
**THREATS TO THE SECURITY OF A COUNTRY: REVEALING NEGATIVE TRENDS
IN THE DEVELOPMENT OF HUMAN CAPITAL**

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Abstract: Currently, it has become generally accepted in the leading countries of the world to consider human capital as the basis of the state, society and the economy. In the modern post-industrial society of the leading states of the world, the life and creative potential, human abilities are the core of all socio-economic processes, this is especially relevant in the context of the globalization of the world economy and the free flow of any capital, including human capital, both inter- and in-country. Meanwhile, in Kazakhstan, human capital is perceived as something burdensome and unnecessary. In Kazakhstan society, it is still not customary to talk about the priority of the quality of human capital in the process of creating products. Separate studies of recent years unequivocally indicate that Kazakhstan as a whole and Kazakhstani enterprises in particular will soon face serious difficulties in the area of human resources. Managers of enterprises, both in the public and private sectors, relate to the creation of conditions for the development of the human capital of their employees as a waste of time and money. Such a position essentially reflects not only the low level of management culture, but also strategic mistakes in doing business in Kazakhstan. On this basis, for Kazakhstan, the trends in the development of human capital are of undoubted interest and have practical significance.

Keywords: Kazakhstan, Kazakhstan's economic sectors, human capital, economy, quality, competitiveness, diversification

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JEL Classification: M1, M12

1. Introduction

The key resource in the development of any society, company and family is the value of the human factor, human resource, human capital. Therefore any negative trends revealed in the development of human capital must be attributed to the wide array of the threats to the security of any country (e.g. Tvaronavičienė, 2018; Nikitina et al., 2018; Mikhaylov et al., 2018). There is an emerging strand of literature devoted specifically to negative features of human capital development and efforts to neutralize outcomes of this phenomenon. (e.g. Al-Kahtani, 2018; Plenkina, Osinovskaya, 2018; Saleem et al., 2018; Osipov et al. 2018; Lincaru et al., 2018; Kaźmierczyk, Chinalska, 2018).

The purpose of the study is to identify the main trends and risks of losing the priority of human capital development in the economy based on an analysis of the characteristics of human capital development in Kazakhstan. **Methodology** - in article economic-statistical methods of research, comparison, dialectic method of cognition of the phenomenon from the general to the particular are used. The authors used quantitative research methods. The list of quantitative methods used includes systematization, processing of statistical data

using the tools of correlation and regression analysis.

The relevance of the article is to analyze the basic indicators and indices of human potential development in Kazakhstan, a comparative analysis of the effectiveness of human capital across countries, identifying the possible negative impact of the regression of human capital on the economic growth of Kazakhstan. The results of the study confirm the regression of the development of human capital in Kazakhstan and the need to create the conditions and factors to change the current negative situation.

The current stage of world scientific, technical and socio-economic development is characterized by a fundamental change in the role and importance of the human factor in the economy and society. Human capital is becoming the most important factor of economic growth and determines the future of the country. The economy of the post-industrial world will be determined by the level of development of the human capital of society. These are interdependent factors. That is, the growth of production-intensive production will lead to the need for the development of human capital.

The issues of economic development have been taken into account regional peculiarities, peculiarities of formation of associations of countries and the formation of economic and political associations, have been repeatedly considered in the writings of economists and sociologists (e.g. Delmon, 2015; Meņšikovs & Ignatjeva & Stankevičs, 2014; Boronenko & Lavrinenko, 2015; Shevyakova et al., 2016; Ignatavičius et al., 2015; Strielkowski et al., 2016; Tvaronavičienė, 2018a).

International experience confirms that investment in human capital and, in particular, in education, from early childhood to adulthood, contribute to the economic growth of the country (Tvaronavičienė et al. 2018b; Senan, 2018; Baubonienė, et al. 2018).

The Organization for Economic Cooperation and Development has come to the conclusion that if the average training period is increased by a year for residents of a certain country, this increases the gross domestic product of a given state by 3-6%. An increase in education spending by 1% leads to an increase in the gross domestic product of the country by 0.35%.

As emphasized American economist B. Newman, the distinguishing feature of the modern economy is the priority of human assets in enterprises. The nature of the modern economy indicates that the success of each firm is now closely dependent on the qualitative characteristics of the human capital of its employees. At present, specialists in assessing the cost of campaigns take into account not only their financial condition, but also the potential human capital of their employees. According to experts, about 75% of the market value of campaign products “is generated by the knowledge and intelligence of campaign employees”.

