Human Resource Development of Georgia within the Framework of the Knowledge Economy

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Abstract:

Knowledge has always played an important role in the development of human resources, but its value has increased particularly at the present stage, in the circumstances of fierce competition and during the need to move the economy to an innovative model of development. Formation of knowledge-based economy is the main topic for Georgia nowadays, which determines the quality of the factors of production and economic growth of the country. Therefore, the aim of this study is to investigate the knowledge-based economy as the foundation for human resource development in Georgia. The paper analyzes the current state of knowledge-based economy of Georgia and its role in activation of development of human resources of the country, shows the problems of optimizing the interaction of the "triple helix concept" - the relationship between universities, industry and government, and provides recommendations for solutions of identified problems. As a methodological base of research, well-known scientific methods were used: induction and deduction, analysis and synthesis, comparative methods, and others.

Keywords:

Knowledge economy, human resources, innovation, education, development, Georgia.

1 Introduction

Under the influence of globalization processes before each state there is a question of how to develop under the conditions of the globalizing world. This question is also topical for Georgia, which, after the restoration of independence (1991), was at difficult stages of its historical development. Transformation of Georgian society, construction of new state and economic structures, and transition to the market economy occurred painfully against the background of political and economic crisis, a sharp decline in all macroeconomic indicators. Georgia has faced a number of objective problems, among which are: breakdown of traditional production links with the former Soviet republics, heavy dependence on import, small integration with the global economy, weak inter-branch economic integration within the country, low consumer demand for goods and services in the domestic market (small economy), etc.

As a result of market reforms, Georgia has achieved some success in economic development, increased standard of living, active cooperation with many countries in political, economic, cultural and other fields. It has become a member of the UN, IMF, WTO and many other international organizations. The relations of Georgia with the outside world have begun to be built considering peculiarities of the transitional period and based on the historical role of the Caucasus and its geopolitical location. Strategic, political, economic and other interests of many major countries of the world have intersected in the Caucasus for a long time. Currently, the Caucasus is a place of confrontation of these interests and one of the most troubled parts of the modern world. This territory of three inter-ethnic conflicts has grown into open military confrontation.

It has been over 20 years since the declaration of independence of Georgia; however, there are still serious economic problems, and the state structures and institutions are ineffectively managed. Proceeding from this, an important issue is transition of the Georgian economy to an intensive way of development, which should provide sustainable economic growth and competitiveness of the country.

Currently, worldwide, one of the main conditions of modernization of the economy and a strong incentive to increase its growth rate is recognized as an innovative activity. The innovative way of development is also necessary

for Georgia. Therefore, the purpose of this paper is to show the socio-economic situation in Georgia and to explore the possibilities of the knowledge economy as the basis of development of human resources.

2 Socio-economic situation in Georgia

Georgia is a small country. In 2014, its GDP at current prices totaled $16528.5 million (preliminary data). This is 4.8% more than in the year 2013 [1] and 2 times more as compared to 1990 ($ 7753.5 million). Georgia had the highest GDP growth rate (12.3%) in 2007. During the years of 1990-2014, the GDP per capita increased from $1611 to $3680.8. According to the World Bank classification, Georgia is a lower-middle income country [2]. There was a serious socio-economic differentiation of the population. In 2013 the Gini coefficient by total income was 0.42, and by total expenditure – 0.44 [3].

The years 1991-1994 were the most difficult period in the history of post-Soviet Georgia. In 1994, the volume of the lowest GDP was $ 2,514 million – 32.5% of the 1990 level, and the GDP per capita decreased from $ 1,611 to $ 517 [2]. The steep fall in production, reduction in investment, hyperinflation and other negative phenomena have significantly changed the economic structure of the country: in 1990 the share of agriculture in GDP was 31.7%, industry – 33.1%, and services – 35.2%, in 1994 – respectively 65.9, 10.3 and 23.8%. In recent years, the transformation of the sector structure of Georgia continued; as a result, in 2013, the share of services in GDP accounted for 66.6%, industry – 34.0% and agriculture – 9.4% [2]. The growth of the service sector is generally indicative of the country's transition to post-industrial stage of development of the society in which the majority of employees are engaged in the non-material sector. However, in Georgia it is not the case: despite the small share of agriculture in GDP, in this sector there are employed 57.7% of the active population and 63.1% of the employed population in the country [4].

Georgia has heavy dependence on import. In 2013, the share of import of goods and services in GDP was 57.6% and the share of export was 44.7% [2]. In 2014, external merchandise trade (excluding non-organized trade) in Georgia amounted to $ 11457 million (preliminary data), 5 % higher year-on-year. The export equaled $2861 million (2% lower), while the import stood at $8596 million (7% higher). During the entire post-Soviet period, the main trend of foreign trade of Georgia has been negative trade balance. In 2014, the negative trade balance was $5735 million and its share in external trade turnover constituted 50 % [5].

