

The Role of Higher Education System in Human Capital Formation

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Abstract: The article analyzes interrelation between the system of higher education and human resources. The authors have revealed the role and place of professional skills, gained at the university, in the formation of human capital. The interrelation between higher education, human capital, individual well-being, business profitability and development of the country economy was determined. The components of educational potential were analyzed. A number of measures to be taken in the system of higher education to prevent losses in human capital and to optimize the process of its formation have been formulated. The situation in the field of higher education development and human capital accumulation in Kazakhstan was studied through the prism of a new paradigm of thinking. The trends for intellectualization of Kazakhstan society and improvement of human resources quality have been identified.

Key words: Education • Human resources • Development • Higher educational institution (university) • Economy • Kazakhstan • University • Training

INTRODUCTION

The present brings forward more and more new requirements to human's activities, personal qualities, knowledge and social role. The experience of many countries of Central and Eastern Europe proves that the economic growth and social progress are possible only at the transition to the economy of knowledge, when the "comparative" advantages of the countries" are less determined by the richness of natural resources and ever more depend on technical innovations and competitive application of knowledge or their combination [1]. Finally it becomes evident that the highest stage of post-industrial economy development may be achieved only if proper human resources are available. These data provide every reason to state that the society is reconsidering the role of knowledge in human's life; and the quality education is being recognized as a main factor for forming and developing the human capital being not simply the source of economic opportunities but characterizing the economic capacity at all levels.

The theory of human capital, studied from the end of the XIX century, was widely developed in many countries of the world. There are plenty of fundamental research works touching upon the concept of human capital, developing the methodology for investigation of social

and economic category of human resources and proving significance of human resources for the economic growth of the country. The correlation between the indicators of education and those characterizing the general level of economic development was analyzed and the efficiency of competition in the field of education, its globalization and influence on human resources was studied. As a result, it was proved both theoretically and practically that there is a fundamental relation between education, human capital and economic growth of the country [2, 3]. However, the story of investigations in this field is rather short and it should be noted that the economic science still pays insufficient attention to systemic analysis of the mechanisms of higher education influence on formation and development of human capital and latent reserves for its development. Many aspects of these problems require further consideration and discussion that conditions the topicality of this work determining its composition platform and objectives.

The Main Part: At that, to make the research both theoretical and practical it is expedient to consider the main problems, ways to their solution, difficulties and achieved success by the example of Kazakhstan Republic. The choice of the country is conditioned by the peculiarities of Kazakhstan educational system

development and inherent contradictions in human capital formation. These contradictions will be analyzed in more details during our investigation.

Thus, the objective of this article is to determine the place of higher education in formation and development of human resources and investigation of this problem based on the material of Kazakhstan Republic considering the new paradigm of social thinking.

The unbiased analysis proves that human capital is the most productive and capable to provide modern competitive advantages [4]. This capital is largely formed in the education system that results in an increase of its role and significance, especially at the upper level, since it is higher education that serves a basis for formation of innovative human resources oriented to intellectual, hi-technology, productive and creative activities. The educational potential of human capital is believed to be its most important component, since education gives knowledge, abilities and skills, develops professional skills and consequently and generates conditions for obtaining competitive advantages and extra benefits. In the context of the educational factor it is necessary to distinguish the influence of formal, ongoing and applied training on the condition and development of human resources. The formal education is vocational and technical and higher education; the ongoing education is study for academic degree, additional education, advanced training, retraining, self-education, self-improvement; the applied one is improvement of skills, experience and knowledge in practice [5].

It is apparent that higher education improves the quality of human resources at all levels from an individual to the enterprise and the national system as a whole. Improving qualitative characteristics of human resources at the modern stage of service economy and respective transformation of social relations is an indisputable condition for sustainable economic development of any country. First of all, it applies to an increase of labor productivity resulting from the increase in the educational level of workers and their professional skills. In this context the author finds expedient to note that the higher education itself is not a panacea for economic recession but only a potential factor and a prerequisite of future economic growth. It becomes a source for human capital development and an economic result only when it may be efficiently used, i.e. when there are preconditions for practical realization of modern knowledge and skills of specialist at their enterprises and companies.

