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HUMAN CAPITAL IN THE MANAGEMENT OF ECONOMIC DEVELOPMENT

Research background: Transition to innovative model of social and economic development means the global competition for the human capital. In this regard the choice of the new, more perfect ways of its measurement based not so much on economic, how many on expanded social indicators which were represented relevant.

Considering a special role of the human capital in innovative development, in the article on the basis of the analysis, the comparisons expertise features of formation and development of the human capital in two Post-Soviet republics, Russia and Kazakhstan are also revealed. The analysis of many problem directions shows that Kazakhstan and Russia, despite national specifics, have much in common.

In recent years there have been vigorous discussions about the limited neoclassical interpretation of the human contribution to economic development. Various concepts of the formation of human capital arose as a result of those discussions. There is a growing diversity of approaches both to the content of this concept and to the methods of measurement and assessment of the stock of human capital, its returns, efficiency of use and contribution to the economic growth.

Purpose of the article: The authors of the research aimed at the following goal: to disclose the features of the formation and development of human capital in Russia and Kazakhstan on the basis of an analysis of various indicators, and thus to confirm the importance of an adequate evaluation of human capital in managing the economic development.

Methodology/methods: Taking into account the special role of human capital in innovative development, the article discloses factors reflecting the inadequate reproduction of human capital in Russia and Kazakhstan on the basis on analysis and comparison of the data and expert assessments. Research methods also contained synthesis (comparison of indicators of human capital development of the two countries on the basis of corresponding indices); logical method (conclusions on further development of human capital); graphic (using tables to illustrate the explanation of the material).

Findings & Value added: Analysis of many problem areas disclosed that Kazakhstan and Russia, despite their national particularities have much in common. It has been established that a limited reproduction of human capital is being observed in both republics. In addition, the analysis of the share of capital in the structure of national wealth, as well as a number of indices and other evaluation techniques show the persisting tendency in Russia and Kazakhstan to reduce human capital not only in the short term, but also in the long term.

The value of the conducted research. Formation of the human capital precedes economic growth and forms a basis of economic wellbeing for any country therefore the analysis of formation of the human capital in both countries has helped to reveal some problems of formation of the human capital, both in Russia, and in Kazakhstan.

The developed countries have more financial opportunities for investments into the human capital. In less developed countries labour market is presented by cheap labour force. To increase the cost of labour it is necessary to increase investments into the human capital. Decreasing in the level of the human capital speaks about negative consequences for economy of any country, respectively this research will help with formation of state policy in education, health care, state policy of management in regions of the country.

Practical application. The practical importance consists that scientific results of this article can be used for teaching economy of education, the economic theory and other economic disciplines. And also

it can be used for public authorities in carrying out economic policy in the field of education, employment, public administration.

Key words: Human capital, national wealth, human development, the index of happiness, the index of social progress, Russia, Kazakhstan.

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Зерттеу тақырыбы туралы кіріспе сөз: Әлеуметтік-экономикалық дамудың инновациялық моделіне көшу адам капиталы үшін жаһандық бәсекелестігін білдіреді. Осыған байланысты, тек қана экономикалық емес, әлеуметтік кеңейтілген көрсеткіштерге негізделген оны өлшеудің жетілдірілген жаңа жолдарын таңдау өзекті болып табылады.

Инновациялық дамудағы адам капиталының ерекше рөлін ескере отырып, мақалада екі посткеңестік республикадағы, Ресей мен Қазақстандағы адам капиталының дамуы және қалыптасу ерекшеліктерін талдау, мәліметтер мен сараптамалық бағалар негізінде ашылатын болады. Мәселелі бағыттарға жасалған көптеген талдаулар ұлттық ерекшелігіне қарамастан Қазақстан мен Ресейдің көп ұқсастығын көрсетеді.

Соңғы жылдары экономикалық дамудағы адам үлесінің интерпретациясының неоклассикалық шектеуі туралы белсенді пікір-таластар болды. Адам капиталының қалыптасуы туралы әртүрлі түсініктер осы пікір-таластар нәтижесінде пайда болды. Осы түсініктердің мазмұнына және адам капиталының қорын өлшеу мен бағалау әдісіне, оның пайдасына, пайдалану тиімділігіне және экономикалық даму үлесіне деген өсіп келе жатқан әртүрлі әдістер бар.

Мақаланың мақсаты: зерттеу авторлары әртүрлі индикаторларды талдау негізінде Қазақстан мен Ресейдегі адам капиталының дамуы мен қалыптасу ерекшеліктерін ашу мақсатын және сол арқылы экономикалық дамуды басқарудағы адам капиталын дұрыс бағалаудың маңыздылығын растауды көздеген.

Әдістеме/әдістер: Инновациялық дамудағы адам капиталының ерекше рөлін назарға ала отырып, мақалада, талдаулар мен мәліметтерді салыстыру және сараптамалық бағалау негізінде Қазақстан мен Ресейдегі адам капиталының сәйкес еместігін көрсететін факторлар ашылады. Сонымен қатар зерттеуде синтез (сәйкес индекстер негізінде осы екі мемлекеттің адам капиталының даму индикаторларын салыстыру); логикалық әдіс (адам капиталының әрі қарай дамуына қорытынды); графикалық (материалдарды суретті түсіндірмелеу үшін кестелер пайдалану) әдістері қолданылады.