In 2014, the share of the top ten trading partners in the total external trade turnover of Georgia amounted to 68 percent. The top trading partners were Turkey ($1966 million – 17.2 %), Azerbaijan ($1182 million – 10.3 %), Russia ($853 million – 7.4%), China ($823 million – 7.2 %), Ukraine ($686 million – 6.0 %), Germany ($535 million – 4.7 %), Armenia ($499 million – 4.4%), United States ($495 million – 4.3 %), Bulgaria ($374 million – 3.3 %) and Japan ($372 million – 3.2 %) (Figure 1). Top trading partners by export were Azerbaijan ($544 million – 19.0 %), Armenia ($288 million – 10.1%), Russia ($275 million – 9.6 %), Turkey ($239 million – 8.4 %), United States ($207 million – 7.3 %), Bulgaria ($164 million – 5.7 %), Ukraine ($140 million – 4.9 %), China ($90 million – 3.2 %), Kazakhstan ($89 million – 3.1 %) and Italy ($86 million – 3.0 %) (Figure 2). The top trading partners import were Turkey ($1727 million – 20.1%), China ($733 million – 8.5 %), Azerbaijan ($638 million – 7.4 %), Russia ($578 million – 6.7 %), Ukraine ($546 million – 6.4 %), Germany ($466 million – 5.4 %), Japan ($368 million – 4.3 %), Romania ($311 million – 3.6 %), United States ($287 million – 3.3%) and Italy ($222 million – 2.6 %) (Figure 3). It should be noted that during the entire post-Soviet period, Russia has been the main trading partner of Georgia, but even though in the years 1994-2006 it was top-ranked (during this time period it was in the first place 8 times; in the second place 5 times), after the 2008 war and the severance of diplomatic relations, it moved to the 3rd-7th positions [5].

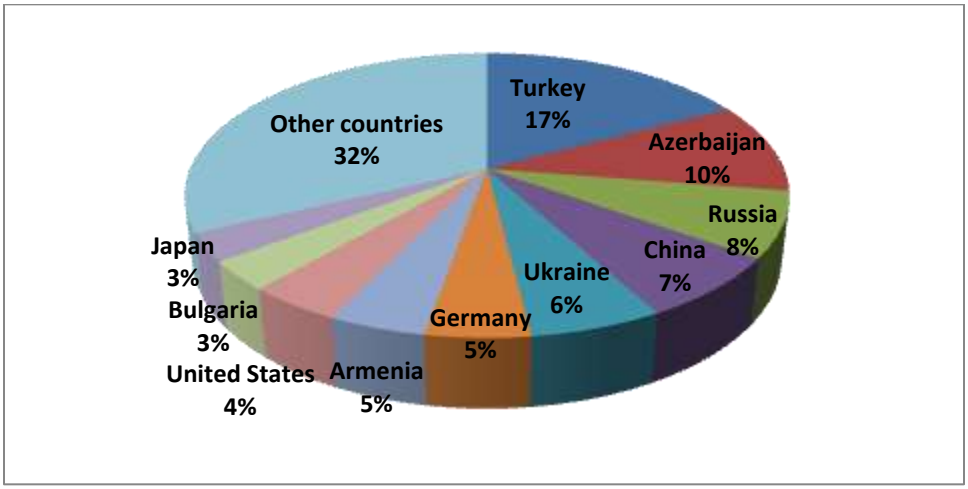

Figure 1. The top ten trading partners in the total external trade turnover of Georgia

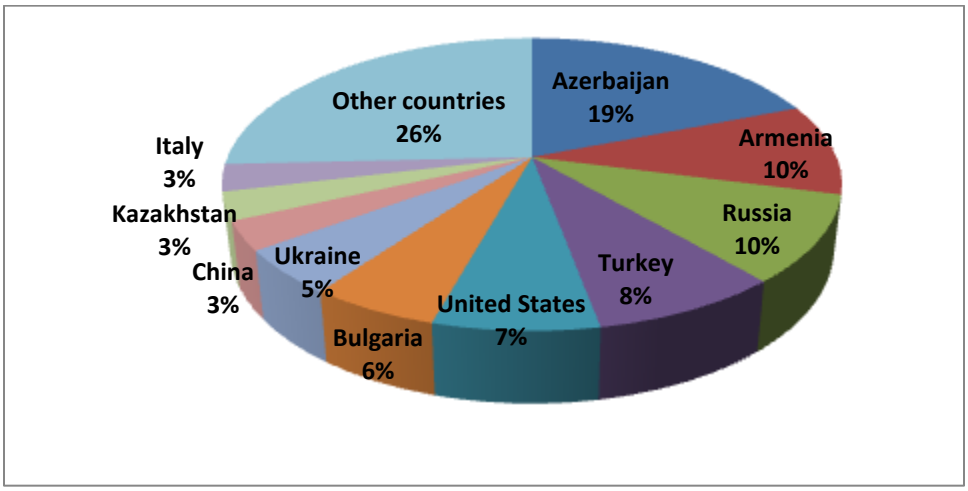

Figure 2. The top ten trading partners in the total export trade turnover of Georgia

