели оценки, включая индексы развития человеческого потенциала, производственные функции, модели доходов, а также методы, основанные на показателях здоровья и уровня жизни населения. Особое внимание уделяется комплексной оценке, объединяющей количественные и качественные характеристики человеческого капитала.

Практическая значимость экономической оценки заключается в возможности ее использования для формирования государственной политики в области образования и занятости, разработки программ повышения квалификации кадров, а также принятия управленческих решений на уровне компаний. Результаты исследования свидетельствуют о необходимости постоянного обновления системного подхода и методологических основ к оценке человеческого капитала с учетом изменений в социально-экономической среде.

Таким образом, экономическая оценка качества человеческого капитала является важным инструментом анализа и прогнозирования развития на макро-и микроуровне, способствуя более эффективному использованию человеческих ресурсов.

Ключевые слова: инвестиции, конкурентоспособность, система Кайдзен, инновации, Индустрия 4.0, производственная инфраструктура, социальная инфраструктура, стратегическое направление.

АДАМИ КАПИТАЛ САПАСЫН ЭКОНОМИКАЛЫҚ БАҒАЛАУ

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Аңдатпа. Білім экономикасының қарқынды дамуы мен цифрлық трансформация жағдайында елдер мен ұйымдардың тұрақты экономикалық өсуі мен бәсекеге қабілеттілігінің негізгі ресурсы ретінде адами капиталдың маңызы артып келеді. Білім, біліктілік, денсаулық және инновациялық қызмет қабілеттілігімен анықталатын адами капиталдың сапасы Еңбек өнімділігі мен жалпы өнімділік деңгейіне әсер ететін негізгі факторға айналады. Адами капиталдың сапасын экономикалық бағалау оның экономиканың дамуына қосқан үлесін сандық түрде өлшеуге және білім беру, денсаулық сақтау және кәсіптік даярлыққа инвестициялардың басым бағыттарын анықтауға мүмкіндік береді.

Бұл жұмыстың мақсаты - адами капиталдың сапасын экономикалық бағалаудың тәсілдерін зерттеу және талдаудың тиімді әдістерін бөліп көрсету. Зерттеу адам әлеуетінің даму индекстерін, өндірістік функцияларды, кіріс үлгілерін, сондай-ақ халықтың денсаулығы мен өмір сүру деңгейінің көрсеткіштеріне негізделген әдістерді қоса алғанда, бағалаудың дәстүрлі және заманауи үлгілерін қарастырады. Адами капиталдың сандық және сапалық сипаттамаларын біріктіретін кешенді бағалауға ерекше назар аударылады.

Экономикалық бағалаудың практикалық маңыздылығы оны білім беру және жұмыспен қамту саласындағы мемлекеттік саясатты қалыптастыру, кадрлардың біліктілігін арттыру бағдарламаларын әзірлеу, сондай-ақ компаниялар деңгейінде басқарушылық шешімдер қабылдау үшін пайдалану мүмкіндігі болып табылады. Зерттеу нәтижелері әлеуметтік-экономикалық ортадағы өзгерістерді ескере отырып, адами капиталды бағалауға жүйелі көзқарас пен әдіснамалық негіздерді үнемі жаңартып отыру қажеттілігін көрсетеді.

Осылайша, адами капиталдың сапасын экономикалық бағалау адам ресурстарын тиімдірек пайдалануға ықпал ете отырып, макро және микро деңгейде дамуды талдау мен болжаудың маңызды құралы болып табылады.

Түйін сөздер: Инвестициялар, Бәсекеге қабілеттілік, Кайдзен жүйесі, Инновация, 4.0 индустриясы, Өндірістік инфрақұрылым, Әлеуметтік инфрақұрылым, Стратегиялық бағыт.

Introduction. One of the main economic resources and the main engines of socio-economic development of modern society is human capital. Human capital as a factor of economic growth has a beneficial effect on the productive development of society, labor productivity growth, as well as on the economic growth of the state as a whole or its regions. According to World Bank estimates, human capital accounts for about 60% of the country's economic growth, which makes a great contribution to the sustainable development of the economy.