Негізгі нәтижелер және талдау; зерттеу жұмысының қорытындысы:

Зерттеудің көптеген мәселелі салаларына талдау жасауы Қазақстан мен Ресейдің ұлттық ерекшеліктеріне қарамастан көптеген ортақтықтары бар екендігін ашты. Бұл екі елде де шектеулі адам капиталын өндіру құбылысының байқалуымен байланысты. Сонымен қатар, ұлттық байлық құрылымындағы капиталдың үлесіне талдау, сондай-ақ, көптеген индекстер талдауы және басқа адам капиталын бағалау әдістері Ресей мен Қазақстанда жақын аралықта ғана емес, ұзақ мерзімді болашақта да адам капиталының қалыптасуының төмендеуі тенденциясының сақталғандығын көрсетті.

Өткізілген зерттеудің құндылығы: Адам капиталының қалыптасуы экономикалық дамуға және кез келген ел үшін экономикалық тұрақтылықтың негізі болатыны анық, сондықтан, екі елдегі адам капиталының қалыптасуына талдау жасау, Ресей мен Қазақстандағы адам капиталының қалыптасуындағы бірқатар мәселелерді анықтауға көмектесті.

Дамыған мемлекеттер адам капиталын инвестициялауға үлкен қаржылық мүмкіндіктерге ие. Орташа дамыған мемлекеттерде еңбек нарығы арзан жұмыс күшімен толыққан. Жұмыс күшінің бағасын арттыру үшін адам капиталына деген инвестицияларды арттыру қажет. Адам капиталының деңгейінің төмендеуі кез келген елдің экономикасына кері әсер қалдырады, сол себепті осы зерттеулер білім беру саласында мемлекеттік саясатты, ел аймақтарында мемлекеттік басқару саясатты, денсаулық сақтау саласын қалыптастыруға көмектеседі.

Тәжірибелік қолданылуы: тәжірибелік маңыздылығы осы мақаланың ғылыми нәтижелерінің экономикалық білім беру, экономикалық теория және басқа экономикалық пәндерде пайдалануға болатындығында болып табылады. Сондай-ақ, білім беру, жұмыспен қамту, мемлекеттік басқару салаларында экономикалық саясат жүргізуде мемлекеттік органдармен пайдалану мүмкіндігі.

Түйін сөздер: адам капиталы, ұлттық байлық, адамның дамуы, бақыт индексі, әлеуметтік дамудың индексі, Мәскеу, Қазақстан.

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Человеческий капитал в менеджменте экономического развития

Вступительное слово о теме исследования: Переход к инновационной модели социально-экономического развития означает глобальную конкуренцию за человеческий капитал. В этой связи представляется актуальным выбор новых, более совершенных путей его измерения, основанных не столько на экономических, сколько на расширенных социальных показателях. Учитывая особую роль человеческого капитала в инновационном развитии, в статье на основе анализа, сопоставления данных и экспертных оценок раскрываются особенности формирования и развития человеческого капитала в двух постсоветских республиках, России и Казахстане. Анализ многих проблемных направлений показывает, что Казахстан и Россия, несмотря на национальную специфику, имеют много общего. В последние годы были энергичные дискуссии об ограниченной неоклассической интерпретации человеческого вклада в экономическое развитие. Различное понятие формирования человеческого капитала возникло в результате тех обсуждений. Есть растущее разнообразие подходов и к содержанию этого понятия, и к методам измерения, и оценке запаса человеческого капитала, его прибыли, эффективности использования и вклада в экономический рост.

Цель статьи: авторы исследования поставили своей целью раскрыть особенности формирования и развития человеческого капитала в России и Казахстане на основе анализа различных индикаторов, и таким образом подтвердить важность правильной оценки человеческого капитала в управлении экономическим развитием.

Методология/методы: Принимая во внимание особенную роль человеческого капитала в инновационном развитии, статья раскрывает факторы, отражающие несоответствующее воспроизводство человеческого капитала как в России, так и в Казахстане на основе анализа и сравнения данных и экспертных оценок. Методы исследования также содержали синтез (сравнение индикаторов развития человеческого капитала этих двух стран на основе соответствующих индексов); логический метод (заключения на дальнейшем развитии человеческого капитала); графический (использование таблиц, чтобы иллюстрировать объяснение материала).

Основные результаты и анализ; выводы исследовательской работы: Анализ многих проблемных областей исследования раскрыл, что Казахстан и Россия, несмотря на их национальные особенности, имеют много общего. Это было установлено тем, что ограниченное воспроизводство человеческого капитала наблюдается в обеих странах. Кроме того, анализ доли капитала в структуре национального богатства, а также анализ многих индексов и другие методы оценки человеческого капитала показали сохраняющуюся тенденцию снижения формирования человеческого капитала не только в ближайшей перспективе, но также и в долгосрочной перспективе в России и Казахстане.

Ценность проведенного исследования: Формирование человеческого капитала предшествует экономическому росту и служит основой экономического благополучия для любой страны, поэтому анализ формирования человеческого капитала в обеих странах помог выявить некоторые проблемы формирования человеческого капитала как в России, так и в Казахстане. Развитые государства имеют больше финансовых возможностей для инвестиций в человеческий капитал. В менее развитых странах рынок труда представлен дешевой рабочей силой. Чтобы увеличить стоимость рабочей силы, необходимо увеличивать инвестиции в человеческий капитал. Само снижение уровня человеческого капитала говорит об отрицательных последствиях для экономики любой страны, соответственно данное исследование поможет в формировании государственной политики в сфере образования, здравоохранения, государственной политики управления в регионах страны.

Практическое применение: Практическая значимость состоит в том, что научные результаты данной статьи могут использоваться для преподавания экономики образования, экономической теории и других экономических дисциплин. А также могут использоваться государственными органами в проведении экономической политики в области образования, занятости, государственного управления.

Ключевые слова: человеческий капитал, национальное богатство, человеческое развитие, индекс счастья, индекс социального прогресса, Россия, Казахстан.