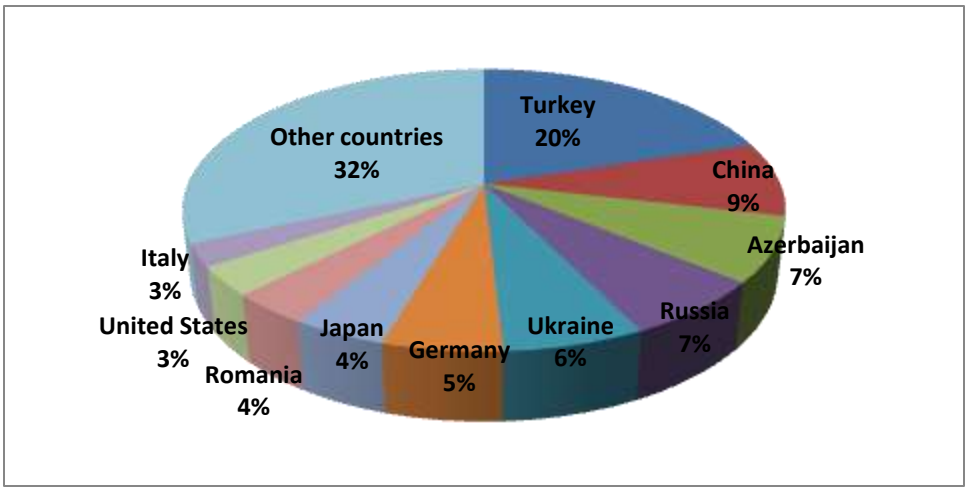

Figure 3. The top ten trading partners in the total import trade turnover of Georgia

In 2014, the external trade of Georgia with the EU countries amounted to $2990 million, up by 4 % compared to the corresponding indicator of the previous year. Export amounted to $621 million (2 % higher), while import amounted to $2369 million (4 % higher). The share of these countries in the external trade of Georgia amounted to 26%, 22 % in exports and 28 % in import (in 2013, 26, 21 and 28 % correspondingly). 30 % of the trade deficit came to the EU countries (32 % in 2013). The external trade of Georgia with the CIS countries totaled $3593 million (lower by 5 % compared to 2013). Export stood at $1465 million (10 % lower) while import equaled $2127 million (2 % lower). The share of the CIS countries in the external trade of Georgia constituted 31%, 51 % in export and 25 % in import (in 2013, 35, 56 and 27%, respectively). In 2014, compared to the corresponding period of the previous year, CIS countries accounted for 12 % of the overall trade deficit (11 % in 2013) [5].

Georgia's economic growth is largely due to foreign investment. Investment activity in the country began in 1997 and reached the peak in 2007 – $2015 million. In 2014, foreign direct investment (FDI) in Georgia amounted to $1272 million (preliminary data), up by 39 % from the preliminary data of 2013 and 35 % from the adjusted data of the same year. The share of FDI by major foreign direct investor countries allocated as follow: Netherlands - 26 % ($331 million), Azerbaijan - 24 % ($302 million), China – 15 % ($195 million), United Kingdom – 9 % ($114 million), Luxembourg – 7 % ($85 million), United States – 6 % ($80 million), Turkey – 5 % ($67 million), Russia – 5 % ($66 million), other countries – 3 % ($32 million) (Figure 4) [6].

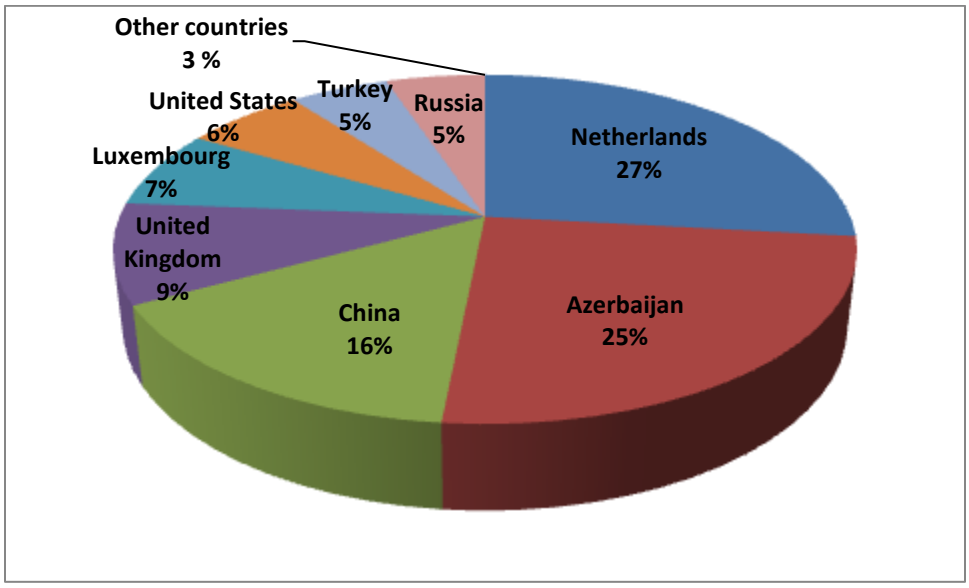

Figure 4. FDI by major investor countries in 2014

In Georgia's economic development, a significant role is played by favorable business environment. In 2015, by the ease of doing business, Georgia is in the 15th place among 189 countries in the world. According to the Registration of Property, it ranked 1st in the world, dealing with construction permits – 3rd, starting a business – 5th, getting credit – 7th, enforcing contracts – 23rd, trading across borders – 33rd, getting electricity – 37th, paying taxes – 38th, protecting investors – 43rd, resolving insolvency – 122nd [7].