The main components of human capital development are a high-quality education and healthcare system, which has become an important factor in economic growth, as well as the level of well-being of society, expressed in the growth of incomes of the population. As a rule, the higher

the level of these main components in a country, the more its economy thrives, unemployment and poverty decrease, as well as income inequality, and life expectancy increases. However, according to many criteria, Kazakhstan shows a relatively low degree in the world rankings. Thus, in the ranking of countries in terms of the quality of the education system, Kazakhstan ranked 62nd out of 93 countries in the world; 82nd out of 89 countries in terms of the quality of the healthcare system (CEOWORLD Magazine. Rankings). According to the Human Development Index 2023/2024 (Human Development Index - HDI) Kazakhstan dropped by 11 positions compared to the rating of 2021/2022 and ranks 67th with a value of 0.802 (Human Development Report, 2023-2024).

The economy of Kazakhstan has a high importance of transformation processes in the direction of innovative development, the role of analysis and forecasting of the development of the quality of human capital is increasing, taking into account the peculiarities of the development of the country as a whole or its individual regions. An important tool for this is to evaluate the economic effectiveness of the human capital concept, which allows us to determine the degree of need to apply various approaches and methods to the development of human capital and best practices. The assessment of the quality of human capital is based on basic criteria for the formation of human potential, including the education and healthcare systems, the results of which can be used to attract investments in human capital from private investors, the state or international organizations, as well as the level of well-being of the population.

The main priority of the development of Kazakh society is the concept of personal orientation within the framework of respect for individual rights (Constitution of the Republic of Kazakhstan, 1995), as well as the legal regulation of labor relations based on state strategy and policy. Assessing the economic effectiveness of the concept of human capital for improving well-being, comfort and personal development is an important tool that allows us to determine the degree to which various approaches and methods of human capital development are necessary.

In accordance with this, it is determined that, taking into account the specifics of the regions in the overall structure of the country's economy, it is important to conduct a comprehensive study on the implementation of the administrative policy of socio-economic changes in the development of human potential in Kazakhstan. These studies, in turn, focus on promising trends in the development of the quality of human capital in the country and regionally.

Currently, the problems of formation and development of the concept of human capital are still at the stage of study and methodological support of theoretical and methodological aspects. This problem, in turn, creates the need to improve the scientific approach to human capital, especially emphasizing the importance of moving from general theoretical problems to personal ones.

Literary review. The classics of economic theory K. Marx, A. Smith, G. Becker, T. Schultz, W. Petty, A. Marshall, J. Schumpeter, L. Thurlow, J. S. Mill, L. Davidson and many other theoretical scientists who adhere to the classical trend of modern economics contributed to the development of the theoretical and methodological foundations of human development.

Also, a number of scientists from the CIS countries, in particular N. Rimashevskaya, V. Litchenko, M. Khaykin, V. Martsinkevich, I. Ilyinsky, E. Okunkova, Y. Korchagin and others, worked towards studying various aspects of the concept of human capital.

Kazakh scientists are also conducting research in this direction. Among them are Kazakhstani scientists K. Kazhymurat, E. Sydykov, A. Mukhamedzhanova, A. Seitkhozina, N. Zhangaliev, G. Kusidenova, K. Zhakenova, E. Zharkinbaev, M. Meldakhanova, S. Kalieva and others.

However, despite the fact that the current research has an impact on the development of the theoretical aspects of the scientific foundations of the concept of human capital, they still require solving many problems. Thus, it is possible to note a number of unresolved issues on the management of dynamically developing processes of production diversification on an industrial and innovative basis at the macro, meso and micro levels. At the same time, the main issue is the incomplete improvement of methodological approaches to assessing the economic effectiveness of the concept of human capital at the present time.

The object of the research is human capital.

The subject of the research is the economic processes that occur during the formation of

high-quality human capital with transformation into a factor of economic growth.

The purpose of the research is to develop system solutions aimed at improving the quality of human capital based on a comprehensive assessment of its economic effectiveness and impact on the sustainable development of the national economy.

Discussion and results. In the second half of the twentieth century, the concept of human capital became a significant achievement of Western economic theory, including, first of all, in the field of education and labor (Shetin, 2001 :42-49).

For the first time, as the main production unit of the economic process, man began to be seen as a model of the "economic man" from the point of view of the producer or as a kind of mechanical life force capable of benefiting from production. And from the point of view of the working position, a person, through his abilities, is considered as a subject that affects both his personal development and social wealth and progress.