Introduction

The modern world economy has various kinds of ratings and indices at its disposal and they reflect the need to formalize the results and possibilities of the information society. These instruments have an impact on market conditions, while simultaneously reflecting it. In business, there is even a system of relations based on the rating awareness. An appropriate information field is formed within the framework of "ratingonomics" as within the system of relations based on relatively credible and transparent unified estimates allowing elimination of the information asymmetry in the markets. This system seems to be both a real one, indicating landmarks in the vast world of business, and virtual, forming preferences, expectations of investors and entrepreneurs *(Avdokushin, 2014)*. The special industry of various evaluation instruments has a direct relationship to human capital as to the most important component of the economic system development.

Pursuant to the World Bank, human capital in the modern economy constitutes up to 80% of the total wealth of each country. It is clearly evident from Table 1, which records changes in the structure of aggregate capital in developed countries in the course of more than two hundred years.

Table 1 – Change in the structure of aggregate capital in developed countries in 1800 – 2010 (%)

Type of capital	1800	1860	1913	1950	1973	1998	2010
Physical capital	78-80	77-79	67-69	52-53	43-44	31-33	20
Human capital	20-22	21-23	31-33	47-48	56-57	67-69	80
Natural capital	50	45	35	20	20	20	4

Source: (Morgunov, 2015)

Table 2 – shows the calculation of national wealth and its components per capita, which is based on the World Bank methodology and the calculations of the Institute of Economics of the Russian Academy of Sciences.

Table 2 – National wealth of the world countries at the beginning of the 21st century

Countries	**National wealth**		**Including by types of capital Trillion USD**		
	Total, trillion. USD	per capita, thousand USD	Human	Natural	Physical
World total	550	90	365 (66.3 %)	90 (16.4 %)	95 (17.3 %)
The G7 countries and the EU	275	360	215 (78.2 %)	10 (3.6 %)	50 (18.2 %)
OPEC countries	95	195	45 (47.4 %)	35 (36.8 %)	15 (15.8 %)
CIS countries	80	275	40 (50.0 %)	30 (37.5 %)	10 (12.5 %)
Including Russia	60	400	30 (50.0 %)	24 (40.0 %)	6 (10.0 %)
Other countries	100	30	65 (65.0 %)	15 (15.0 %)	20 (20.0 %)

Source:(Nesterov , Ashirova, 2003)

From the table it follows that at the beginning of the 21st century the largest part of the national wealth of world comprised human capital valued at 365 trillion USD. In terms of the share of national wealth per capita, Russia exceeded the world average 4.4 times. According to this indicator, it even exceeded the average value of the countries of the "golden billion". We also have to say that at the beginning of the century a half of the national wealth of Russia was created by human capital. In that period, a severe degradation of this component of national wealth started. Today, Russia refers to 10% of the countries and territories with the least contribution of human capital to the creation of national wealth *(Morgunov, 2015)*.

An analogical conclusion can be drawn in relation to Kazakhstan. The share of various types of capital in the structure of the national wealth of that country is as follows: human capital 18%, physical capital 20 %, natural capital 62 % *(Mendeshuly, 2014)*. Since Kazakhstan's economic growth is ensured now by cheap raw materials and labour, human capital is not a very important factor of the socio-economic development of the republic**.** At the same time, we have to say that particularity of the transition of Russia and Kazakhstan to an innovative economy consists in the fact that these countries simultaneously solve the tasks of catching up and advancing development.

The methodology of evaluation of human capital as a structural component of national wealth allows the assessment of human capital in a general manner. But there are evaluation methodologies giving a more complete view of human capital by adding a wide range of social indicators.

Materials and Methods

The most popular method how to evaluate human capital is the ***Human Development Index*** *(HDI)*. This is the aggregate indicator of the development level of a human in a particular country. Sometimes it is used as a synonym for such concepts as "quality of life" or "standard of living". HDI measures achievements of the country from the viewpoint of health status, education and actual income of its citizens in the three main areas: life expectancy (Live Expectancy Index); Education (Education Index); Gross National Income per capita in US dollars at purchasing power parity (Gross National Income per Capita). In the ranking of 188 states as to Human Development Index for 2015, Russia reached the 49th rank (0.804) and for the first time entered the list of countries with the highest level of human development. Kazakhstan occupies the 56th rank (0.794), which confirms its presence in the group of countries with a high level of human development *(Doklad OON o chelovecheskom razvitii, 2016)*.

Thus, according to the human development index, the quality of human capital in Russia and Kazakhstan is quite high. But there is the paradox here: the national economies of these countries, even after a quarter of a century of market transformation, cannot be called innovative. At present Russia even lags behind the level of industrial production, as compared with the level of the period 1990 – 1991. The country almost completely lost the production of machines, equipment and tools; import dependence on these categories is almost one hundred per cent. In Russia, there is one computer produced for 500 people in one year. In other words, the "Latin American model of peripheral raw state capitalism", not an innovative economy was created on the ruins of the USSR's industrial economy (*Mirkin, 2017*).

The economy of Russia and Kazakhstan, particularly, can be assessed by the ***Global Innovation Index (GII)***. From among 128 countries Russia occupied the 43rd rank (index 38.50), Kazakhstan the 75th rank (31.51) *(The Global Innovation Index, 2016)*. According to GII-2016 Russia is permanently improving its position as to the innovation resources sub-index (44th place). But the effectiveness of innovation activity of the country is evidently weaker (69). Kazakhstan is also recognized as an "inefficient innovator" in terms of the "ratio of innovation efficiency".