The efficiency of national economies is determined by their competitive ability in the world markets. According to the Global Competitiveness Index 2014-2015 rankings, Georgia is in the 69th place among 148 countries. According to the classification of the World Economic Forum (WEF), it belongs to the group of countries at the stage of Efficiency-driven [8].

Georgia’s economic freedom score is 73.0, making the economy the 22nd freest in the 2015 index of economic freedom. Its overall score has increased by 0.4 point since the last year, primarily reflecting improvements in freedom from corruption, monetary freedom, and the management of government spending, which outweigh notable

decline in labor freedom. Georgia is ranked 11th out of 43 countries in the European region, and its score is well above the regional (67.0 score) and world (60.4 score) average. With a 2.6-point score increase over the past five years, Georgia has registered improvements in five of the economic freedoms, including freedom of corruption, control of government spending, business freedom, monetary freedom, and investment freedom. Achieving its highest score in the 2015 index, Georgia has advanced further into the category of "mostly free" [9].

The results of the transformation processes in Georgia can be evaluated by the Bertelsmann transformation index (BTI). The BTI aggregates the results of this comprehensive study of transformation processes and political management into two indices: the status index and the management index. The status index has two analytical dimensions – one assessing the state of political transformation, the other the state of economic transformation. Focusing on the quality of governance, the management index assesses the acumen with which decision-makers steer political processes. By the status index, Georgia has the 48th rank (value 6.16) among 129 countries, by the political transformation, it occupies the 52nd position (value 6.50), by the economic transformation – 57th (value 5.82), and by the management index – 41st (value 5.78). According to the level of political and economic transformation, Georgia belongs to the countries of a limited category [10].

In general, the process of transformation in Georgia has met the demands put forward by international financial and economic organizations - to introduce market economy tools and democratic reforms. At this stage, Georgia continues in the course of transformation, which now lies in strengthening and improving the existing mechanisms. To do this, the country needs an intensive way of development on the basis of the knowledge economy.

3 Knowledge economy and human resources

The modern economy is based on knowledge. It should be noted that knowledge has always been an important component of economic development. In the XVII century, W. Petty put forward the idea of paramount value of labor skills of the population in the national wealth of the country. Adam Smith developed this idea to include knowledge and skills in the basic capital of the company along with machines and land. Knowledge, as embodied in human beings (as "human capital") and in technology, has always been central to economic development. But only over the last few years has its relative importance been recognized, just as that importance is growing.

Many researchers state that accumulation of one's human capital in education and training investment largely affects growth of an individual' wage, firms' productivity, and national economy (Denison, 1962; Schultz, 1961). Microscopically, Lepak & Snell (1999) show that a firm's core competences or competitive advantages are induced by investment in human capital entailed with value creating potential [11].

Formation of the concept of human capital was under the direct influence of the scientific and technological revolution. In the early 60's, the classic works of G. Becker and T. Schultz [12-15] were published. In these works, the costs of the individual to acquire knowledge and skills are considered as an investment, the profits which increase its income during the working life of the individual. A. Marshall [16] considered knowledge as an essential factor in entrepreneurial activities. Later, N. Kondratiev formulated a theory of large cycles conjuncture and tied the transition to a new cycle with a wave of inventions and innovations [17]. K. Sveiby [18, 19] estimated the economic processes in terms of knowledge. The importance of knowledge for economic development was analyzed by M. Boisot [20], V. Lundvall [21], and many others. They note that in the knowledge economy, particular attention should be paid to human resources.

Arthur Madison [22] found that the higher is share of educated people in the country's population, the higher will be rates of economic growth. He also deduced dependence, according to which an increase in spending on education by 1% leads to an increase in GDP by 0.35%. If in a particular country the average length of studies is extended by a year, its GDP will increase by up to 3-6%. In 2003, the UNESCO Institute for Statistics released a report on the issues of investment in education and economic effects, which addressed a variety of investments in education and the return on these investments. The Knowledge Society involves all members of the community in knowledge creation and utilization; it supports the goal of high quality and safety of life [23].

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At the present stage, the value of knowledge has increased even more. This effect is explained by the following trends: technological globalization and increasing role of human capital; increased innovation as an organized activity; appearance of "New Economy" based on the revolution of information and communication technologies; development of infrastructure and regulation systems of innovation at the national and international levels; mass and access to higher education; complication of the system "science-technology-production-consumption", etc.