According to the World Bank, based on the study of the economies of 192 countries, 55% of economic growth is determined by human capital. According to experts, in developed countries the increase in the duration of education for one year leads to an increase in gross domestic product (GDP) by 5-15%. However, it must be remembered that investment in education is a long-term investment, one cannot expect instant results from them, but they are necessary for the successful development of the state.

2. Negative trends in the development of human capital: a case study

In the theory of human capital, the productivity of human capital is considered in close dependence on the level of its volume and quality. Investments in human capital are now in the leading states of the world one of the most common business operations that bring profit. The winner of the Nobel Prize in Economics, Harry Becker, proved that investments in human capital, such as food, education, retraining, medical care, sports, bring more profit than investments in securities. For example, according to G. Becker's calculations, the return on investment in school is on average 12-14% of annual profit. That is, in the modern economy, when calculating the efficiency of investments in human capital, the same methods are used as in assessing the return

on conventional investments. According to studies, the growth of human capital of the population leads to a general growth of the country's economy. It was estimated that "one percent increase in human capital leads to an acceleration of the growth rate of per capita GDP by 1-3%".

In our paper we concentrate our attention to Kazakhstan case study. Hence, in Kazakhstan, human capital is perceived as something burdensome and unnecessary. In our society, it is still not customary to talk about the priority of the quality of human capital in the process of creating products.

In recent years, there has been a deterioration in the position of Kazakhstan in international ratings in terms of indicators of human capital development. The republic is rapidly losing the position of a country with a high quality of human resources left over from Soviet times. The significance of the trends determined in the framework of international ratings is quite important for Kazakhstan, which is striving to strengthen its position on the world stage and to become one of the most developed countries. The results of various ratings make it possible to identify, classify problems and tasks, use them for effective strategic management of the state and the economy.

The main assessment of the country's competitiveness is based on the results of the Global Competitiveness Index of the World Economic Forum (WEC GIC). The index is calculated for 140 countries which account for 94% of the total world population and 99% of world GDP. The applied assessment not only determines the key aspects of economic growth, but also determines the ability of the state and its agencies to ensure stable economic growth.

The EEF SIC is formed from 114 indicators, of which 34 are calculated on the basis of statistical data, and the rest on the basis of a survey of managers of medium and large enterprises in the country. Of the 114 indicators, 12 factors of competitiveness are determined, including those determining the level of human capital development: health and primary education, higher education and vocational training, labor market efficiency, and innovation potential.

Since 2012, Kazakhstan has been participating in the rating as a country with an economy in transition from the 2nd stage (stage based on productivity) to the 3rd stage of development (stage based on innovations), however, the results of the last year create the danger of losing the not yet consolidated leadership positions. According to the results of the 2018 rating, Kazakhstan took the 59th place, descending from position 42 in 2015. Large losses suffered indicators of human capital development.

