

The role of education in the growth of the Georgian economy

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Abstract

The article - "The role of education in the growth of the Georgian economy" - is dedicated to the economic problem of Georgia, particularly unemployment, and explores the connection between the quality of education and this issue. An even more significant concern is the disproportionately high number of unemployed individuals, accounting for 18.5% of the working population. Among them, a remarkably large percentage consists of graduates from higher education institutions (32.3%) and vocational schools (over 40%). The author attributes this situation to the low quality of education in both types of institutions and the mismatch between the professions and competencies acquired by students and the labor market requirements.

The article mentions that Europe experienced a similar problem before Georgia has faced it. To address this issue, the European Commission launched several programs and, in 2006, adopted an official document, "Knowledge into practice". This document recognized the new model of higher education, known as the "Triple Helix" and European countries gradually started transitioning to this model.

The authors of the article recommend the Ministry of Education and Science of Georgia, along with all its affiliated universities, to get acquainted with this model. By adapting it to the local conditions of Georgia, they should commence preparatory work for its practical implementation. It is suggested that each university in Georgia be encouraged to identify a "Center of Excellence" they are proud of and can expand to create a strong bond with local business firms. The relationship should serve students well.

The strength of the "Triple Helix" model of higher education in the article is the close cooperation of universities with the business sector and the government of the country. The government of the country establishes the educational framework and regulations, while the business sector provides specific demands for skilled professionals and universities fulfill these. Graduates trained under this model are subsequently employed by the businesses that requested their specific skills. The author of the article claims that this model has worked in the UK, USA, Germany, Serbia and elsewhere, and will work in Georgia as well.

In addition to the Triple Helix model, the article also emphasizes the significance of human capital as an essential factor of production contributing to economic growth. This has been developed by Professor Gary Becker of the University of Chicago (Becker, 1975). Furthermore, the article highlights the successful implementation of Co-Operative Education in the US, where students are placed in the workplace alternating with their academic studies. This program has been in place since 1906 at the University of Cincinnati and has resulted in half of the Co-Op students being offered full-time employment upon graduation (University of Cincinnati, 2021).

The article notes that the necessity for education to collaborate with business has emerged in recent years. This was related to the acceleration of technical progress, which led to (and still leads to) the "aging" of professions. Added to this is the already outdated traditional thinking about education

that education is the transfer of knowledge and the conduct of research. The new XXI century required education to play the role of a "public servant". This should be reflected in the smooth employment of the staff trained by it. This can only be achieved through deep and solid ties with the business sector. In this way, Georgian universities will be transformed into full-fledged market entities. They will realize that the "product" they create in the market (graduate specialist, research innovations) depends on consumers or employers and tailor the education process to their needs.

According to the authors of the article, this will be a major turning point in Georgia's higher education, which will play a major positive role in the country's economic growth.

Introduction

Inclusive growth of the economy implies universal employment and distribution of benefits from this activity to all. For this to happen, people must have professions, knowledge and competences that are in demand in the labor market. In this regard, the situation in Georgia raises concerns. The largest part of the working population (mostly those aged 40 and over) has traditional occupations that are no longer in demand. The qualifications and professions of the majority of the educated youth are generally not compatible with the labor market requirements, and as a result, they are among the unemployed population. Therefore, it is logical to ask the question: "Who is the "guilty" in this matter - the educational institution, the student or the employer?" In this article we will discuss this topic.

The role of education

Education is not traditionally classified as one of the factors of production, such as land, labor, or capital. At the same time, none of the factors of production can be fully developed without the proper education of a person. Land, capital, and other inanimate resources require human intervention to be effectively utilized. Highly skilled and educated individuals can enhance the quality and productivity of these factors. The level of human capital development is an important factor for the economies of all countries. In our time, "knowledge creation" has a higher economic value. (Kharkheli, 2022).