The following figures indicate the inefficient implementation of the existing innovative potential of Kazakhstan. The share of expenditures on scientific research in Kazakhstan's GDP is only 0.17%. This indicator is much higher in developed countries – from 3 to 4 per cent. There is an imbalance between fundamental, applied research and experimental development: their shares are 23%, 53%, 24%, respectively. At the same time, the developed countries spend about 60% of the total number of all projects on experimental development. The presence of such an imbalance indicates that in this republic the research which is not directly focused on the manufacturing of new products, including the high-tech products, are preferred *(Tsoy, 2017)*.

Otherwise recognizing popularity of the Human Development Index as a comprehensive indicator, we have to mention its main drawback: it reflects neither quality of education, nor GDP per capita. The growing tendency of HDI in Russia and Kazakhstan can be rather linked to the formal growth of the education index and particularly to the growth

of the GDP index (*Krylovskaya, 2014)*. According to official data, GDP per capita at purchasing power parity is: in Russia $ 25185.553 (55th place), in Kazakhstan - $ 24176.91 (56th place). *(VVP po paritetu pokupalnoy sposobnosti po stranam mira, 2016)*. These figures compensate for negative indicators reflecting the real health of the nation, the life expectancy of people and other important factors.

"In developed countries, the quality and cost of education is much higher than in the poor or developing countries. A significant share of the oil and gas sector of the economy and revenues from it increase the rating, for example, of the oil producing Arab countries. And these countries almost do not involve their national human capital, even in oil and gas production. Therefore, so as to take into account high export earnings, a reduction coefficient is applied in calculating the effectiveness of the national human capital of the countries with raw material economies. It is equal, particularly, 0.75 for Russia and 0.56 for Kazakhstan. For developed and developing countries with a diversified economy this index is equal to 1" *(Korchagin, 2016)*.

Thereby the overestimation of the indices of the Human Development Index of Russia and Kazakhstan in the last report can be explained by: a) other changes in the methodology for calculation of the indicator, b) reduction in the number of countries participating in the rating. There are no significant positive changes in the formation, preservation and development of human capital in these republics. Human capital in Russia and Kazakhstan is still used irrationally and inefficiently. This is obvious from the analysis of another index.

The Human Capital Index *(HCI)* of the World Economic Forum tries to express in numbers how differently the countries develop their human potential, and to explore the trends in this area. This index positions itself as an instrument that covers the dynamics of the relationship between the education systems, employment and labour market. The rating measures the development potential of human capital in different age groups, based on more than fifty indicators classified within four main groups: education and training; health, physical and psychological well-being; jobs and employment as well as infrastructure, legal protection and social mobility.

Russia with its index 77.86 occupies the 28th rank in the rating of 130 countries assessing human capital; Kazakhstan (77.57) occupies the 29th rank. Thus Russia demonstrates quite high indicators related to the availability of primary (first rank), secondary and higher education. More than 80% of graduates from Russian schools enter the universities in the country. Proportion of the students learning within higher education programmes in the age cohort of 20 – 24 years is 58% (in the early 1990s this indicator was at the level of 26 – 27%). According to the indicator of population coverage of tertiary education, Russia is even a leader among the developed countries *(Kuzminov, 2016)*. At the same time, Russia lags behind the main BRICS competitors in all other positions in the rating assessing realization of human potential: quality of jobs, life expectancy and quality of health care, development opportunities in the workplace, access to professional development and, primarily, quality of education.

Since the beginning of the 2000s, there has been a continuous increase observed in both the total costs on higher education and the costs per student in Russia. But in spite of this fact, funding of higher education in Russia is approximately two times lower as compared with the average in the OECD countries. Such a level of funding does not provide opportunities to compete with developed countries in quality of education and scientific activities.

Otherwise accessibility remains the key indicator for school education; there are different key indicators for professional and higher education: compliance of education with modern economic challenges and the quality of training of specialists. Here Russia loses significantly to countries with a comparable level of economic development. This can be explained by the fact that in the 90s, industry was practically destroyed in Russia, many enterprises, except for defence, were ruined due to the loss of their market. The consequences of this ill-considered economic policy should have left their impact on the structure and quality of education. There occurred a huge number of lawyers, economists and managers, while the economy needed engineers. Destroying the economy, which required high-quality specialists, Russia, in fact, destroyed its own engineering school, and thus deteriorated quality of its human capital.

The coverage coefficient of primary education in Kazakhstan is 98.8%, which is an indicator of the countries with a very high level of development. But the quality of Kazakh education is lower than Russian. According to the global competitiveness index, the country occupies the 60th rank in higher education in quantitative terms but in terms of quality the 101st rank among 141 countries being ranked.

One of the key characteristics of human capital is professional affiliation. It reflects what a person knows, what is doing at present and what the labour market needs. Direction and depth of the professional

and qualifying shifts are influenced both by the factors on the supply side (particularly, training in the education system) as well as by the demand factor, while, as a result of industry restructuring, technological progress and competition in commodity markets, there is a change in very nature of the requirements on a professional component of workers.

Discrepancy between the quality of professional training of specialists and the needs of economy is typical of Kazakhstan. There are only 33.5 % employees working in the profession received after training in various spheres of the economy in the republic. Annually there are the vacancies for 12 – 18 thousand people open at large and medium-sized enterprises in Kazakhstan. Discrepancy between the supply and demand of the labour force generates structural unemployment on the one hand, and the lack of qualified specialists (especially of engineering, technical and medical professions and computer science) on the other. Unemployment among graduates is three times higher than among other layers of the population (*Yesimzhanova, 2014)*. In Russia, one half of the employment of population is provided by only 28 professions (from approximately 450). The most massive of them are sellers in shops and stalls (6.1% of employees) and car drivers (7.1%). In the profession related to computers in 2015 about 1% of employees accounted for, and in all natural sciences and engineering professions, including programmers etc. 5.1% were employed. "When we look at the level of education of the population, we see an offer: two-thirds of the employed have a tertiary education. And looking at the demand we can see that every sixth person works probably as a merchandiser or a taxi driver, where general secondary education is more than enough. People do not find themselves adequately useful and their knowledge and skills are not in demand" *(Petrova, 2016)*.