In the context of the innovative growth of the economies of countries, some researchers currently propose to take into account not only the determinants of the concept of human capital, but also the indicators of all the results obtained from its use. In particular, he prefers to take into account not only financial indicators and labor results, but also intangible assets, which are a very important factor (Lemanova, 2009: 25-28, Ustinova, 2012: 252-257.)

Considering that at the end of the twentieth century, the process of active transition to the post-industrial period of society's development began, we note that the need to increase creative abilities is becoming increasingly important in the development of intellectual activity. Accordingly, there is no doubt that knowledge and intellectual abilities based on the concept of human capital form a greater amount of added value and play a key role in ensuring economic growth (Kappusheva, 2015:4963-4968).

In particular, this is evidenced by the dynamics of the structural relations of total capital, consisting of physical and intangible assets or human capital (Fig. 1). Over the past two hundred years, these relations between the two components in developed countries have gradually changed in favor of human capital.

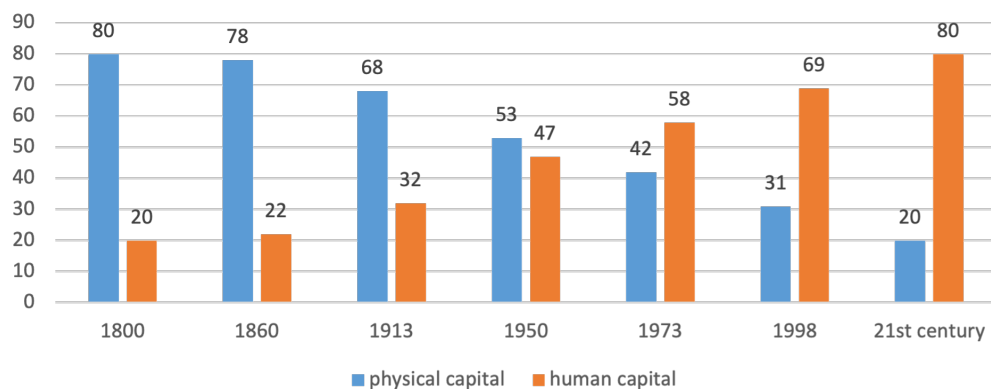


Figure 1. The movement of structural relations in the world economy of the XIX-XXI centuries, % Note - compiled by the authors

Indeed, according to an analysis by the World Bank conducted jointly with the United Nations Development Program, today, on average in the global economy, physical assets account for 16% of the total gross domestic product, natural assets account for 20%, and human capital accounts for 64%. In addition, in many developed countries, the share of human capital reaches 80% (Kappusheva, 2015:4963-4968).

Despite this phenomenon of the concept of human capital, the scientific council is actively discussing research into the essence of the concept of human capital and the factors that form its complex structure.

This trend can be explained by the accelerated growth of the pace and scale of the innovative transformation of the economy. This introduces significant changes in the nature of industrial relations and generates new demands for intangible assets. Accordingly, for enterprises whose market value corresponds to an increase in the value of intangible assets, attracting investments in intangible assets is becoming a new trend.

Due to the fact that the educational factor is considered only one of the components of the concept of human capital, with the support of the World Economic Forum, an estimated indicator called the Human Development Index (HDI) was developed.

Used in world practice since 1990, this indicator is formed from a whole range of factors that somehow affect the productivity of the population. In particular, in addition to indicators of the level of education, the human development index (HDI) includes indicators that assess the life expectancy of the population and the per capita gross national income, based on the assessment of State indicators (Stabinskajte, 2019:35-48).

The most common situation is that countries with a high level of the Human development Index (HDI) have different values of inequality and gender development (Table 1). In addition, the high level of well-being of the inhabitants of these countries is explained by the conditions of educational development, adequacy to the needs of the economy, and this situation is ensured by sufficient duration of education (UNDP, 2024:324).

Table 1. Human Development Index according to the 2023 rating of the top five countries with the highest level

State	HDI (indicator)	Expected life expectancy at birth, years	Human Development Index adjusted to take inequality into account	Gender Development Index
Iceland	0,972	82,8	0,910	0,975
Switzerland	0,970	84,3	0,891	0,971
Norway	0,970	83,4	0,903	0,986
Denmark	0,962	81,9	0,898	0,981
Hong Kong, China	0,956	85,8	0,818	0,978
Kazakhstan	0,837	75,09	0,837	0,182

* Source-based HDI index (UNDP 2025, current data 2023)

Note - compiled on the basis of literature [9, p. 274-288]

The Human Development Index (HDI) of Kazakhstan ranks 60th out of 193 countries. Life expectancy at birth is on average 0.9 times less than in the leading countries. The Gender Development Index is 0.182 and ranks 50th out of 172 countries.