Georgia's economy is facing this pressing need. According to data from the State Department of Statistics of Georgia, the gross domestic (future) product of the country before the pandemic caused by "Covid-19", until 2020, was constantly growing - by 4% in 2017, by 4.8% in 2018, by 5% in 2019 (National Statistics Office of Georgia, 2021). However firstly, such growth is not enough for Georgia, which is on the development path (for Georgia to become a developed country, its economy needs more growth) and secondly, not all able-bodied residents of the country are involved in the current economic growth. At the same time, among the total number of unemployed (18.5% in 2020), the share of graduates with vocational and higher education is dramatically high (in particular, those with higher education account for 32.3% of the unemployed), which indicates that these young people did not receive the education required by the market. This also applies to their professions and professional skills.

Human capital is widely recognized as a crucial component of economic growth. Professor Gary Becker of the University of Chicago has made significant contributions to the understanding of human capital and its role in economic growth. Becker defines human capital as the accumulation of knowledge, skills, and health that increase the productivity of individuals and societies (Becker, 1964). He argues that investment in human capital, such as education and training, can lead to higher levels of productivity and economic growth. In the context of the Georgian economy, investment in education can help address the issue of unemployment and improve the quality of the labor force. The findings of Becker's research provide important insights into the topic and support the argument for the crucial role of education in the growth of the Georgian economy.

Many researchers write about the fact that the level of education and the quality of teaching in Georgia is a problem. The most critical issue is the transfer of professions and competencies that are in demand for young people. The reason for this is the rapid "obsolescence" of professions, education specialists say. There is indeed a grain of truth in this. For a student who selects a specific field of study and dedicates six years to pursuing it (4 years of bachelor's degree and 2 years of master's degree) the profession becomes "obsolete". In the age of modern digital technologies, six years is no longer just six

years; it feels like a century. So where is the solution? The solution is for the Ministry of Education and Science of Georgia, as well as educational institutions, to have a deep connection with employers/entrepreneurs, and on their demands, they would establish training programs, choose specialties, training subjects, practice facilities, etc. The second measure is the introduction of accelerated learning by students taking more credits, that is, mastering a 6-year program in 4 years (3 years of bachelor's degree, 1 year of master's degree).

We should also get used to the fact that even in such case, employed people will need to constantly update their skills. Scientists estimate that 54% of employed people will have to do this (Gagnidze, 2019), and if people do not accept the required changes, then by 2050 the unemployment rate will increase to more than 24% (Nuttall, 2018).

Acquiring knowledge is a complex and lengthy process and cannot be completed without significant investment. In order to deepen knowledge, the process of receiving formal and informal education should be continuous. (Vardiashvili, 2022). Among scientists, the opinion is confirmed that a person should use the acquired knowledge practically, that is, "knowledge not for knowledge's sake", but for use, for practical realization. A person realized in this way is personally competitive and adds a competitive advantage to the company in which he or she works. In order to utilize acquired knowledge to its fullest potential, make informed decisions, and act appropriately, it is necessary to have a thorough understanding of ourselves, to understand what causes positive and negative emotions in us, to be able to accurately evaluate ourselves, to know our strengths and weaknesses, to have clearly defined moral values, to understand, to the extent possible, what we represent (Kharkheli & Morchiladze, The importance of personal emotional competence in business relationships, 2018).

Co-Operative Education is a model of higher education that combines classroom learning with practical work experience. It originated in the US in 1906 at the University of Cincinnati and has been widely adopted by other universities across the country. In Co-Op Education, students alternate between terms of study and terms of work placement. This model provides students with valuable work experience and prepares them for the job market upon graduation. In the US, half of Co-Op students are offered full-time employment after completing the program. This successful model highlights the importance of linking education with the labor market and provides a practical example of how this can be achieved.