Literature review

The origin of the concept of human capital dates back to the late 18th century, when British economist and philosopher, Adam Smith, published his landmark Wealth of Nations *(Mullin B. P., 2010)*. In his publication Smith suggested that humans are productive capital and, as such, are an important input to economic growth and development. Similar to the way that physical capital contributes to the productivity of a business, humans could also improve their productivity through education and training. And just as a business owner considers the long-term benefits and costs of a machine, business owners and workers alike should consider the long-term benefits and costs of education and training *(Mullin, 2010)*.

However, the notion of humans as capital was not widely embraced until more than a century later. In 1891, Irving Fisher earned the first PhD in Economics from Yale University and was the first economist to distinguish between real and nominal interest rates *(Mullin, 2010)*. Among other accomplishments, Fisher developed his theory of capital, investment, and interest rates, which addressed how individuals and organizations invest in different types of capital based on their expected rates of return.

His theory, which is still widely accepted today, included human capital as an investment in future earnings potential *(Mullin, 2010)*. The University of Chicago, established by John D. Rockefeller in 1892, also espoused the theory of human productivity as capital. However, the concept of human capital did not become widely accepted right away. In fact, the notion that people were capital, like machines were, was deemed offensive by some academics and practitioners *(Mullin, 2010)*. A worker's skills and productivity were considered to be a given, and therefore, not able to be improved. British economist Alfred Marshall and British philosopher John Stuart Mills led the backlash against human capital theory. They believed that humans should be dignified by being considered in a separate category than other types of productive capital and that human beings themselves were not marketable *(Mullin, 2010)*.

Karl Marx discussed human capital as well, but his focus was on the process of production and individuals selling their skills for a finite set of time. He believed that labor is only a form of capital when it is used in the production process. His focus on the production process rather than human capital investment was a major point of divergence between Marx and other economists *(Mullin, 2010)*. Marx also did not provide a quantitative link between human capital and variables such as productivity and income.

In the 1960s, more University of Chicago economists began analyzing and strengthening the concept of human capital, and the subject experienced a substantial resurgence. Two renowned economists and Nobel Prize winners, Milton Friedman and Theodore Schultz, were largely responsible for the resurgence *(Mullin, 2010)*.

Schultz and Friedman, among others, began studying the relationship between human capital and economic growth *(Mullin, 2010)*. Schultz's

main theoretical development was his expansion of the meaning of investment to include all activity that improved a worker's skills and productivity. Schultz included direct costs of education, improvements in health, and migration, as well as indirect costs such as foregone earnings and lost leisure time while obtaining the human capital (*Mullin , 2010*).

Becker's expanded view of the benefits of human capital investments led to considerable shifts in public policy regarding education funding *(Mullin, 2010)*. The recognition that both individuals and society as a whole can benefit from an increased investment in human capital led to increased educational funding by governments of all levels *(Mullin , 2010)*. No longer was the benefit of human capital thought to accrue solely to the individual through higher incomes, but also to communities through higher levels of job growth, residential stability, and other benefits mentioned above.

The human development of a country is considered in direct interrelation with economic growth, increasing of competitiveness of a national economy and increasing of the level of population life. Experts' note that threshold level of accumulation of the human capital of countries having high grow this estimated at 40% by educational level of the population (*Azriadis, 1990*).

The economic importance of HC lies in its contribution to creation of national competitive advantage, and consequently, to national economic growth (*Drucker, 1999; Nehru, Swanson, & Dubey, 1995; Porter, 1998*).

The another economists scientists suggest an ambiguous connection between human capital accumulation and growth in employment (*Bartik, 1992; Cooper, Gimeno-Gascon & Woo, 1994; Shapiro, 2006; Holzer & Lerman, 2007; Scott & Mantegna, 2009*).

Human capital theory has become accepted as one of the foundational theories of socio-economic development. It has gained increasing attention with the unfolding of the era of knowledge economy, with knowledge-intensive new technologies' design and utilization becoming an everyday reality. The majority of factors of formation and development of the human capital can be measured by quantitative indicators. However, the degree of their impact at the human capital isn't identical. So, it is possible to allocate an educational compound, as a major factor to gain it. Personal potential can be shown in creative and scientific potentials, creative and leader abilities of a person, its ability to accept and realize decisions, its moral qualities. Must tell about the enterprise potential taking a special place in market economy. It should be considered as a key factor of economic growth of a national economy. Its involvement by using scientific management methods at the micro and macro-level give the good results (*Samuelson, 1948*).

Also were considered the methods of calculation of human capital.

The first method assumes that the cost of the human capital should be measured proceeding from the cumulative expenses connected with its formation, minus depreciation. For the first time such approach was applied in 1883 by Ernst Engel, who tried to estimate the cost of the birth and education of children for their parents. It was defined by it in the form of total maintenance costs of children from the moment of conception to achievement of adult age by them. It is obvious that this approach is refer not so much on an assessment of the human capital, not as for estimation of cost of the maintenance of the person as for estimation physical beings for men. Besides, in it the expenses connected with the birth and education of children which are incurred by society as a whole aren't considered. Also it ignores expenses of time of parents on care of children. And at the end, here isn't considered the fact that charges for children of different age are made during the different periods of time and, therefore, they aren't subject to simple summation, and have to be led to the real time point *(Engel, 1883)*.