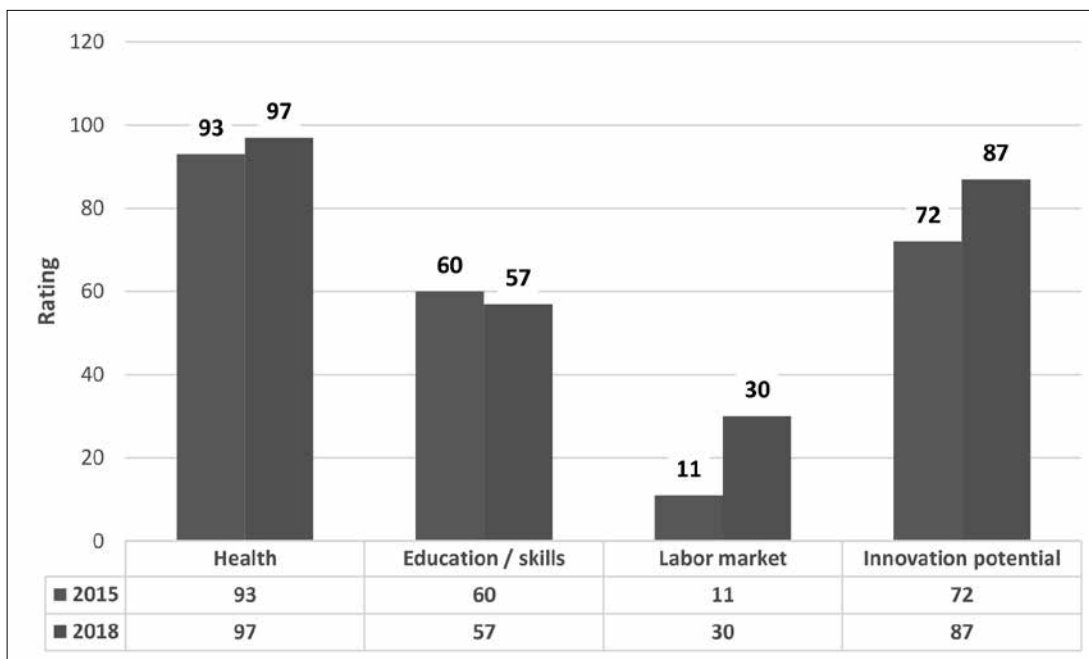


Figure 1. Dynamics of Kazakhstan’s ratings on the factors of human capital development in the index GIK

Source: composed by the authors according to The Global Competitiveness Report 2015–2016 and 2017-20 World Economic Forum, 2015 and 2018.

It should be noted that negative trends in the development of human capital can also be observed in other countries of the Commonwealth of Independent States, which leads to the conclusion that insufficient attention is paid to this problem. The main indicators of the labor market in selected countries of the Commonwealth of Independent States are shown in table 1.

Table 1. Key labor market indicators in selected CIS countries (on average per year)

Indicators	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
The labor force (economically active population), thousand pers.										
Azerbaijan	4443,3	4477,7	4531,9	4587,4	4626,1	4688,4	4757,8	4840,7	4915,3	5012,7
Armenia	1184,3	1414,6	1418,7	1463,4	1440,9	1418,3	1388,4	1375,7	1316,4	1226,3
Kazakhstan	8228,3	8415,0	8457,9	8610,7	8774,6	8981,9	9041,3	8962,0	9074,9	8998,8
Kyrgyzstan	2343,8	2379,9	2420,1	2456,0	2490,1	2496,8	2468,7	2504,2	2544,3	2547,4
Moldova	1313,9	1302,8	1265,3	1235,4	1257,5	1214,5	1235,8	1232,4	1265,6	1272,8
Russia	75289	75700	75694	75478	75779	75676	75528,9	75428	76588	76636
Tajikistan	2201,3	2216,7	2263,9	2280,3	2303,0	2347,1	2362,7	2382,4	2436,3	2439,3
Employed population, thousand people										
Azerbaijan	4162,2	4215,5	4271,7	4329,1	4375,2	4445,3	4521,2	4602,9	4671,6	4759,9
Armenia	1101,5	1183,1	1152,8	1185,2	1175,1	1172,8	1163,8	1133,5	1072,6	1006,2
Kazakhstan	7631.1	7857.2	7903.4	8114.2	8301.6	8507.1	8570.6	8510.1	8623.8	8553.4
Kyrgyzstan	2152.7	2184.2	2216.4	2243.7	2277.7	2286.4	2263.0	2302.7	2352.1	2363.7
Moldova	1247.2	1251.0	1184.4	1143.4	1173.5	1146.8	1172.8	1184.9	1203.6	1219.5
Russia	70770	71003	69411	69934	70857	71545	71392	71539	72324	72393
Tajikistan	2149.7	2167.9	2219.2	2233.0	2249.3	2291.5	2307.3	2325.4	2379.7	2385.3
Employees, thousand people										
Azerbaijan	1376.0	1410.3	1385.4	1382.9	1387.5	1480.7	1514.0	1519.7	1502.5	1514.3
Armenia	553	686.6	655.3	673.9	653	664.2	665.5	632.9	613.5	584.0
Kazakhstan	4973.5	5199.4	5238.8	5409.4	5581.4	5813.7	5949.7	6109.7	6 294.9	6342.8