The knowledge economy differs from the traditional economy in several key aspects (The Global Knowledge Economy and its implication for markets) [25]:

- The economics is not of scarcity, but rather of abundance. Unlike most resources that are depleted when used, information and knowledge can be shared, and actually grow through application.
- The effect of location is diminished. Using appropriate technology and methods, virtual marketplaces and virtual organizations can be created that offer benefits of speed and agility, of round the clock operation and of global reach.
- Laws, barriers and taxes are difficult to apply on a solely national basis. Knowledge and information 'leak' to where demand is the highest and the barriers are the lowest.
- Knowledge enhanced products or services can command price premiums over comparable products with low embedded knowledge or knowledge intensity.
- Pricing and value depend heavily on context. Thus, the same information or knowledge can have vastly different values to different people at different times.
- Knowledge, when locked into systems or processes, has higher inherent value than when it can 'walk out of the door' in people's heads.
- Human capital - competencies - are a key component of value in a knowledge-based company, yet few companies report competency levels in annual reports. In contrast, downsizing is often seen as a positive "cost cutting" measure [25].

In order to facilitate economic analysis, distinctions can be made between different kinds of knowledge which are important in the knowledge-based economy: know-what, know-why, know-how and know-who. Knowledge is a much broader concept than information, which is generally the "*know-what*" and "*know-why*" component of knowledge [26].

Georgia is at the beginning of building of the knowledge economy. Its formation includes the following processes: creation of new knowledge and its use in economic and social life, acquisition of knowledge and organization of an effective learning process, and dissemination of new knowledge and processes.

The main resource of the knowledge economy is people. Each person has potential which is necessary to develop. The indicator of the level of human development in the country is the Human Development Index (HDI). It is a comparative measure of life expectancy, literacy, education, standards of living and quality of life for countries worldwide. According to the HDI, Georgia is a country with high human development. By this index, it occupies the 79th place in the world. The rank of Georgia compared with the previous year improved by 2 positions. In 2013, the HDI value was 0.744, the life expectancy at birth - 74.3 years, the mean years of schooling (2012) - 12.1 years, the expected years of schooling (2012) - 13.2 years, the gross national income (GNI) per capita (2011 PPP $) - $6,890, the inequality-adjusted HDI (IHDI) value - 0.636, the inequality-adjusted HDI (IHDI) overall loss - 14.5 %, the coefficient of human inequality value - 14.0, the inequality in life expectancy - 12.9, the inequality-adjusted life expectancy index value - 0.728, the inequality in education - 3.3 %, the inequality-adjusted education index value - 0.745, the inequality in income - 25.9 %, and the inequality-adjusted income index value - 0.474 (Figure 5). The HDI (0.744) of Georgia is higher than in Europe and Central Asia (0.738) and the world average (0.694) [27].

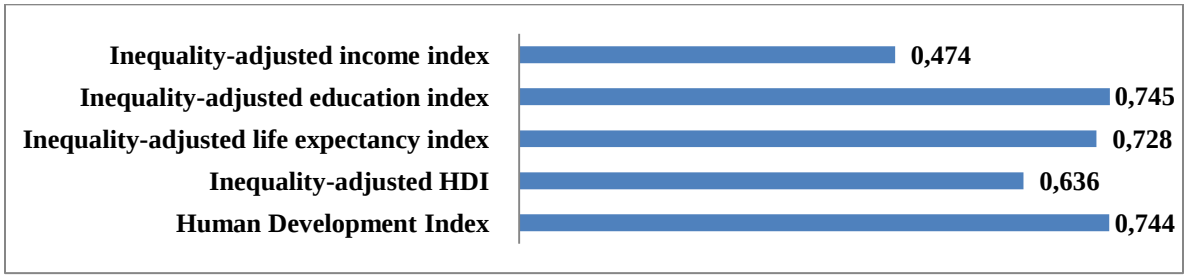

Figure 5. Human Development Index of Georgia

The degree of advancement of the country on the path of formation of the knowledge economy is determined by the World Bank on the Knowledge Assessment Methodology (KAM). This methodology is used to calculate two composite indices: Knowledge Index (KI) and Knowledge Economy Index (KEI). Methodologically, KI is the simple average of the normalized performance scores of a country or region on the key variables in three Knowledge Economy pillars - education and human resources, the innovation system and information and communication technology. The KEI takes into account whether the environment is conducive for knowledge to be used effectively for economic development. It is an aggregate index that represents the overall level of development of a country or region towards the Knowledge Economy. The KEI is calculated based on the average of the normalized performance scores of a country or region on all 4 pillars related to the knowledge economy - economic incentive and institutional regime (EIIR), education and human resources (EHR), the innovation system (IS) and information and communication technology (ICT). In 2012, at KI Georgia was in the 87th place (4.49 scores). Compared with 2000, this index deteriorated by 20 positions. However, during this period, KEI rating of Georgia improved by 7 positions and it took the 68th place (5.19 scores), while the rating of the economic incentives regime improved by 58 positions, and the other indicators observed deterioration of the situation: EHR – 32 positions (43rd rank, 5.15 scores), IS - 4 positions (65th rank, 4.61 scores) and ICT - 1 position (95th rank, 3.72 scores) [28].