Other representative of this approach based on the accounting of expenses, was Theodor Vitstein who considered human beings as base funds (capital goods). So by to his assumption, earnings size during life of an individual is equal to costs of his contents plus expenses for education. These researches were conducted in the link with necessity of development of the help tables which used for calculations of sizes of claims on compensation for loss of life, for the life insurance sphere. When using this approach human life cost at the time of its birth is inevitably equal to zero.

Later, more of modern human capital theory was incorporated into growth theory either implicitly or explicitly by the following theorists; *(Romer, 1986),* (Lucas,1988), and (*Rebelo, 1991*). They placed more emphasis on the concept of either knowledge or embodiment in human capital as its contribution to economic growth (*Angui Macham ,2015*). Their theory became known as new growth theory or endogenous growth theory. Whereas the old growth theory can only explain sustained per capita growth by exogenous technological change, new growth theory explains how per capita growth can be maintained without relying on exogenous

technological change. These models theoretically invoke endogenous innovation, technology spillover effect or externalities in addition to human capital.

The World Bank for calculation of the human capital offered a formula defining it links with investments. According to this approach the human capital represents function multiplication index quality of labor in his wise definition index quality summarizing human capital investments to human capital and other variables. Undoubtedly, the listed approaches which are based on costs of production consider a set of the factors influencing formation of the human capital; however have also certain shortcomings.

To number of shortcomings it is necessary to bring out the fact that here is not taken for addition of prolixity of investments for person in time. The period of investments into the human capital and time of its use is most often divided by a considerable temporary log. In modern societies the prevailing part of investments goes to school pupils and students who should remain still certain time in an education system and which human capital is still far from starting "being operated" soon *(OECD, 2005)*.

According to the World Bank, the cost of the national human capital of the countries of the world on the basis of an expensive method joined the used means of the state, families and different funds. They allow to define the current annual costs of society of reproduction of the human capital. In the USA the cost of the human capital at the end of the XX century made 95 trillion dollars, or 77% of national wealth, 26% of a world result of cost of the human capital. By estimates of specialists of the World Bank, the cost of the world human capital made 365 trillion dollars, or 66% of world wealth, 384% to the level of the USA. For China these indicators make 25 trillion dollars, 77% of all national wealth, 7% of a world result of the human capital and 26% to the level of the USA. The ratio of these indicators for Russia reveals: 30 trillion dollars, 50%, 8% and 32% *(World Bank, 2006)*.

The United Nations Development Program (UNDP), which is concerned with building people a better life, has been releasing an annual report since 1990. This report is the Human Development Report (HDR) where human development is measured by an indicator (*Fadi Abdulmoein al Sakka, 2014)*. This indicator consists of three main components: the first measures the life expectancy level which is a gauge of health; the second measures the level of education which is a gauge of opportunities, and finally the third one measures income per capita (*Fadi Abdulmoein al Sakka ,2014*).

Current scholars build on classical HC theory, while suggesting different combinations and/or forms of education-training measures. More specifically, Baier, Dwyer, and Tamura (2006) computed HC as a sum of average education (measured in school years) and average experience (measured as average age minus average years of schooling) with assigned weights measured in increased earnings coefficients (*Verkhohlyad, 2008*). Gemmell (1996) constructed an alternative measure of HC by distinguishing between stocks and flows of school enrollment rates. Cohen and Soto (2001) sought an improved measure of HC by employing direct country census data on school enrollment in a country. Mulligan and Sala-i-Martin (1997) measured HC for an economy as the sum of all workers weighted by the ratios of their wages to the wage of the zero-human-capital-worker (*Verkhohlyad, 2008)*.

In our article we tried at first to made common peculiarities in estimation human capital in Russia and in Kazakhstan.

Results and Discussion

To compare the standard of living in different countries as a basis for the formation of human capital, it is usual to take the value of GDP (Gross Domestic Product) per capita as a basis. GDP works as the main economic prism through which the consequences of state decisions in the social sphere are considered. But can the GDP be considered the main indicator of the development of a country?

In principle, GDP as an indicator is not intended to measure quality of the economy. Its original task was to measure production in the economy. GDP is necessary, but only as one of the important economic indicators, not as a barometer of the level and quality of life of the population. The growth of the economy, which doesn't result in the improvement of people's lives, is meaningless. Here is one example: increased emigration, a fall in the birth rate or an increase in mortality will lead to a decrease in the population, which will cause growth of GDP per capita. But do you need such growth? Many researchers of human capital insist on use of its assessment beyond direct connection with the reproduction of national wealth. This has its own logic. First, there is a sufficient number of such methods, and they more fully reflect the well-being and happiness of a person. Secondly, the accumulated experience pushes the transition to new evaluation methods. On the example of the USA, where GDP tripled in the last 50 years, but life satisfaction remained unchanged, it can be seen that economic growth is nei-

ther quite accurate assessment indicator, nor it fully corresponds with the goals of social development of the society[1]. A similar conclusion occurs to us in another case. The GDP of Kazakhstan in dollars has grown 20 times in the course of independence (i.e. for the last 25 years). This cannot be said about the real money income of the population: in 2016, it decreased by 4.5%. This is the most significant drop in the living standard of the Kazakhs over the past 16 years. The previous anti-record was recorded in 2009, when the level of real incomes for the year decreased by 3.1% *(Uroven zhizni v Respublike Kazakhstan, 2016).*

It is time to shift the emphasis from measuring the economic production to measuring the well-being and quality of life of people. It is necessary to move towards *"gross national happiness"*. This concept is reflected in the constitution of the Kingdom of Bhutan – so far the only state in the world that officially uses the indicator the "gross national happiness" instead of the "gross domestic product". The authorities of the kingdom believe that human happiness is the main condition to form human capital. Happiness is being ensured by nine main components: psychological well-being; health; education; the viability of society; cultural diversity; use of time; standard of living; effective management; ecological sustainability,

The authors of the rating of happiness of the world population *(Reyting stran mira po urovnyu schastia naseleniya, 2017)* affirm that the basis of the ***Happiness Index*** doesn't consist in the wealth of the country, but in social factors. From that the main goal of the rating emerges: to move away from the idea of measuring the level of development only by the volumes of GDP and to create an indicator according to which the states would orientate themselves in the development of their social policy. To measure such concepts as happiness, the UN has its own methodology.

