

Development of Human Capital in Kazakhstan

Yelena Nechayeva and Adil Upabekov

L. N. Gumilyov Eurasian National University, Astana, Kazakhstan, 010000
E-mail: elenech@inbox.ru

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ABSTRACT The aim of this paper is to research the main indicators of governmental policy in the Republic of Kazakhstan on matters relating to human capital development. A working hypothesis of the research are based on the feasibility demonstration of the key role of the government policy instruments, ensuring complex coverage of economic, social, cultural aspects of the formation and development of human capital. Described are the systems, comparative and statistics methods of the research. The paper demonstrates condition and dynamics of human capital development in Kazakhstan compared to the leading countries, main issues, trends and dependancy of human capital development level on socio-economic indicators. The main findings of the research are that the use of adequate mechanisms of governmental policy will allow improvement of the effectiveness of the human capital development in the society. Recommendations on the improvement of Kazakhstan's human capital quality and its management mechanisms in the modern conditions are suggested.

INTRODUCTION

A key element of the modern development is a global transformation of the society, where the bottom line of the development is not only in the natural-resource potential of the country, but also in the human capital and, most importantly, the educational level of the population, people's skills and knowledge. The human capital being currently a major condition of economical and social growth has been brought to the forefront according to annual studies of Global Human Capital Trends conducted in 130 countries all over the world (Global Human Capital Trends 2016).

Human capital theory proved that the driving effective force of any society is a human, his/her intellectual abilities, creative qualities that are considered as the main force of social and economic development of the country. Experts mark that a competitive advantage under present conditions could be achieved only through knowledge and innovations (Stefan 2016).

This is particularly significant for Kazakhstan with its main goal to put Kazakhstan on the list of the thirty most developed countries in the world. Based on the conditions of Kazakhstan society's transition to industrial and innovative economy, the main driver is an effective system and a mechanism for the implementation of governmental policy for human capital development. That is why research and scientific understanding of the interconnection between human capi-

tal and social environment during economic transformation of the society is becoming more up-to-date and on-demand, not only in scientific, but also in practical activity.

In general, the importance and significance of improvement in policy for the formation and development of human capital are determined by several points. First of all, this is an increased role of high-quality education, influencing both the social and economic development. Secondly, it is strategic policy of the government for innovative development, with relevant motivation and adaptation of a worker to progressive changes in the various fields of social and labour relations formed in the system of human relations. Thirdly, it is systemic nature of "human capital category" including the range of key indicators of social living standards and social well-being of the society. And finally, it is a necessity for searching more effective instruments of policy implementation, aimed at the development of human capital, allowing to create conditions for the development of nation's intellectual potential in accordance with the latest requirements.

Thus, the researchers can draw a conclusion that studying the approaches to the management of human capital, is an issue of great importance in Kazakhstan. The study of this matter and the development of approaches to the improvement in the effective management of human capital, require the analysis of current issues of its development, which underlines the timeliness and significance of this study.

Objectives

The purpose of this study is to analyze the main indicators of Kazakhstan's policy for human capital development.

In order to implement the set goal, it is necessary to solve the various tasks, such as systematize scientific perceptions of the nature of "human capital" category and form an own vision of this category, consider the methods for evaluation of human capital development level and determine factors contributing to the positive dynamics of its development. It also requires analysis of effectiveness of the mechanisms of the state policy for human capital development and give recommendations for its improvement.

METHODOLOGY

In this paper, the target of the research is human capital, main indicators reflecting the level of its development. The subject of the research are the key aspects of the development and implementation of state policy for the formation and development of human capital. Main research methods are as follows: analysis and synthesis method, system and comparative analysis, statistic method. The main sources for analysis are statistics and indicators that reproduce the condition and dynamics of human capital development.

Using analytical methods, the researchers have described the condition and dynamics of human capital development in Kazakhstan, defined main issues, trends and interconnections between the level of human capital development and socio-economic indicators. Described is a comparative research (on the basis of world ratings, in accordance with knowledge economics, human development index, and so on) of human capital development in the Republic of Kazakhstan (RoK) and abroad.