An important for human capital growth is motivation to improve education and as it is well known, the higher

education is rather costly. Therefore to avoid neutralizing the role of higher education, the society in general and the enterprises in particular have to properly motivate the intellectual labor; and there are plenty of ways to do this, particularly by means of material incentives. In the developed countries, a substantial stimulus for developing education, especially the higher education, is an existent stable dependence between the educational level and a lifelong income of an individual [6]. To assess the dependence of an individual's earnings on the level of his education, labor experience, length of service and other factors, the model of J. Mintzer may be used [7]; transforming this model obtain the reduced value of net income from higher education earned for the entire employable life period:

$$\sum_{t=n}^N \frac{(E_t - C_t)}{(1 + r)^t} = 0$$

where t-individual's age;

E_t -salary increase after receiving higher education in the age t;

C_t -costs of higher education in the age t;

n-age when an individual starts university studies;

N-age when a person stops working and retires;

r-profit rate of higher education.

According to the author, to develop the necessary and favorable conditions at the state level that would serve to human capital formation and prevention of its losses, it is necessary to realize the following priority trends in higher education reform:

- To provide the innovation character of higher education development.
- To optimize the higher education structure and training and retraining of specialists in the view of innovative economic development.
- To implement the strategy for provision of human resources to the educational sphere and saving and development of scientific and pedagogical schools; and to introduce objective evaluation of scientific and pedagogical activities.
- To widen access to higher education and to promote social protection of the participants of educational process.
- To review the content of higher education, state standards and qualifications in the context of forming single educational space.

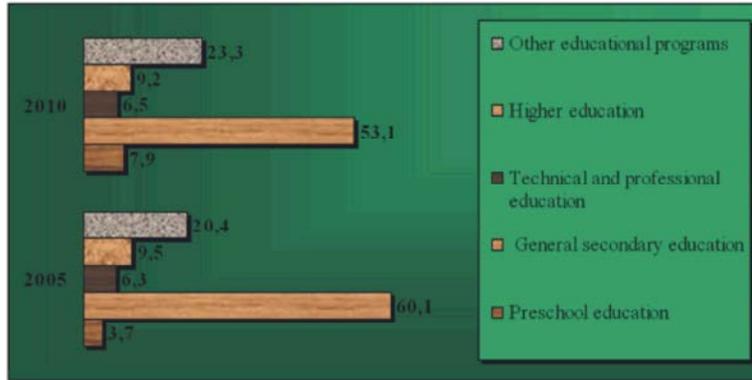


Fig. 1: Structure of the state expenses according to the levels of education in KR in the years 2005-2010 (%) [10]

Table 1: Ratings of Educational Development (UNESCO) and Human Resources Development (U.N.O.) in some countries of the world for the years 2010-2011

Place	Country	IED 2010	Place	Country	Index of human capital development 2011
1	Norway	0.995	65	Byelorussia	0.756
2	Japan	0.994	66	Russia	0.755
3	Germany	0.994	68	Kazakhstan	0.745
4	Kazakhstan	0.993	75	Georgia	0.733
5	Italy	0.992	76	Ukraine	0.729

Based on the foregoing, it may be inferred that influence of higher education on human capital formation may be determined by:

- The level of innovative character of higher education development;
- Observance of the principle of equal access to education;
- Level of ongoing education development;
- Quality of education.

The results of the performed analysis prove that higher education, which is reflected in human capital, is more valuable than, for instance, the financial capital, resources and etc. In this respect, the countries' commitment to expansion of various social and educational programs serves as clear evidence. To some extent, Kazakhstan sets certain fashion in post-Soviet space and according to the reports of UNESCO [8] and U.N.O. [9] it is among the first four leading countries on the index of educational development (IED) and is included in the group of courtiers with high index of human development (Table 1).