In the rating of 155 world countries in terms of the level of population happiness, Russia occupies the 49th place, Kazakhstan the 60th. The report of 2017 disclosed a number of interesting tendencies. In one year, Russia moved in the rating of the happiest countries from the 56th to 49th place: its index of happiness is 5.963 (7.537 in the leading Norway). The success of Russia was not hampered either by the economic crisis or by the sanctions of the West, by the fall in the money income of the population for the fourth consecutive year (by 3.2% in 2015, by 5.9% in 2016 and by 2.2% in the period from January to April 2017), or growth by 13.5% in 2016 of the poor population *(Nikolayev, I., 2017; Falyakhov, 2017).* Some Russian experts explain the change of this index solely by the public support for the political course of the country and confidence in its leadership. "The index of happiness consists in satisfaction... Therefore, sometimes there are high indicators of happiness in regions with a low standard of living; it means that satisfaction is not always equivalent to economic success. In addition, very often a sudden increase of economic optimism occurs during the periods with a very severe depression" *(Kovalenko, 2017)*. Losses in the index of happiness of the Kazakhs, which has decreased by six points over the year, are most related to health (67% of the population considered it a problem area); economy (49%); unemployment (43%); crime (31%), education (30%); corruption (37%). According to a global study of the fund Transparency International, one third of the Kazakhs gave bribes to receive government services in 2016. Respondents consider the officers in law enforcement authorities (35% of respondents), business leaders (29%), judges and court employees (28%) to be most corrupt. The majority of respondents gave low ratings to the work of the government in the field of combating corruption *(Barometr korruptsii, 2017*).

As far as corruption concerns, Kazakhstan and Russia have much in common. And it is even not due to fact that according to the *Transparency International* report the degree of corruption in various spheres is almost the same and both countries are among the most corrupt countries in the world, occupying the 126th and 136th rank, respectively, out of 174 countries in the ranking in terms of corruption (2016). Corruption equally affects the national economy of both countries and undermines the competitiveness on domestic and foreign markets. According to the assessment of the Kazakh experts, it is particularly corruption that increases the cost of goods and services in the country almost twice, which negatively affects mainly the population. In connection with the growth of the construction and oil business this number is constantly growing, giving space for limitless consumer prices and high inflation.

The ***Prosperity Index*** in 142 countries is calculated on the basis of 89 both objective and subjective indicators selected as a result of literature analysis (economy, entrepreneurship, management, education, health, security, personal freedoms, social

[1] According to the *World Happiness Report, 2017*, in the United States with a growing GDP a fall in the level of happiness (moving from the 13th to the 14th rank in the rating) has been recorded. As Bloomberg notes, at the present America demonstrates that the statement "money cannot be bought for money" is right.

capital). All countries are divided into four groups according to the level of prosperity: high (rating 1 – 30); above average (rating 31 – 71); below average (rating 72 – 112); low (rating 113 – 142).

In 2015, Kazakhstan occupied the 56th place in this rating, Russia the 58th. It is interesting how the weights of sub-indices are distributed (each of them has an equal weight), directly influencing the formation of human capital in these republics (Table 3).

As it is evident from the table, Russia was successful in the field of education (29th place). State administration, security and even personal freedoms seem to be the weak sides of Russia and Kazakhstan.

Table 3 – Rating of Russia and Kazakhstan according to the Prosperity Index (2015)

Place in the ranking	Country	Economy	**Business**	Management	Education	Health	Security	Personal freedoms	Social capital
56	Kazakhstan	54	56	107	55	51	66	85	46
58	Russia	55	42	106	29	42	91	111	55

Complied according to: (The Legatum Prosperity Index, 2015)

The issues of national security include demographic processes particularly. In Russia, they sharply culminated in the 1990s of the last century. Since 2015, a generation born in the period of a significant drop in the birth rate has been entering a reproductive age. Its children will not replace the number of generations born in the 1950s and the first half of the 1960s. The tendency of decline in the working-age population will continue in Russia until the end of the 2020s. From 2015 to 2027, the working people group will decrease by 6.5 million people (even if the expected migration increase is taken into account), and its share from 58% to 53% against the background of the increase in persons of the retirement age. According to forecasts, population in the retirement age will grow by 7.2 million (20%) from 2015 to 2030, and its share from 24 to 29%. If the retirement age in Russia does not change, every third citizen of the country will be a pensioner (*Kuzminov, 2016)*. An increase in the coefficient of demographic burden may be one of the consequences of such a situation. If today in Russia there are 40 people not capable to work per 100 people able to work, this indicator is projected to increase to 70 by 2050, which will be a heavy burden on the economy and the pension system of the country *(Krutko, 2014)*. Demographic processes taking place in Kazakhstan are very difficult. In 2016, 32.9 thousand people left the republic, which is by 16.4% more than in 2015. Most of them go to Russia. There is even a growing size of the citizens of Kazakhstan receiving the citizenship of the Russian Federation: in 2015, Russian passports were issued to 32 thousand people, in 2016 to 38 thousand. From the last year emigrants 71.6% are Russians, the rest comprises Ukrainians, Germans and Tatars. Experts are concerned about the brain drain and leaving the republic by skilled labour, about their replacement by settlers from other countries that do not have a high level of education. Experts also observe the geographical features of emigration: it is most intensive in the northern regions inhabited mainly by the Eastern Slavs, who, having no linguistic and ethno-cultural barriers, are leaving for Russia. The second wave of emigration of "non-titular nations" from Kazakhstan after the disintegration of the USSR, in the opinion of experts, is even explained by the enforcement of the transition of the Kazakh alphabet from Cyrillic to Latin declared by the republic's leadership, and by the policy to build up an ethnocratic state *(Nikolayev A., 2017)*.