Indicators	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Kyrgyzstan	1140	1173.7	1229.6	1277.6	1302.1	1308.7	1192.3	1216.9	1301.3	1358.4
Moldova	831.7	850.3	836.6	808.5	828.9	812.3	806.7	797.6	787.6	768.3
Russia	65593	65814	64266	65158	65827	66598	66197	66378	67109.5	66968
Tajikistan	1066.5	1055	1054.8	1046.9	1044.2	1050.5	1065.4	1083.5	1081.4	1102.4
Unemployed population, thousand people										
Azerbaijan	281.1	262.2	260.2	258.3	250.9	243.1	236.6	237.8	243.7	252.8
Armenia	...	231.6	265.9	278.2	265.7	245.5	224.6	242.1	243.7	220.2
Kazakhstan	597.2	557.8	554.5	496.5	473.0	474.8	470.7	451.9	451.1	445.5
Kyrgyzstan	191.1	195.6	203.7	212.3	212.4	210.4	205.7	201.5	192.2	183.7
Moldova	66.7	51.7	81.0	92.0	84.0	67.7	63.1	47.5	62.1	53.3
Russia	4519	4697	6284	5544	4922	4131	4137	3889	4264	4243
Uzbekistan	563.8	567.7	601.4	658.2	622.4	626.3	639.7	687.0	709.4	724.0
Unemployment rate, %										
Azerbaijan	6.3	5.9	5.7	5.6	5.4	5.2	5.0	4.9	5.0	5.0
Armenia	...	16.4	18.7	19.0	18.4	17.3	16.2	17.6	18.5	18.0
Kazakhstan	7.3	6.6	6.6	5.8	5.4	5.3	5.2	5.0	5.0	5.0
Kyrgyzstan	8.2	8.2	8.4	8.6	8.5	8.4	8.3	8.0	7.6	7.2
Moldova	5.1	4.0	6.4	7.4	6.7	5.6	5.1	3.9	4.9	4.2
Russia	6.0	6.2	8.3	7.3	6.5	5.5	5.5	5.2	5.6	5.5
Uzbekistan	5.0	4.9	5.0	5.4	5.0	4.9	4.9	5.1	5.2	5.2

Source: composed by the authors according to the Statistics Committee of the Republic of Kazakhstan

More detailed indicators characterizing the state of the labor market in the Republic of Kazakhstan are shown in Table 2.

Table 2. The main indicators of the labor market in the Republic of Kazakhstan

Indicators	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Labor force, thousand people	8 228.3	8 415.0	8 457.9	8 610.7	8 774.6	8 981.9	9 041.3	8 962.0	8 887.6	8 998.8
Employed population, thousand people	7 631.1	7 857.2	7 903.4	8 114.2	8 301.6	8 507.1	8 570.6	8 510.1	8 433.3	8 553.4
Employees, thousand people	4 973.5	5 199.4	5 238.8	5 409.4	5 581.4	5 813.7	5 949.7	6 109.7	6 294.9	6 342.8
Self-employed, thousand people	2 657.6	2 657.8	2 664.6	2 704.8	2 720.2	2 693.4	2 621.0	2 400.4	2 138.4	2 210.5
Unemployed population, thousand people	597.2	557.8	554.5	496.5	473.0	474.8	470.7	451.9	454.2	445.5
Unemployment rate, %	7.3	6.6	6.6	5.8	5.4	5.3	5.2	5.0	5.1	5.0
Youth unemployment rate, % (aged 15-24)	9.4	7.4	6.7	5.2	4.6	3.9	3.9	3.8	4.2	3.8
Youth unemployment rate, % (aged 15-28 years)	9.6	8.2	8.5	6.6	6.3	5.4	5.5	4.2	4.4	4.1
The level of long-term unemployment, %	3.3	2.8	2.5	2.2	2.1	2.5	2.5	2.4	2.5	2.2
Average duration of unemployment, months	11.7	10.0	8.7	8.9	7.8	8.4	7.4	7.3	6.8	6.9
Persons who are not part of the workforce, thousand people	3 463.2	3 416.2	3 500.3	3 487.7	3 477.3	3 538.7	3 569.4	3 715.9	3 867.4	3 855.0

Source: composed by the authors according to the Statistics Committee of the Republic of Kazakhstan

Today, the access of the unemployed and self-employed to jobs or their own business limits the lack of education, professional and entrepreneurial skills. In 2016 in Kazakhstan, there were 445.5 thousand unemployed and 2 210.5 thousand self-employed, including 301 thousand unproductive self-employed.