The Global Innovation Index, which summarizes the most comprehensive set of indicators of innovation development, has been calculated since 2007 using the methodology of a consortium of Cornell University (USA), INSEAD Business School (France) and the World Intellectual Property Organization.

The Global Innovation Index classifies countries into 7 generalized groups of indicators, one of which is human capital, which is calculated in three areas:

- education: the total cost of one person's education;
- higher education: the total number of graduates and the number of students completing the three-stage education system;
- research and development work: number of researchers, costs, university ratings.

However, these researchers believe that the human development index is the main strategic tool for assessing the level of human development based on evidence from official sources, rather than various subjective assessments by experts (Evnevich&Yaburova, 2017:166-172).

Despite some conditionalities in the methodological support for calculating the human development index, this indicator today is a more advanced tool for assessing human capital compared

to such an indicator as the human development index, which was previously used at the suggestion of the United Nations development Program.

In addition, based on macro indicators, this index is based on the assessment and comparison of international results, and not for the purposes of domestic analysis. In other words, it is mainly used only to assess the state of creativity in the knowledge and skills of the population at the national, regional and national levels and/or in its large regions using such an indicator as the gross regional product.

However, today, in the context of the innovative development of each country, it is extremely necessary to analyze the concept of human capital not only at the macro level, but also at the meso and micro levels (Lokosov, 2023: 4-14).

According to our point of view, human capital is potential capital at a level equal to material capital in production and other processes of activity in complex socio-economic systems.

These processes have different qualitative and quantitative characteristics at different levels of the socio-economic organization of the country, region, and enterprise, which leads to specific differences in the characteristics of the essence and significance of the human capital structure.

Global experience in assessing the quality of human capital.

For a long time, the concept of human capital was considered only a social phenomenon of social development and was considered only as a cost factor. However, in the second half of the twentieth century, changes began to be made in the view of the concept of human capital. This concept began to be perceived as one of the factors of production, which, along with the classical factors of labor and physical capital, has the characteristics of accumulation and reproduction.

The theory of the concept of human capital requires even more detailed scientifically based research work both from the point of view of revealing its full essence and from the point of view of inclusion in the socio-economic processes of social development.

In this regard, in order to identify problems and solve them in the context of socio-economic development of Kazakhstan, there is a need to form the concept of human capital and, most importantly, to study the world experience in developing the processes of its application in practice.

The results of the analysis of world ratings conducted every two to three years with the support of the World Economic Forum and the participation of the World Bank (Table 2).

Table 2. Ratings of the world's leading countries in the top ten on the Human Development index

Rating number	2019	2020	2021	2022	2023	–
1	Norway	Norway	Norway	Switzerland	Switzerland	
2	Switzerland	Switzerland	Irish	Norway	Norway	
3	Australia	Irish	Switzerland	Hong Kong, China	Iceland	
4	Irish	Germany	Hong Kong, China	Iceland	Hong Kong, China	
5	Germany	Hong Kong, China	Iceland	Sweden	Denmark	
6	Iceland	Australia	Germany	Denmark	Sweden	
7	Hong Kong, China	Iceland	Sweden	Irish	Germany	
8	Sweden	Sweden	Australia	Germany	Irish	
9	Singapore	Denmark	Netherlands	Netherlands	Belgium	
10	Netherlands	Netherlands	Denmark	Finland	Liechtenstein	
11	Kazakhstan (58)	Kazakhstan (50)	Kazakhstan (51)	Kazakhstan (66)	Kazakhstan (67)	

Note – compiled based on the source (UNDP, 2025)

The data in table 2 shows the change in the positions of the leading countries in the top ten of the Human Development Index, calculated based on the rating of 187-189 countries, with the definition

of the dynamics of the human capital concept for 2019-2023. We are witnessing Kazakhstan lagging behind in such indicators as "quality of education" and "adult survival", which arise as a result of global factors of human capital – education, healthcare and social programs of the state. In other words, these indicators are characterized by a downward trend in the rating from 58th place in 2019 to 67th place in 2023.