One of the new indices – the ***Social Progress Index (SPI)*** is the most indicative as to the components of well-being/happiness. This is the first index, which not only works independently of GDP, but appears to be also an addition to it. Measuring social progress gives an idea of how to translate economic achievements into a field of social and

environmental benefits. SPI focuses an attention on the influence, which policy has on the social sphere, and it allows understanding why a country "fails" in certain indicators.

Developers of the index come from the assumption that social progress is the ability of a society: a) to satisfy the basic human needs of its citizens, b) to set up benchmarks allowing enhancement and maintaining of the quality of life, c) to create conditions for the realization of human potential. From there the three aspects on which the SPI is based follow: basic human needs; bases of well-being; possibilities. Basic human needs thus include: nutrition and basic medical care; water and sanitation; accommodation; personal safety. The grounds of well-being consist in: access to knowledge, information and communication tools; health; sustainability of the ecosystem. Opportunities also consist in the implementation of personal rights, personal freedoms and choice; tolerance and inclusion; access to advanced education.

According to the data of 2015, in the ranking of 133 countries Russia occupies the 71st place, Kazakhstan the 83rd place. Satisfaction of basic human needs (70th and 64th place, respectively,) can be considered the positive sides of both republics. The republics have created the grounds for prosperity (77th and 110th place) and opportunities (70th and 71st place). For more information see Table 4.

Table 4 – Aspects of the Social Progress Index in Russia and Kazakhstan

Indicators	Russia	Kazakhstan
Basic human needs		
Nutrition and basic medical care	97.76	96.99
Water and sanitation	81.92	81.84
Accommodation (shelter)	68.70	69.75
Personal security	48.03	60.11
Bases of wellbeing		
Access to basic knowledge	96.53	92.27
Access to information and communications	72.79	66.02
Sustainability of the ecosystem	56.63	33.94
Health	44.58	40.59
Opportunities		
Access to advanced education	87.73	64.02
Personal freedoms and choice	55.12	58.71
Tolerance and inclusion	35.60	43.01
Personal rights	18.32	29.25

Compiled according to: (*Reyting stran mira po urovnyu sotsialnogo progressa, 2017*)

It is evident from the table that the best thing in Russia and Kazakhstan is the situation with food and basic medical care (the "Basic Human Needs" aspect). Personal security as the basic human need is provided very poorly and is connected with a high level of political terror, deaths from road and transport accidents and murders. From the components related to the grounds of well-being, Russia and Kazakhstan provide access to basic knowledge at a fairly high level, but lag behind significantly in terms of health.

In Russia, the state expenditures on health increased in real terms by 74% in the period 2005 – 2015. Per capita, they are now by 40% higher than in Kazakhstan. Nevertheless, this in-

dicator is significantly lower than in most countries of the Central and Eastern Europe, if we do not mention highly developed countries. Russian health care is characterized by a low quality of primary health care, especially of local service. There is still a problem with material and technical re-equipment of hospitals, strengthening of their human resources, integration of medical services to ensure the continuity of treatment at different stages of the medical care (*Kuzminov, 2016*).

There is unacceptably low health index of women and children in Kazakhstan. Health index of women of reproductive age is 20% of 100%, and in the regions of Semipalatinsk polygon and the Aral Sea it is less than 10%. Annually, about 2 million children suffer from acute respiratory diseases, 600 thousand children from acute intestinal infections, which are among the main causes of death of children in the first year of life. Up to 800 000 children are registered in dispensaries and only 5 – 6% of them get treatment in health-improvement organizations. Sanatoriums and rehabilitation services for children and women at childbearing age are in a critical situation. Situation with infant and maternal mortality is very unfavourable especially in ecologically insecure areas of Kazakhstan *(Akhtanov, 2015).*

In conditions of modern challenges all indicators we consider prove the need of a new qualitative approach to the development of the branches determining the formation and use of human capital in Russia and Kazakhstan.

Conclusion

A keen interest in human capital, its formation, development and measurement is connected with the increased role of a human in economic growth. It is not a surprise that the formation of human capital in Russia and in Kazakhstan is examined in all strategic documents and plans as a national priority. But, unfortunately, until now we cannot talk either about worthy financing of the industries responsible for the development of human capital, or about the quality of structural reforms that would corresponding with modern challenges.

Various models of economic growth of Russia and Kazakhstan have one common aspect: their further development is considered to be in achieving the economic goals. Human is still treated as before – only as a means of production. Due to inertia, such an approach has been and still is a leading tendency. Being regional leaders in the extraction of natural resources, while preserving the orientation of their economies on the raw materials, both countries continue to follow the neoclassical approach of the theory of human capital.

Human is the goal and can never act as a means (I. Kant). Therefore, the formation and development of human capital depend particularly on health, education, security, well-being and happiness of a human. This means that particularly those states in which social, economic and political development will be subordinated to the interests of the development of personality, will become the most competitive and able to create such a quality of life for its population, which will ensure its prosperity.

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