OBSERVATIONS AND DISCUSSION

In studying the development of human potential in any country, it is necessary to, first of all, determine the meaning of "human capital" and its role in the theory of economic growth and development. Founders of the modern theory of human capital are T. Schultz and G. Becker, who were awarded Nobel prizes: T. Schultz (in 1979) and G. Becker (in 1992), to acknowledge

their outstanding contribution by showing the great significance of human capital at the modern stage of the world community development.

Theodore Schultz (1961) established that an improvement in the well-being of poor people depends not only on the land, equipment or efforts, but on their knowledge. He named this quality aspect of the economy as "*human capital*".

As for G. Bekker, he created a model of human capital, and his theory of human capital is based on the provision that capital is some stock of the benefits, being accumulated, and that will bring income by virtue of investments. That said, three types of investments and human capital are outlined, such as education expenses (general and vocational training, formal and informal, and so on), public health expenses (prevention of ill health, medical service, diet food, housing improvement), and mobility expenses (migration from areas with relatively low productivity to locations with relatively high productivity) (Becker 1962).

Human capital theorists noted that the expenses which improve production qualities and characteristics of an individual can be considered as investments, since operating expenses are made in anticipation that these expenses will be compensated repeatedly, in the future, by an increased income flow.

The main provisions of this theory were studied in greater detail by E. Denison, R. Solow, J. Kendrick, S. Kuznets, I. Fisher, R. Lucas and other scientists. The meaning "human capital" itself, having been created in the 1960s, was changed throughout the whole period of its development. For instance, R. Solow (2002) considered human capital in the model of economic growth, as its most important factor. Growth of the effectiveness of one simple labour unit in this model is ensured by the level of education, qualification and health of an employee.

Foreign economists, such as W. Easterly, J. Moreh, G. Mankiw, P. Romer, D. Wale using the model of economic growth, considered the dependence of employees' quality characteristics on the amount of investments in the human capital, studied the connection between economic growth and human capital.

Influence of the main indicators of human capital on acceleration of economic growth was described in studies conducted in various countries - both developed (Hitchcock 2016) and developing (Adeyemi and Ogunsola 2016) ones.

However, what the researchers find more significant is that modern studies define the humanistic nature of human capital, its role in the comprehensive development of societies (Tomer 2016).

Understanding of this deep interconnection underlines the social policy of Kazakhstan, the strategic goal which is to develop human capital. “The state’s social policy should prioritize extensive investment in human capital. The researchers must continue to modernize our education and health care systems in line with earlier programmes. And we should not begrudge here, because education and public health, mean people and our future”, said President of Kazakhstan N. A. Nazarbaev in one of his speeches (Official Site of International News Agency Kazinform 2015).

Presently, there are a lot of approaches to the meaning of “human capital”, which the researchers can generalize in a statement that, practically, the definition of human capital is usually a synonym of education and qualification potential of the society. The main characteristics of human capital include specific knowledge, skills and other productive qualities of a person, which are the result of investments in a person, ability of such knowledge, skills and so on, to be a potential foundation for the labour effectiveness and production output, for economic growth of the country. Optimal use of accumulated knowledge gives an employee an income in the form of a wage and national profit to the society. Increase of an employee’s and society’s income will stimulate them for further accumulation of knowledge, skills and experience, by means of investments in human capital.

Thus, human capital is formed as a result of investments and knowledge, skills and qualities

accumulated by an employee, which when used appropriately, lead to the growth of labour effectiveness and increase in profits. Human capital has a range of the characteristics that differentiate it from the physical capital. Unlike physical capital, the value of human capital grows with time and it is difficult to diversify human capital. Investment period in human capital is significantly longer than in the physical capital. Investments in human capital carry a higher risk than the physical one. The effect of realizing human capital is more diversified than that of the physical capital.

The main components of human capital structure are as follows: intellectual capital (educational, scientific, innovative), production preparation (qualification, competence, motivation for work, productive skills and experience), natural abilities and talents (health, artistic capital) and so on.