Despite such dynamics in the development of the world-class concept of human capital, it is important to identify the main world-class trends in promoting the processes of formation and practical application of this concept within the framework of scientific research.

These countries have a significant share of the global concept of human capital. This situation plays a crucial role in the scientific, technical, technological and intellectual development of countries, in gaining a position of competitive advantage, as well as in ensuring a high level of quality of life for the population.

On average, EU investments in education generate additional income from 5% to 15% for each academic year. For example, in Belgium, citizens with a third-level diploma earn 30% more than citizens with only secondary education, while in Hungary this figure reaches even 117%.

Great Britain. In this country, as in any developed country according to the world ranking of the human capital Development Index, education and professional skills are the main prerequisites for admission to high-paying jobs. There is also a strong correlation between education, income, and employment rates.

Over the past 30 years, the human development index has grown by 17.4%, and an increase in government spending on improving human potential is perceived by the world community as a factor contributing to an increase in the competitiveness of the national economy based on the growth of innovation activity in the economy. In this regard, the importance of measures aimed at solving the problems of improving the quality of human capital is increasing in the economic policy of the state. These measures are considered not only from the point of view of social policy, but also within the framework of economic policy as a whole.

The modern experience of Great Britain in the formation of high-quality human resources is determined by the centuries-old traditions of industrial and industrial development, starting with the appearance of the first industries in Europe in the Middle Ages.

Germany. According to the level of development and the size of economic potential, the share in world production, the degree of accession to the international division of labor and other indicators of participation in global economic relations, Germany can be classified as a developed world state. In Germany, the high level of human capital due to education costs is twice as high as military expenditures, and all investments in human development are 15-20 times higher than military expenditures (Shomiev,2020:111-117).

For the future of their children in Germany, parents, whenever possible, try to instill in them good reading skills so that they can attend a high-quality school. Thus, an effectively organized competitive environment and mechanism lead to an improvement in the quality of German human resources.

Along with its high achievements at the current level of socio-economic development, Germany is known as one of the leading countries in the global community of states.

Japan. This is a high level of human capital concept in the country and has been taking place for a long time in many sectors of the economy, and this is due to the fact that the state prioritizes this task among the tasks and directions of scientific and technological progress.

The Japanese firmly adhere to the concept of lifelong employment, the main idea of which is to adapt a person to the workplace by creating the most favorable working conditions. Of course, this concept motivates a person to work with full dedication. Thus, the concept of lifelong employment is aimed at the formation, accumulation, preservation and continuous improvement of human capital. This is based on the following interrelated chain of incentives to improve the quality of the workforce:

- the availability of a guaranteed lifetime job for Japanese workers;
- up to 30% of the salary directly depends on the profit of the enterprise (company), according to which every Japanese employee is interested in the successful development of his company;

- constant updating of equipment and technologies requires new knowledge, respectively, professional development and retraining of employees. At the same time, the training and retraining of employees, subject to their subsequent adaptation to life work, is two to three times cheaper than attracting new personnel;

- Japanese enterprises, companies and organizations rotate staff every 1.5-2 years, while taking into account the development of staff qualifications for professional growth and the realization of managerial career opportunities.

The concept of kaizen, which literally means "change for the better" should be noted here. It is a process of continuous improvement with the aim of continuously improving the quality of human resources in real practice.

The main point of this concept is to use purposefully oriented, income-generating approaches in your work. In addition, the kaizen system uses the process of working to achieve a result as the main element, rather than the result. The main idea of this concept is to use approaches that affect the development of one's own and, consequently, enterprises and societies, and these approaches should be economically sound.

Singapore. The achievements of this country are an expression of the exceptional ability of a dense agglomeration of creative people to innovate and thrive with the support of a competent public sector. In recent years, the government has increased public spending on education from 2.8% to 4.1% of GDP. In order to prepare students to continue their studies at technical universities and colleges, the primary education system was modernized, the National Institute of Technology and the Staff Development Fund were established. Thus, the issues of training highly qualified specialists necessary for the development of innovative technologies have been resolved.

Therefore, investments in Singapore are mainly aimed at training in technical disciplines and training specialists in high-tech specialties. Currently, the Singapore authorities are taking on the task of reimbursing up to 90% of the cost of training citizens in high-tech specialties, and also contribute to attracting highly professional foreign researchers.