Knowledge is associated with a person as a separate individual and with human society as a whole. It depends on the person's mental abilities. Increase in the average educational attainment of a country's population by one year increases annual per capita GDP growth from 2% to 2.5% [29]. Education is a driving factor in development of the knowledge economy. All this leads to the need to improve and develop the basic institution of the knowledge economy – the institute of education. An effective educational system, on the one hand, creates conditions for analysis and assessment of global technology trends and conditions for implementation of scientific and technological achievements. On the other hand, a high level of education of population creates preconditions for development of demand for high-tech products, and this stimulates development of more innovative products and processes.

In Georgia, the quality of education lags behind the quality of education of many foreign countries. Georgia is the 27th in the world ranking by primary education enrollment, but its quality is in the 92nd position. Its rank in higher education and training is 92nd , including quality of the education system - 98th, quality of math and science education - 105th, quality of management schools - 98th, extent of staff training - 114th and availability of research and training services - 116th [8]. The low quality of the education system of the country is due to minor expenditure on education. In 2012, expenditure on education amounted to 2% (in 2011 – 2.70% and in 2009 – 3.22 %) of GDP (from government sources) and 6.7% (in 2011 – 9.27% and in 2004 – 15.04 %) of total government expenditure (all sectors). The government spent only $621.7 per student (in 2011 - $716.5, in 2008 - $721.2) (PPP). Reducing the cost of R&D also had a negative effect on development of innovative potential of Georgia. For example, in 1998, its share in GDP was 0.35%, while in 2005 and the subsequent years, it was not more than 0.2% [30].

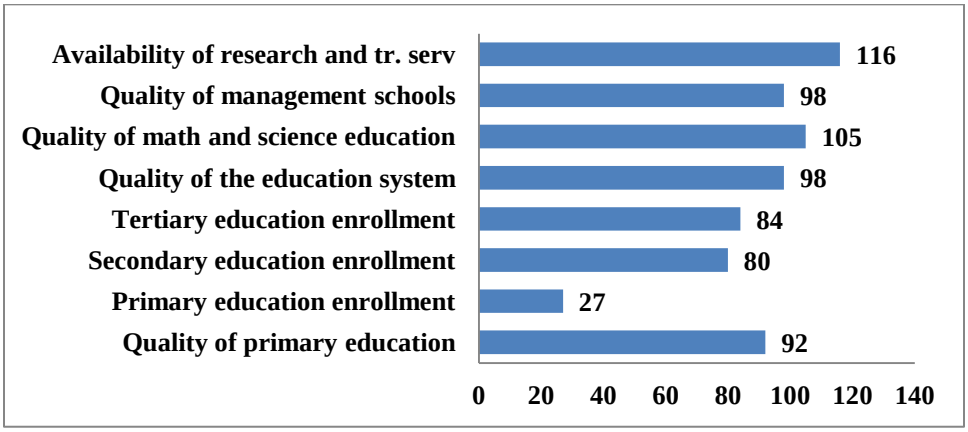

Figure 6. The quality of education in Georgia (WEF)

To improve the quality of education in Georgia, the laws "On Higher Education", "On Vocational Education", and "On General Education" were adopted. The structure of education is aligned with the International Standard Classification of Education. In 2005, Georgia joined the Bologna process and signed the Bologna Declaration, adopted the basic documents of the process, moved on to a three-tier training: Bachelor-Master-Doctor, formed a national system of education quality assessment, etc. Georgia signed bilateral agreements with many countries on cooperation in science and education. Agreements with other countries' policies in education and science were made to enhance the development potential of the country and the accumulation of new knowledge. However, Georgia has a poor innovation potential [31, 32]. For example, regarding capacity for innovation, it is in the 110th position, quality of scientific research institutions – 119th, company spending on R&D – 126th, university-industry collaboration in R&D - 128th, government procurement of advanced tech products - 62nd, availability of scientists and engineers - 122nd, patent application under the Patent Cooperation Treaty (PCT) – 65th (figure 7) [8].

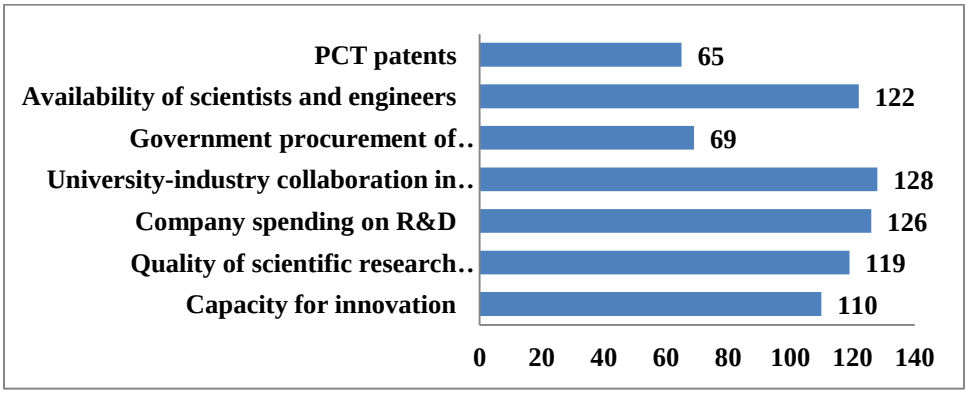

Figure 7. Innovation potential in Georgia (WEF)