An analysis of key indicators of the developed countries shows that by virtue of active development of human capital, they are taking leading positions in the world rankings for human capital index, human development index and competitiveness index (Table 1).

In respect to this study, Human Capital Development Index is of great interest, it was developed as a multidimensional integral indicator for a more detailed evaluation of human capital development, and was first published in the year 2013, containing more than 50 indicators and are united into four main groups. These four groups are divided into education (higher, high school, primary school) and vocational training, health, physical and mental well-being, job placement and employment and favourable environment.

Switzerland, Finland and Singapore took the leading positions in this ranking in the year 2013. TOP 10 leaders of the human capital competi-

Table 1: Positions of some countries in world ranking in 2014–2015

<i>Global Competitiveness Index (2014–2015)</i>			<i>Human Development Index, 2015</i>			<i>Development of Human Capital Index, 2015</i>		
<i>Countries</i>	<i>Position</i>	<i>Index</i>	<i>Countries</i>	<i>Position</i>	<i>Index</i>	<i>Countries</i>	<i>Position</i>	<i>Index</i>
Switzerland	1	5.70	Norway	1	0.944	Finland	1	85.78
Singapore	2	5.65	Australia	2	0.935	Norway	2	83.84
The USA	3	5.54	Switzerland	3	0.930	Switzerland	3	83.58
Finland	4	5.50	Denmark	4	0.923	Canada	4	82.88
Germany	5	5.49	Netherlands	5	0.922	Japan	5	82.74
Kazakhstan	50	4.42	Kazakhstan	56	0.788	Kazakhstan	37	74.56

Source: Compiled by the researchers on the basis of the data from Official site of World economic forum, Official site of United Nations development programme (Official site of World economic forum 2014–2015), (Official site of United Nations Development Programme Human Development Reports 2015), (Official site of World Economic Forum 2015).

tiveness ranking, included, Netherlands, Sweden, Germany, Norway, the United Kingdom, Denmark and Canada. Kazakhstan took the 45th place in the human capital ranking.

In “The Human Capital Report 2015” Kazakhstan improved its position, by taking the 37th place and by some indicators was ahead of member countries of the Organization for Economic Co-operation and Development (OECD). However, an analysis of Kazakhstan’s position in the Human Capital Development Index shows that there is a significant potential for intensifying the work in these main directions: scientific and research field and education, public health, employment of the population.

According to estimates by experts, the situation in the scientific and research field is quite complex. One of the positive aspects is that the number of people involved in scientific and research field increases yearly (Table 2) and a noticeable rise in expenses on science development - according to data from the Ministry of Education and Science of the Republic of Kazakhstan, the funding of science in Kazakhstan has more than doubled within the last 4 years and resulted in almost 48 billion a year (Official site of Prime Minister of Kazakhstan 2015).

By the estimate of Utkin (2015), Director of the Department for Scientific Research and Intellectual Property in Russia and Commonwealth of Independent States (CIS), Thomson Reuters, “data on publication activity of Kazakhstan researchers clearly indicate that, like never before, science in the Republic of Kazakhstan is in the state of active lift and development, demonstrating a high level of integration in the international information space.”

That said, the main issues of Kazakhstani science are an insufficient level of financing,

absence of demand in the results of scientific researches and issues with training of scientists. In most countries with a developed economy, a share of internal expenses on researches and inventions is three percent of the total Gross Domestic Product (GDP). For example, this indicator in Sweden is 3.8 percent, in Finland it is 3.5 percent, in Japan - 3.4 percent, in Switzerland – 2.9 percent, in the USA – 2.8 percent, in Germany – 2.5 percent. The same indicator for Kazakhstan is just 0.2 percent of GDP (Official site of International News Agency Kazinform 2015).

Another important issue is the low innovation and technology commercialization indicators in Kazakhstan. Comparing with the developed countries, there is a significant gap between getting results of R & D, Research and Advanced Development and their commercialization. According to a Worldwide patent activity rating by World Intellectual Property Organization, Kazakhstan is in the 44th place with 1732 patents among 105 countries, indicating that Kazakhstani scientific potential is not able to provide demand for research results, due to weak connection of the process elements, starting with the idea generation to its practical implementation, and detachment from the business. According to experts, insufficient number of papers in journals with non-zero impact-factor and lack lustre performance for citing the works of Kazakhstani scientists, are indicative of low demand for research results (National Report on Science 2014).