At the same time, Kazakhstan has all the prerequisites for increasing the human capital of Kazakhstan's society. The well-known American economist M. Blaug showed that in developing countries the return on investment in education is greater than in developed countries. This means that for an industrial innovation breakthrough, Kazakhstan must first of all rely on the development of a system of high-quality pre-school, school and university education. And this task is only possible by the state authorities.

The results of the international study PISA-2015 testify to the low level of the formed competences of Kazakhstani 15-year-old schoolchildren. The results of the country are significantly lower than the OECD average (up to 66 points - 2 years of study). The proportion of functionally illiterate 15-year-old students remains very high - over 30%. More than 40% of schoolchildren are not able to work with the simplest texts.

In Kazakhstan, the education sector has one of the lowest wages among all sectors of the economy - 94.5 thousand tenge, with an average of 142.9 thousand tenge (377 euros) in 2016. The teacher's salary in the system of secondary education and elementary school in 2016 was 108 thousand tenge (285 euros) per month (35% lower than the average in the economy), and the starting price was 46 thousand tenge (121 euros). At the same time, the demographic situation requires an immediate increase in investment in the younger generation. 2.8 million children study in schools, and about 370 thousand children go to grade 1 every year. More than 2 million children will go to school over the next 5 years. Over the past 10 years, a record number of children were born in Kazakhstan, which is about 400 thousand annually.

In this regard, changing the role of the education system in the economy requires a serious increase in budget expenditures, primarily to increase the salaries of teachers.

To date, the lack of qualified labor resources remains one of the main problems of the business. The construction and manufacturing industries are most in need of professional personnel, with almost half of their needs being skilled workers. Thus, according to the Statistics Committee of the Ministry of National Economy, the need for personnel at medium and large enterprises at the beginning of 2017 amounted to more than 14 thousand people.

Consistently implementing institutional reforms and removing administrative barriers for business development, Kazakhstan radically liberalized the domestic labor market, opening it up to international standards and making it more efficient. Investments in new technologies and attracting foreign investors ensured the growth of the innovation potential, but the quality of own human capital continues to decline. According to the OECD standards, the labor productivity of one employee is about \$ 46.5 per hour. To achieve this level, Kazakhstan needs to increase labor productivity by more than 2 times. Such an increase is possible, both due to the technical modernization of production, and through advanced training of labor resources. Technical modernization of production, often accompanied by the optimization of staff numbers, must be balanced by an adequate increase in labor market supply.

An additional driver in the current economic conditions is the growth of budget expenditures on education. In Kazakhstan, the annual volume of such expenses is on average 3.8% of GDP, while in OECD countries the corresponding figure is 5.1%.

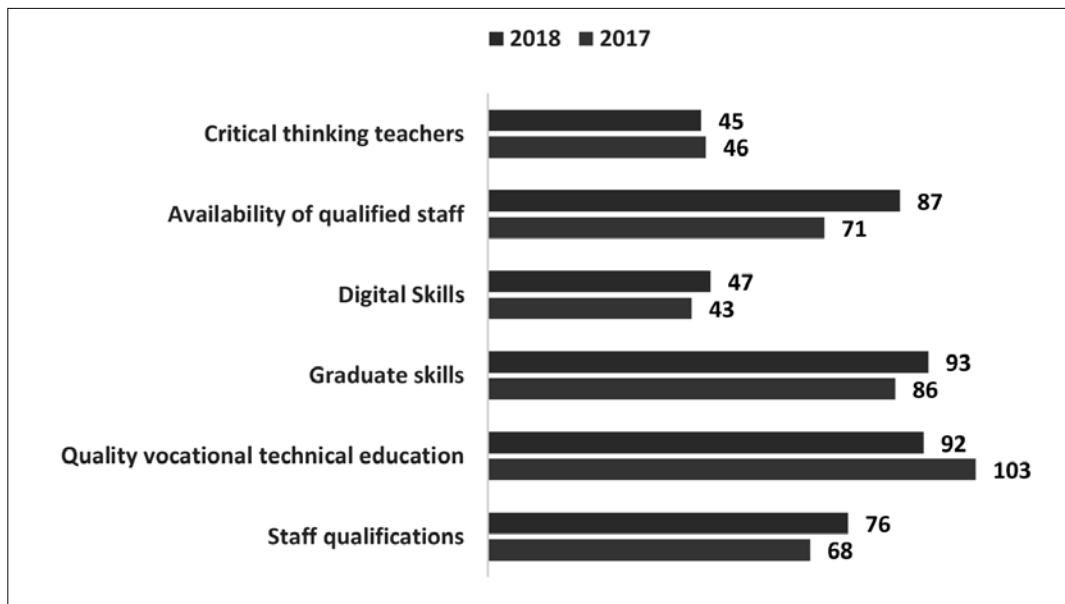


Figure 2. Dynamics of the rating of the factor “Education and Skills”