In the past, when the competition was not as fierce as it is today, the pace of technological changes was not so fast, and people more or less did not have difficulty finding employment, this problem did not exist. The task of activating the influence of education on the economic growth of countries has come to the forefront in recent years when it was found that the share of university graduates among young people in the countries is almost 20-25%, and at the same time, the largest part of them is unemployed. For each individual to achieve success, it is essential to possess the skill of effectively managing and organizing time. This will happen if an individual properly plans his/her activities, outlines priorities, and compares the workload with his/her abilities and energy. The sooner a person tries to learn this, the sooner he/she will succeed (Kharkheli, Person as a subject of time organization, 2015).

As of 2021, the level of higher education coverage of youth of student age (20-34 years) in Georgia is 16.4% (Table 1). With this indicator, Georgia is higher than Germany (15%) and France (15%), but in terms of their employment, it is far behind.

Table 1
The level of higher education coverage of youth of student age
(From 20 to 34 years inclusive)

	Number of young people aged 20-34	2020 year			Coverage of youth with higher education (%)
		Number of students	Number of graduates	Total	
Georgia	1100500	157300	23485	180785	16,4

Source: calculated by the authors based on data from the National Statistics Office of Georgia.

The National Statistics Office of Georgia does not provide information regarding the specific breakdown of unemployed youth based on whether they are graduates from the private or public sector of higher education. No separate research has been conducted on this issue. There is a study on unemployment of age groups, according to which in 2017, the highest level of unemployment among young people was among young people aged 20-24 and it was 29.6% (Tsartsidze, 2019). This is the age when young people have graduated from higher education institutions and, despite this, are not employed. There are other important studies in this direction (for example, study 2015, <https://www.mes.gov.ge>; study 2016, Tracer Study; study 2018, EPPM; study 2019, EPPM). All these studies are conducted at the government level and in coordination with government agencies. In these studies, the target group was the graduates of both higher education institutions and vocational education institutions. The studies aimed to find out their satisfaction and the issue of labor arrangement.

The research conducted in 2015 studied the satisfaction of graduates with various aspects related to receiving professional education. The assessment was carried out using a three-point system. The proximity of the satisfaction index to 3 indicated the highest rating or high satisfaction. According to the research, the graduates are the least satisfied with the care of employment, according to this criterion, the average rate of satisfaction is only 1.81 (Ministry of Education and Science of Georgia, 2015), according to the study conducted in 2019, it is established that 45.1% of the graduates of professional educational programs are unemployed (Ministry of Education, Science, Culture and Sports of Georgia, 2020). According to the research conducted in 2019, it is determined that 64% of the graduates ask for employment care, and 36% for the improvement of the quality of education (Ministry of Education, Science, Culture and Sports of Georgia, 2020).

This type of research is undoubtedly useful, but it is also necessary to find out at the government level what part of unemployed youth studied in the private sector and what part in public institutions. The results of such study by the Ministry of Education and Science of Georgia show which sector of education is in an alarming situation and what causes it. We are far from thinking that this situation will be only in the private sector of education. Due to our jobs, we know the public sector of higher education well and we know a lot about the problems there. It is enough to say that the public sector of education in Georgia is financed with an insufficient amount of the state budget. For example, in 2020, higher education was financed with 135,199.7 thousand GEL. This amount covered all the expenses of the country's public higher institutions (except capital expenses). At this time, the number of state universities is 19, in which 100,600 young people studied in 2020, taught by 5,065 professors and teachers. This amount was used to provide the necessary conditions for students' studies. Based on the information provided, the amount for one student amounted to only 1344 GEL, which is so small that it is not even enough to pay for a student's internship in a high-level enterprise, not to mention the hiring of highly qualified professors and teachers. As a result, the practice is formal, and the qualifications of the professors raise the desire for better.

In our opinion, the situation is probably even worse in private higher education institutions (except for one or two private universities). Therefore, these two sectors should be studied separately. We should

not shy away from interfering in their management affairs, and if necessary, we should tighten their standards.