For the development of innovative potential in the first place, it is necessary to create the conditions for application of existing knowledge and generating of new knowledge, to solve the problems that impede the transition of Georgia to the knowledge economy. The most serious problems are: unawareness of value transition to the innovative way of development from both the Government and private business; lack of financial resources for education and science, modernization of existing production facilities, creation of new high-tech enterprises; weak collaboration between businesses in the sector, universities and research institutions; limited exchange of information between research organizations and industry; low level of management - in general and technology - in particular; inadequacy of institutional and legal mechanisms to stimulate innovation; weak focus on product quality, etc. [33].

In the knowledge economy, an important role is played by the interaction of three institutions: the university, the industry and the government. The concept of the Triple Helix of university-industry-government relationships interprets the shift from a dominating industry-government dyad in the Industrial Society to a growing triadic relationship between university-industry-government in the Knowledge Society. The Triple Helix thesis is that the potential for innovation and economic development in a Knowledge Society lies in a more prominent role for the university and in hybridization of elements from the university, industry and government to generate new institutional and social formats for production, transfer and application of knowledge. This vision encompasses not only the creative destruction that appears as a natural innovation dynamics (Schumpeter, 1942) but also the creative renewal that arises within each of the three institutional spheres of university, industry and government, as well as at their intersections [34].

In the knowledge economy, universities are the driving force behind the development of human resources. They are building up intellectual capital, and help create innovation and new technologies. The most important task of universities becomes the formation of self-learning ability - willingness to learn throughout life. In this challenge, the government should take action to get people to teaching and competences, including those basic skills and knowledge that make up the foundation for further training. In addition, the government should encourage participation of the private sector in the development of the education system and human resources. The triple helix of university-industry-government relationships should eliminate the gap between the skills and abilities, which offers educational institutions, and those that are in demand today. Analysis of the situation on the labor market shows a significant gap between the knowledge, skills and qualifications that graduates receive in universities and other educational institutions, and the qualifications and skills that are in demand on the market.

Over the past 50 years, institutions of higher education – modeled for the most part on the European university – have experienced explosive growth in student numbers, described by some as a “massification” of higher education. Educational provision is becoming more varied as knowledge advances. Constraints on government spending are inducing more and more establishments to envisage other modes of financing, notably from private sources. As a result, higher education in most countries now consists of a complex network of public or private institutions – polytechnics, engineering faculties, business and management schools, distance education centres, research laboratories, company subsidiaries, etc. [35].

“Massification” of higher education is typical of Georgia. It arose as a result of emergence of paid teaching and a sharp increase in the number of higher education institutions. In 1991, Georgia had 19 public higher education institutions, and 102.8 thousand students studied there. The maximum number of institutions of higher education was in the 2004/2005 school year - 198, including public – 26 and private – 172. Despite the high number of private universities, the majority (approximately 2/3) students were studying in public universities. Their share is 65-80% of the total number of students. In the 2013/2014 school year, the average number of students per public higher education institutions was 4384, and per private higher education institutions – 73, in the 2001/2002 school year – 4442 and 208 students (Figure 8) (Table 1).

It should be noted that the developed countries moved on to the mass higher education under conditions of economic growth, which resulted in a sharp increase in the number of jobs and growing demand of skilled labor. In Georgia, there was a completely different situation. The increase of the number of students occurred during a severe economic downturn, demographic decline and excess of qualified personnel. In this situation, the traditional goal of higher education was accompanied by an added function "temporary employment" – the unemployed youth studied and did not have time for criminal acts, which are usually accompanied by unemployment and other negative things. However, “massification” has a negative impact on the quality of education: many education institutions do not have modern technical equipment and qualified lecturers. Accordingly, students can not get an education conforming to the requirements of the knowledge economy.

Table 1. Higher education institutions and enrolment (at the beginning of the school year)