Source: composed by the authors according to The Global Competitiveness Report 2015–2016 and 2017-20 World Economic Forum, 2015 and 2018.

Today, the lack of qualified labor resources remains one of the main problems in the development of Kazakhstan business. The construction and manufacturing industries are in the greatest need of professional personnel, with almost half of their needs being skilled workers. Thus, according to the Statistics Committee of the Ministry of National Economy, the need for personnel at medium and large enterprises at the beginning of 2017 amounted to more than 14 thousand people.

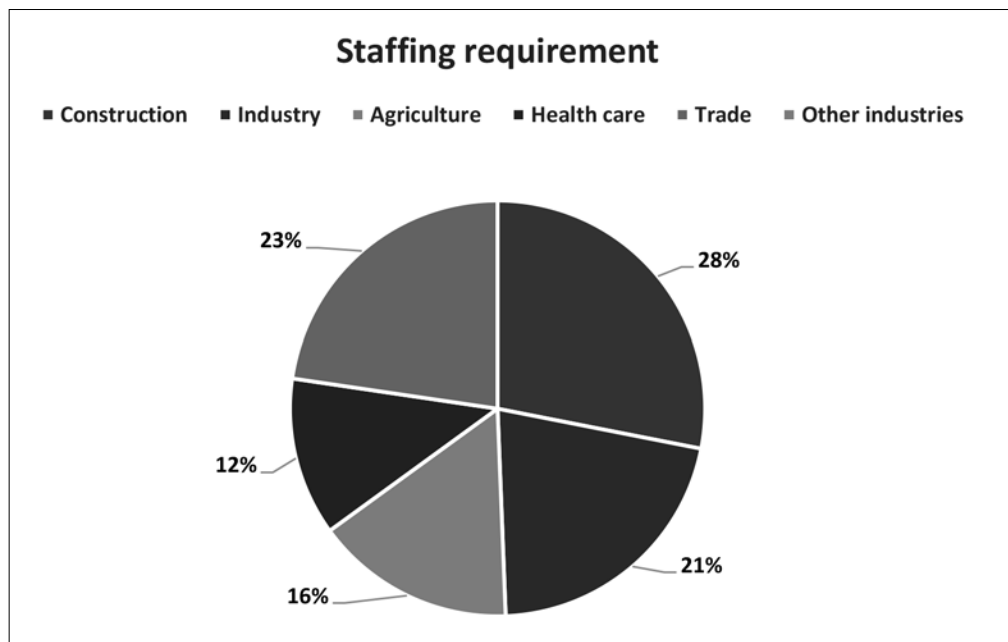


Figure 3. The structure of the need for personnel, 2017.

Source: composed by the authors according to The Global Competitiveness Report 2015–2016 and 2017-20 World Economic Forum, 2015 and 2018.

The results of the study show the difficulty of hiring both qualified specialists and unskilled workers for most sectors of the economy. According to the report “Business Climate” of the National Chamber of Entrepreneurs “Atameken”, the lack of technical workers is noted for 18% of the manufacturing industry and 15% of construction enterprises. Managers and specialists are required at every fourth trade enterprise and at 145 agrarian enterprises. There are not enough top-level specialists in every fifth of manufacturing enterprises, 17% of trade enterprises, 15% of sector enterprises. The deficit of human capital annually increases in agriculture by 35-40%.

Based on the data of the Business Climate report presented by the National Chamber of Entrepreneurs “Atameken”, the authors studied the patterns of growth in the annual revenue of enterprises depending on the size of the enterprise and the level of prevailing competence of its employees.