As we have already mentioned, the issue of the impact of education on the growth of the country's economy has become more active in recent years, when it turned out that educational institutions and the business sector spoke different languages - the former taught what they thought was important, and the latter were interested in problem-solving personnel who would deal with issues arising in business practice (Jolia, 2016). Before Georgia, this problem arose in Europe. Since the 80s of the 20th centuries, the European Commission has developed several programs in this direction, including the Cooperation program between universities and the business sector "Comet" (1986). More attention has been paid to this issue in Europe since 2000. In 2006, the official document "Knowledge into practice" was adopted, the "Wide innovation strategy of the European Union" was developed, etc. In these documents, the role of higher education in the growth of the economy was emphasized, and the only right way to achieve it was the mutual cooperation between education and business through the mediation of the country's government. This was a kind of recognition of the new "Triple Helix" model of higher education created by scientist P. Etkovich in 2000.

At present, the innovative development of many countries is based on the "Triple helix" model. This model was formulated at the beginning of the 21st century by Professor H. Etzkovitz from Stanford University and L. Leydcsdorff, professor of the University of Amsterdam. The "Triple helix" symbolizes the interaction between the government (authorities), scientific, educational organizations and business. (Kalenov & Shavina, 2018)

Henry Etzkovitz, an American scientist and professor at Stanford University, also discussed the need for interaction between universities, businesses and the state in the "Triangular Spiral" model. The "Triangular Spiral" model of innovative development includes three main components:

- A knowledge-based society is characterized by the growing importance of universities in collaboration with industry and government.
- Three institutes (University, Business and Government) seek cooperation, and the innovative component stems from this interaction, not from government initiative.
- In addition to the traditional functions, each of the three institutions assumes "the role of the other in part". Institutions capable of performing non-traditional functions are the most important source of innovation. (Utanova, Rajabov, Inoyatov, & Marufbaev, 2021)

Many universities in the world are already working with this model. One of these is Staffordshire University (Great Britain). In addition to theoretical studies, venture enterprises, fab labs, and business incubators have been opened at this university. In them, students undergo practice and work. The university also has a commercial development center. The program SPED and many others have been developed. For another example, Red Hat, Inc. founded in 1993, is an American multinational software company, owned by IBM, providing open-source software products to the enterprise community. The company has now created a formal partnership with Boston University to advance research and education on open source and emerging technologies, including cloud computing, machine learning, automation, and big data. The fund runs the scope from co-supervising PhD and post-doctoral students to fund collaborative projects with faculty. BU and Red Hat will jointly license co-developed technology while each party retains exclusive rights to its pre-existing IP. In addition, IP developed solely by either BU or Red Hat is owned by whichever organization employs the inventor (Hattangadi, 2022).

A university involved in the "Triple Helix" is called an entrepreneurial university. They are already widespread in foreign countries. Their advantages are orientation to labor market requirements, student involvement in research, team management, active participation in regional development, etc.

For the successful implementation of the triple helix model in Georgia, all three parties should take their share of responsibility.

- University role: collaboration with industries in order to provide students with real-life cases and problems, to enable problem-based learning and work-based learning; education of students according to the needs specified by the partners from the industry; constant promotion of academic staff; Cooperation with industry sector and government institutions in the creation of education strategies.

- Industry sector role: cooperation with universities in order to increase their innovative capacities and incorporate in the process of shaping future engineers; including students in their real-life projects and problems. Furthermore, the industry is expected to help universities shape their curriculum based on their expectations of graduates' skills.
- Government institution's role: facilitation of university-industry relations by adequate policies and regulations; involvement in education strategy development; support of government funding agencies (Cvetković, Morača, Vrhovac, & Graić, 2017).

The fact that Georgia ranks 116th among 137 countries in the World Economic Forum's Global Competitiveness Report is a result of the fact that our universities are not entrepreneurial and their connection with business is weak. That is why inadequate education is named as one of the hindering factors in doing business in Georgia (Narmania, Kharkheli, Vardiashvili, & Makasarashvili, 2022).