Level of spending on education can also be considered insufficient. For instance, in accordance with data presented in the National report on condition and the development of the educational system in the Republic of Kazakhstan, expenses on one student are twelve percent of GDP per capita, while the same indicator in member

Table 2: The number of people involved in scientific and research field

	2007	2008	2009	2010	2011	2012	2013	2014
Total	17774	16304	15793	17021	18003	20404	23712	25793
Incl. researchers	11524	10780	10095	10870	11488	13494	17195	18930
DSc	1166	1191	1338	1341	-	1065	1688	2006
Doctoral degree in specific science					1486	719	605	596
PhD	-	-	68	59	95	131	218	330
Candidates of science	3058	2861	2734	3012	3286	3629	4915	5254

Source: Calculations were made by the researchers using data from site of Ministry of National Economy of the Republic of Kazakhstan Committee on Statistics (Official site of Ministry of National Economy of the Republic of Kazakhstan Committee on Statistics 2015.)

countries of the OECD have an average of twenty-seven percent.

The average monthly wage of staff in the education system is significantly lower than the average monthly wage in the country, and is sixty-two percent of its level.

Kazakhstan's strong positions in education are in "the primary school enrolment rate" (0.987), "the survival rate to grade 5" (0.993), "gender-specific index" and adult population literacy level indicator (0.997) (National report on condition and the development of the educational system in the Republic of Kazakhstan 2015).

Concerning public health, one of the most significant problems in Kazakhstan is Life expectancy. According to Human Development Report - 2015, expected life expectancy in Kazakhstan in the year 2015 was 69.4 years (Official site of International News Agency Kazinform 2015). Clearly, this is the indicator that should be of priority to the state policy.

Another promising direction for improving the indicators of human capital development is the employment of the population. According to the official data, unemployment level was five percent in 2015. This is an average value compared with the indicators adopted by worldwide practice, but according to experts, the issue is that the calculation methodology used by Statistics Committee is not perfect and does not take into account, a number of important factors. The main contradiction between data of official and unofficial statistics is related to the "self-employed" category, which, according to international classification, can be considered as unemployed. The situation was aggravated even further by the economic crisis which in perspective could lead to the growth in marginalization of the population and their lower social well-being.

CONCLUSION

In the modern world, human capital is a fundamental factor of the socio-economic, scientific and technology progress and constitutes a major force. That is why, special attention shall be paid to its development at the federal, regional and local levels. Development of human capital is a gauge of high competitiveness of the national economy, social well-being of the society, a key priority of the state policy implemented in its social programmes and practice, as well as

determining relations in the society, in favour of the main social groups of population.

RECOMMENDATIONS

To ensure quality increase of human capital and its use as a factor of social and economic development, it is necessary to develop and implement a complex of measures for the creation of an effectively functioning management of human capital.

This includes continuous monitoring and in-depth scientific analysis of main human capital development indicators, development of the methodology used for calculations and forecasting as precise as possible to the international standards. Other significant measures include creation of diagnostic and issue schemes in view of specific social strata and categories of population, regions, cities by groups, education capital, capital mobility and so on; development and implementation of selective cluster initiatives and projects for providing solution to acute issues of community; detailed study of capacity and forecasting of regional job marketplace and, accordingly, correcting state employment programmes, development of an industry programme for the promotion of employment, aimed at evaluating the number of staff in industries, industries' demand for staff, accomplishment of measures for arrangement of retraining of released employees and their further employment; development of mechanisms used for attracting Civil Society Institutions with the assurance of equal access to social benefits and warranties, creation of "abilities corridor" for all social groups and strata. It also requires initiation of projects aimed at reducing morbidity and mortality level, preventing distribution of illnesses that pose a threat to public health, including individuals in the penitentiary system and the development of programmes and projects for intensifying people's motivation for the development of their "human capital" and responsibility for its condition.

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