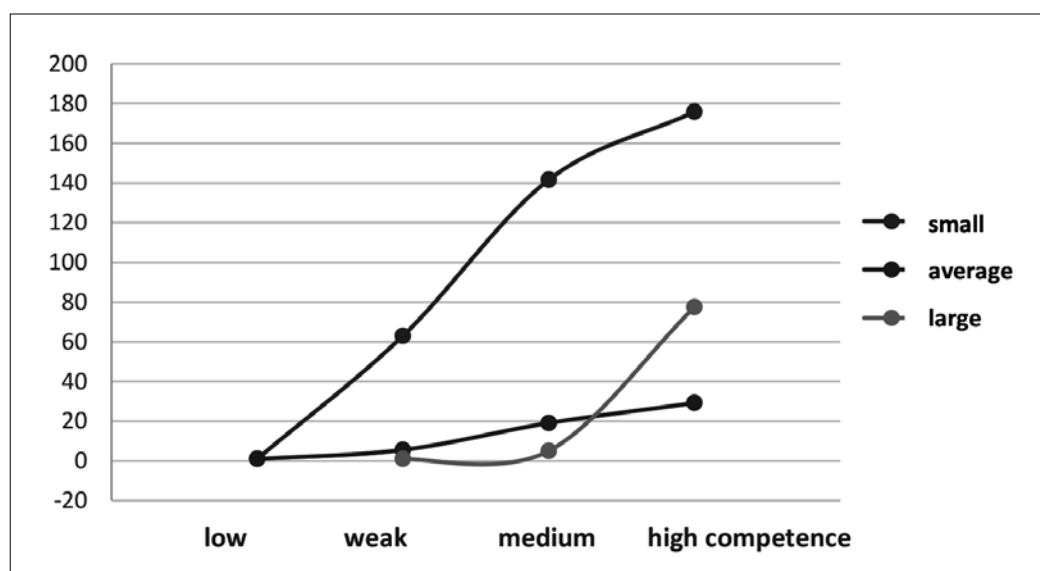


Figure 4. Basic growth in the turnover of enterprises depending on the size and level of competence of employees.

Source: composed by the authors according to Business Climate 2016

The authors of the report note that the more competent the company’s employees, the higher the annual turnover of the organization. Our calculations confirm the relationship between the growth of the competence of employees and the increase in the annual turnover of the enterprise, however, show that the nature of this dependence is different, depending on the scale of the enterprise.

Small businesses with each step in the growth of employee competence increase turnover, but the growth rate decreases with increasing degree of competence. The largest increase is achieved at the very first investment in a small business human capital. Medium-sized enterprises accumulate competencies and translate them into circulation more evenly.

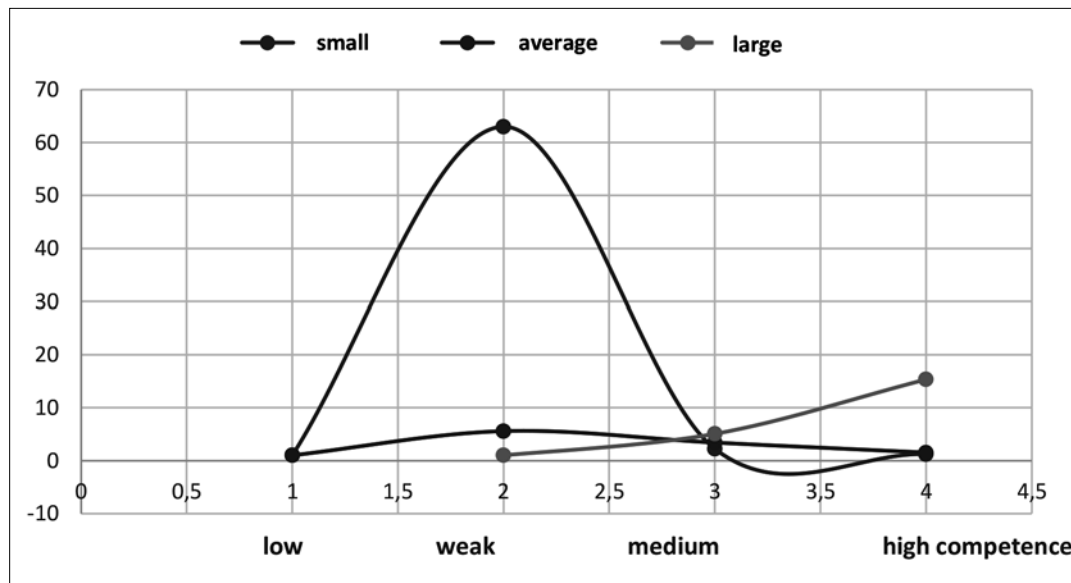


Figure 5. Chain increase in turnover of enterprises depending on its size and competence of employees.