	Number of institutions			Number of students, thousand			Share, %		Number per institutions		
Years	total	public	private	total	public	private	public	private	total	public	private
1991/1992	19	19	..	102.8	102.8		100.0	..	5411	5411	..
1995/1996	132	23	109	124.2	82.2	42.0	66.2	33.8	940	3574	385
1996/1997	143	21	122	129.4	86.5	42.9	66.8	33.2	905	4119	352
1997/1998	182	23	159	127.5	87.3	40.2	68.5	31.5	701	3796	253
1998/1999	178	24	154	128.4	90.1	38.3	70.2	29.8	721	3796	249
1999/2000	186	24	162	135.1	95.0	40.1	70.3	29.7	726	3958	248
2000/2001	171	26	145	138.9	105.8	33.1	76.2	23.8	812	4069	228
2001/2002	179	26	153	147.4	115.5	31.9	78.4	21.6	823	4442	208
2002/2003	180	26	154	153.7	122.2	31.5	79.5	20.5	854	4700	205
2003/2004	176	26	150	153.3	123.9	29.4	80.8	19.2	871	4765	196
2004/2005	198	26	172	172.5	137.1	35.4	79.5	20.5	871	5273	206
2005/2006	171	25	140	143.9	113.8	30.1	79.1	20.9	842	4552	215
2006/2007	166	18	148	140.8	110.8	30.0	78.7	21.3	848	6156	203
2007/2008	156	19	137	112.1	81.2	30.9	72.4	27.5	719	4274	226
2008/2009	129	20	109	93.6	66.5	27.1	71.0	29.0	726	3325	249
2009/2010	129	21	108	102.7	74.1	28.7	72.1	27.9	796	3529	266
2011/2012	52	19	33	95.1	70.9	24.2	74.6	25.4	1829	3732	733
2012/2013	57	19	38	109.5	80.0	29.5	73.1	26.9	1921	4211	776
2013/2014	66	19	47	117.8	83.3	34.5	70.7	29.3	1789	4384	735

Source: Statistical Yearbook of Georgia: 2014/ National Statistics Office of Georgia. – Tbilisi, 2014. 274 p. ISBN 978-9941-0-7376-2 http://geostat.ge/cms/site_images/_files/yearbook/Yearbook_2014.pdf. P.71

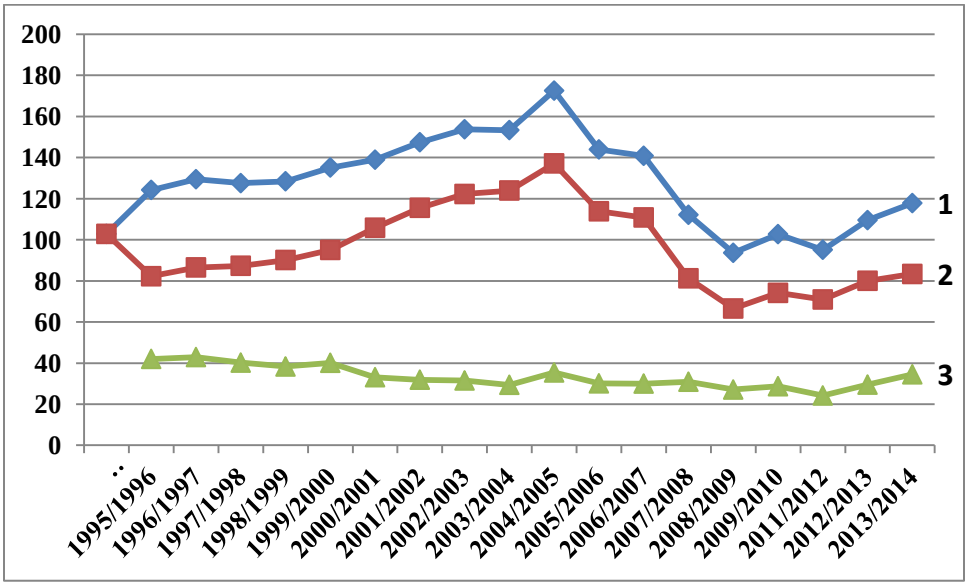

Figure 8. Number of students: 1 - total, 2 - public 3 - private

Human capital is the main wealth of any state. Therefore, the mission of the education system of Georgia in the knowledge economy must be a qualitative and quantitative increase of human capital. To improve the efficiency of education, it is necessary to solve the following questions:

- Which specialties are needed in the labor market?
- What should be the skills and qualification of specialists?

- How many specialists are needed for the labor market?
- Who needs trained professionals?
- How to train these specialists? (What to teach? Who and how to teach? How to learn?)

An effective solution to these problems is possible only with direct participation of universities, industry and the government. Their close cooperation will facilitate and accelerate the transition of Georgia to the knowledge economy and will also enhance competitiveness of human resources. Along with the internal factors of development, it is necessary to use the advantages of integration more effectively. Agreement with other (primarily European) countries on policies in education and science (on the basis of the Bologna process) should strengthen the potential of training and provide new knowledge.

4 Conclusion

Georgia has implemented large-scale reforms, but the quality of economic growth remains low; little attention is paid to competitiveness of human resources and innovation, lack of cooperation between the participants of the triple helix – university-industry-government, and insufficient use of external factors of development of education and science.

To ensure a high level of human resource development, qualitative and quantitative modernization of the education system is necessary. However, due to the low level of funding and unawareness of the value of the knowledge economy, reforming of the education system of Georgia has been slow. Accordingly, the country's transition to an innovative model of economic development, which is essential to the progress and prosperity of the country, is obstructed.

To solve the problems associated with the transition of Georgia to the knowledge economy in the first place, it is necessary to outline education and research as one of the key strategic priorities of socio-economic development of the country. Everyone must understand that human capital is the main wealth of the country and it should be multiplied by all means and possibilities.

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