An important step in shaping the concept of the so-called "smart city" in the country was the program of state measures for the development of information technology. Within the framework of the program, the state has set several tasks, including with an emphasis on computerization of the government, as well as increasing the availability of technical knowledge for almost all segments of the population. To this end, a number of educational programs have been implemented for various segments of the population, including low-income citizens.

These measures allowed Singapore not only to narrow the gap in the use of IT technologies by rich and low-income families, but also by 2006 to reach a computer literacy rate of 45% in the low-income segment of the population, which at that time was one of the highest global indicators.

Singapore is currently at the top of the ranking of countries in the world in terms of the level of development of the concept of human capital.

USA. It is impossible not to agree with the established opinion of the expert community that the United States has the best specialists in the world in all fields of science, technology, high technology, as well as in the field of economic analysis and management. All the advantages and creative mentality have created a good basis for developing among the first mechanisms and tools of an effectively functioning venture business and creating and developing high technologies on this basis, up to nano-technologies.

The United States has managed to create legislative support and financial conditions for creating a favorable investment climate in order to increase investments by both private businesses and the public in the development of their human capital. At the same time, the State itself retains mechanisms for monitoring the progress of human resource reproduction processes, including education, health insurance, and financing of many socially oriented programs.

In addition, despite the high cost, the demand for education remains as a form of consumption, which is in great demand among many citizens of the country. Another feature of the education payment system in the United States is that parents can consider the fees they pay for their children's education not as expenses, but as an investment contribution that will bring a lot of income in the

future.

Thus, on the one hand, the United States has developed its own culture of education, which most encouraged education. On the other hand, a mechanism has been established for universities to interact with the labor market to monitor its demand for certain professions, which allows us to solve the tasks of evaluating and updating the quality of educational programs, as well as adapting and promoting graduates to a professional career.

Thus, we can say that the USA has created the most favorable conditions for the formation and development of the concept of human capital (Stabinskajte, 2018: 47-58).

The People's Republic of China. In the second half of the last century, the Chinese showed a truly amazing example of the development of education. In particular, he solved the problem of compulsory 9-year education for the population, which makes up 1/5 of the world's population, by spending 2% of the total global costs in this area. At the same time, the proportion of the illiterate population has decreased from even 5%.

From the conclusion of the United Nations Development Program at the end of the first decade of the 21st century: if the human development index in the world averaged 0.624, then in China it was 0.663. For comparison, in 1980 it was only 0.368.

It should be noted that China is the country that sends the largest number of students in the world to study abroad abroad, mainly to the USA, Great Britain, Australia, Canada, Germany, France and Japan. For example, more than 60% of doctors of sciences in China, 75% of rectors and academicians are specialists who have studied abroad (Kovalev&Czepin,2011: 172).

Thus, the concept of human potential in this country is closely related to the concept of "highly qualified personnel", which is called "zhencai" in Chinese. In China, the priority task of the Human Capital Development Strategy for an innovative breakthrough in the economy is to improve the well-being of the population. This, in turn, is due to the desire to create conditions in the main areas in order to strengthen social stability in the country, without which it is quite obvious that full-fledged reforms will fail.

He notes the peculiarity of the labor market in China is that a 10-hour working day and a 6-day working week make it possible to keep wages at a very low level. The reason is the advantages of labor in the market. After all, this situation gives Chinese businesses a competitive advantage -they increase their exports every year due to cheap labor. For example, in the textile industry, a Chinese worker earns 30 times less per hour of work than in the United States. In addition, the low cost of labor makes it possible to attract foreign investment to create enterprises in the country equipped with modern production and management technologies.

However, this condition also has a twofold problem. On the one hand, the market advantage of cheap labor with lower qualifications and wages, on the other hand, the "one family, one child" policy that existed before 2016, and the unstable nature of the formation of the labor force are among the most important issues of human capital development in China. If China wants to prove its share in the global market as a power, it is necessary to resolve these issues promptly in the future (Kasaeva&Mnacakanyan, 2017).

In general, we can say that, despite China's great success in activating the processes of forming the concept of human capital and its successful implementation in the socio-economic life of the country, there is a significant potential for additional human capital growth due to greater managerial attention to the problems of uneven regional development. This is typical for many countries with complex administrative structures, including the Republic of Kazakhstan.