Source: composed by the authors according to Business Climate 2016

The chain growth curve shows how the increase in turnover decreases with a further increase in competence in small and medium business and, on the contrary, continues to grow in large enterprises where there is no prevailing incompetence.

Rating indicators should not only be the subject of national pride or administrative personnel decisions, as is often the case in Kazakhstan. On the basis of critical analysis, they can become a tool in identifying problem areas, an economic strategy and develop a set of tools for productivity growth.

An increase in the number of labor resources is not expected in the near future due to the “demographic hole” of 1997–2002, the period of the lowest natural population growth in the history of modern Kazakhstan. This means that in the coming years the smallest replenishment of the economic active population over the last 10-15 years is expected.

The staff shortage is also aggravated by the annual outflow of qualified personnel from Kazakhstan. About 7-8 thousand people with higher education leave the country, and only about 3 thousand people arrive.

Every year, an average of 4,800 technical specialists leave the country, which negatively affects the rate of industrialization of the country. At the same time, the leakage of technical personnel most painfully hits the most industrially developed regions of the country: more than 50% of the outflow of technical personnel falls on the East Kazakhstan, Pavlodar and Karaganda regions, i.e. on industrial areas of Kazakhstan. The “demographic hole”, the leakage of personnel and low expenses for education are the reasons for the poor quality of personnel. At the same time, Kazakhstan has all the prerequisites for increasing the human capital of Kazakhstani society. The well-known American economist M. Blaug showed that in developing countries the return on investment in education is greater than in developed countries. This means that for an industrial innovation breakthrough, Kazakhstan must first of all rely on the development of a system of quality pre-school, school and university education. And this task is only possible by the state authorities.

Individual and social rates of return on investment in human capital are distinguished. In this regard, it is quite obvious that such a task, for example, as industrial and innovative development is the social norm of profit from investments in human capital. The social rate of return is a prerogative of efforts at the level of state power. Economists consider the costs of research and education, the health care system, the labor market, the

regulation of relations between employers and their employees as the main efforts of the state to develop social human capital. That is, to increase the potential of human capital, an integrated approach is required. Therefore, it seems necessary to develop a concept for the development of human capital in our country, in which all the appropriate questions for this would be comprehensively worked out.

Whether this necessary task will be implemented in our country, time will tell. But while on the threshold of this all of us, who are close to the levers of management and business, can make a contribution to the development of human capital on the ground. In the end, as was said, our future well-being depends on it.

Conclusions

The most important component of human capital is labor, its quality and productivity. The quality of work, in turn, is determined by the mentality of the population and the quality of life. Work in Kazakhstan, unfortunately, has always been of poor quality. The power consumption of Kazakhstan products is two to three times higher depending on the industry than in countries with efficient production. And labor productivity is several times lower than in developed countries. Low-productive and low-quality work significantly reduces the accumulated human capital of Kazakhstan, reduces its quality.

In Kazakhstan, in the short term, there seems to be a significant shortage of human capital, both qualified and unqualified, and there are not so many reserves to replenish it - the natural population growth is still very small, moreover, it has been noted only for the last few years. The only possible option is the use of relatively inexpensive and, as a rule, low-skilled labor from rural regions, as well as the influx of illegal migrants from neighboring Central Asian countries. However, such migration flows cannot be unambiguously assessed as a positive phenomenon, since they will lead to a final decline in production in rural areas, which, unlike industry, has not yet been able to “reanimate”, as for illegal migration - in its negative consequences, as for the economy, so for the social situation in the country, no doubt.

Thus, today, Kazakhstan needs a clear large-scale program for the formation of high-quality human capital of a differentiated level of qualification, both at the macro and micro levels. Such a policy should contain measures aimed at improving the quality of education, health care, developing a system of social responsibility of business, encouraging it to pursue a policy of qualitative and quantitative growth of investments in the education of employees, and macroeconomic regulation of migration flows. It should be borne in mind that the human capital formation policy should be a structural element of the country's overall economic policy and be comprehensive.

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