On the other hand, the share of higher education in the country budget contradicts to the mentioned achievements. In 2006, this share was 0.3% of GDP and in 2011 increased 13 times and reached 3.9%, that is anyway

one the worst in the world (for OECD countries this indicator is 6-7% of GDP [10]). At that, the largest part of budget expenses falls on secondary education whereas funding of higher education decreased in 2005-2010, that may be seen in Fig. 1. The level of higher education development and its contribution into human capital accumulation is assessed by the experts of the Club of the Institute of Political Decisions: "Higher education is a business and it is so uncompetitive that needs cardinal or even radical reforms. Weak players shall quit since Kazakhstan does not need a hundred and fifty inefficient organizations in the market of educational services" [11].

Current education system does not meet modern requirements of the changed social system and the human cannot adapt to the real information revolution and enter into the market with competitive level of human capital. This proves that the country has to resolve the problems of quality improvement and increase funding of higher and post-university education in order not to decrease the level of human capital. It is quite complicated to calculate the volume of investment into the educational sphere of Kazakhstan necessary for stable economic growth and formation of the "economy of knowledge" due to a number of reasons. However it is apparent that today, reproduction of human capital and improvement of its quality characteristics is impossible without appropriate investments in this fundamental part of national well-

being. In this case, it is important to consider the well-known fact that higher education develops business and organizational qualities in a human and high level of educational allows rapidly reacting on the changes in technology and introducing new knowledge in production and etc.

The second paradox in the development of higher education and human capital is that by the year 2008 none of Kazakh universities was included in the global rating of 500 best universities in the world; and in 2010, two of the Republican higher schools were included in this list, namely Eurasian National University n.a. Gumilev and Al Farabi KzNU. The majority of employers are not satisfied with the educational level of specialists graduating the university. The training programs not always meet the expectations of employers and economic requirements.

Undoubtedly, the country government understands the importance and irreversibility of the problems of higher education development that have become especially acute in the context of a small population compared with the country's territory. It is education that was recognized one of the most important priorities of the long-term strategy "Kazakhstan-2030" [12]. Nursultan Nazarbaev in his annual appeal to Kazakhstan people informed that one of the vectors for Kazakhstan development will be investment into human capital [11]. As opposed to classical interaction "higher education-human resources" the improvement of education parameters and students' results in the universities will allow solving several problems at once by forming the integral and solid human resources. These are namely: overcoming of a deficit of employees, increasing the labor productivity, more efficient policy of diversification and modernization of both individual companies and economy as a whole. Of no small importance is that high-quality higher education in the structure of national human capital development will allow educating patriotism and cultivating this special spirit that Kazakhstan has always been famous for.

Summing up the obtained data we may draw the following conclusions. It is hard to overestimate the role of higher education in human capital formation. The main imperative of modern civilization and progress is comprehensive development of higher education conditioning accumulation and arrangement of competitive human resources in the country. The world practice has proved that investment in human capital is the most efficient. This conditions a new level of economic growth that for the last decades has

strengthened in the developed countries. The potential of higher education of the country will be adequately reflected in the formed human capital under the following conditions:

- Qualitative renovation of university education; its systemic changes at simultaneous maintenance of universality and fundamental bases;
- Revival at a qualitatively new level with an organic combination of educational and research activities.

Influence of university education on human capital formation should be based on the programs regulated by the government. These programs should include specific projects on modernization of the university structure and funding for the priority fundamental and applied research on a competitive basis.

CONCLUSION

For Kazakhstan, the improved quality of higher education is strategically important since the country experiences a demographic crisis that will worsen along with realization of the program of accelerated industrial and innovation development (AIID). The total investment in human capital is at the level of 9% because of the inertia of the past years. The survey of the university teachers performed in 2010 showed that the need in the higher education reform is recognized by the most part of academic community and that its main vector is more and more supported by the university teachers [11]. To efficiently form a human capital and increase the level of intellectualization of Kazakhstan society in accordance with new challenges of the XXI century it is necessary to activate the already progressing process of the university education development, having in mind its quality improvement according to the requirements of innovation economy and a need in integration with fundamental science.

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