South Korea. South Korea has been relatively successful in its innovation development, learning from the positive and negative experiences of Japan, which has lost its leadership in the field of innovative technologies. Although he carried out large-scale purchases of technological patents, he was unable to establish his own production and, consequently, maintain a high level of technical innovation.

Realizing that with a low level of human capital and insufficient quality, any investments in innovative industries will not bring the desired income, the South Korean authorities have identified a top priority for investments in human capital, mainly in its educational component, and this has

allowed for the creation of excellent knowledge economy models.

The country's leadership clearly understands that it is the development of education with science that creates successful prerequisites for the successful economic development of production and the country as a whole. Therefore, State educational institutions are completely exempt from taxes, and non-state educational institutions are exempt from taxes for measures aimed at ensuring an effective educational process.

In general, the successful development of South Korea is carried out with the active participation of private entrepreneurship, including through public-private partnerships, innovation and high-quality products. It is this factor, rather than low wages, cheap labor and other temporary impact factors, that are the main engines of economic growth.

Conclusion. The concept of human capital development is based on the idea that investments in education, health, skills and knowledge of people are crucial for the prosperity of people, society and the economy as a whole. Human capital is an individual potential that, along with material capital, turns into capital for production and other business processes in complex socio-economic systems.

The concept of human capital formation and development is characterized by a systematic approach in theoretical, methodological and practical aspects. A systematic approach is manifested on a problem-analytical basis in the formation of a state policy for the development of human capital as a managerial experience.

A socially oriented economy should become the basis for the development of high-quality human capital. Such models are demonstrated by all developed countries of the world. In particular, as the experience of Southeast Asian countries, especially Singapore, South Korea, Japan, and Hong Kong, clearly shows, these countries are among the top five out of 174 countries in the world according to the results of the global Human Capital Development Index for 2023.

The creation of high-quality human capital is based on the high role of science, which manifests itself in two important aspects:

- a combination of the mechanism and means of scientific research of the national innovation system. Using the example of world countries with rich experience in the effective application of innovative development, the main problem is the importance of implementing a diversification program as a national innovation system. For decades, the United States has held a leading position in the field of innovation. Science support measures are used in many countries around the world, but they are systemic only in the United States;

- integration with the higher education system in order to meet the needs of the labor market for highly qualified specialists. In this regard, we can give an example of the British practice of integrating science with universities.

Attention should be paid to the development of a system for distributing the degree of solving problems related to the activation of factors in the formation of the concept of human capital within the hierarchy of vertical management.

The final conclusion.

Modern researchers identify three stages in the development of the theory of human capital.

The first stage (the 60s of the last century) is associated with the emergence of the categorical concept of "human capital" and the growing interest in the scientific world in studying a new socio-economic category. In addition, scientists have tried to explain this concept in its narrow sense, based on human knowledge, skills, and abilities. During the analysis at this stage, financial methods were used to develop an assessment of the concept of human capital.

One of the features of the second period (1970-1990), paradoxically, was a decrease in interest in studying the concept of "human capital". This process is associated with the entry of many countries of the world into stages 4 and 5 of technological structures. This, in turn, led to a state of relative equilibrium in the global economy. At the second stage, attempts were made in the structure of human capital to account for investments in maintaining health, vocational training and skills development, ensuring labor and professional mobility of the population, in order to change employment conditions and other areas of human development.

In the third period (since the early 1990s), interest in the concept of human capital became more

and more intense, it began to be considered as the most important source of ensuring the competitive advantage of countries in the context of interpretation in a broad sense.

And today, according to the World Bank, the global average physical asset is 16%, natural – 20%, and human assets account for 64% of total GDP. In addition, in many developed countries, the share of human capital in GDP reaches 80%.

In our opinion, human capital can be understood as human potential, which, along with material capital, turns into capital only when applied to production and other processes of activity in complex socio-economic systems. These processes have different qualitative and quantitative characteristics at the macro, meso, and micro levels of the socio-economic organization of a country, region, or enterprise.

To measure and evaluate the quality of human capital, not only basic indicators are used, such as the level of education, health care, and the well-being of society, but also indicators such as income inequality across the country and regions as a whole, poverty, life expectancy, maternal and infant mortality, and labor productivity. It has been established that the observed regional differentiation in these indicators negatively affects the overall level of human capital development.

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