The scientist R. Montesinos called it a "servant of society" (Montesinos, 2008). Graduates of such universities practically master their work at such a level during their studies and learn business in such a way that there is a great demand for them among employers. These people are self-realized and thereby serve themselves, family and society. If the Ministry of Education and Science of Georgia reorganizes education in general, and higher education in particular in this way, then educated people will not remain unemployed. So, this is nothing but raising the role of education in the economic development of the country.

For two decades, world scientists have been talking about the need for inclusive economic growth. In 2014, the IMF named it the #1 goal in its program (International Monetary Fund, 2013). The Open Working Group on Sustainable Development and others have done the same. The reason for this was the growth of poverty and the deepening of the inequality of income distribution between the population strata and the countries. In the past 28 years until 2014, the inequality in income distribution between the poorest 10% and the richest 10% of the population of OECD countries increased from 7 to 10 times (OECD, 2016).

The National Statistics Office of Georgia does not publish information on the distribution of incomes according to decile groups of the population, so we do not know the extent of the imbalance in the incomes of the population. Only the Gini coefficient is known, which in 2020 was 0.36% in terms of consumer spending, and 0.37% in terms of total income (National Statistics Office of Georgia, 2021), while in European countries it is only 0.27-0.28%. This means that income inequality in Georgia is deeper than in Europe. The basis for this is the high level of unemployment, which, in turn, is caused by the incompatibility of the knowledge, skills and acquired professions with the requirements of the labor market.

It is common knowledge that and digitalization of the world have raised the demand for Knowledge-demanding professions. Not only Georgia, but the whole world today cannot meet this demand, because, as we have already mentioned, the majority of adults have old professions. There is no demand for such professions anymore and they remain unemployed. Moreover, precisely because the education system has not yet been reorganized in accordance with these new requirements of the labor market, and studies in higher education institutions are still mostly conducted in the old (traditional) way, the labor market cannot employ current graduates.

Today, all over the world, education is considered primarily in the context of adaptation to the labor market. This is a new paradigm of education, within the framework of which the Ministry of Education and Science of each country, including Georgia, as well as individual educational institutions, first of all, universities, should reflect in their development strategy not only the aspects of valuable knowledge transfer and scientific-research activities but also to participate in the solution of economic, social and ethnocultural problems of the country. All of this was well understood by the EU countries, which actually rejected the previous education system with the "Lisbon Strategy 2010". They set a specific task to solve the economic and social problems of a wide range of society through education, and they are achieving it.

The Lisbon approach to education was also recognized by Georgia at the time, and great changes were made in the education system of Georgia in this direction, but the fact that 50-60% of the educated youth are unemployed indicates that something important has been left without attention. In our deep

belief, this is indeed what happened. Neither the managers of this field nor the heads of individual universities could connect education with business because for centuries education was only a producer of educational and scientific information. They did not even perceive education as a business. At such a time, in the conditions of the market economy, the university is as much a market factor as any other. Its product is an educated specialist who must find a **consumer** for his or her education in the labor market. Therefore, today globalization and digital technologies have fundamentally changed the goals and objectives of the educational services market. In this market, the **consumer** has become a key figure. In this field, it is the employer of an educated specialist who will employ him if he sees in him the necessary profession and professional competencies.

The above-mentioned should not be understood as if educational institutions will lose their function of imparting knowledge. Of course not, education was and still is an important source of the formation of new competencies in a person. However, the latter needs to be modernized today. The traditional system of education, which was formed in the industrial age, is obviously outdated and cannot meet today's requirements. Today, the client is an employer (consumer) of an educated specialist as a "product" of education, and it is the duty of the education system to respond to his demand. Those who do not (or cannot) meet this demand will not be able to withstand intense competition and will simply disappear from the educational market space. Higher education in Georgia should be transformed into a "Triple Helix" model, and the function of caring for society should be added to the two functions it performs today (knowledge transfer and research). In simple words, this means training specialists whose professions, knowledge and skills developed at the university will be fully compatible with the demands of the global labor market (Narmania, Kharkheli, Vardiashvili, & Makasarashvili, 2022).

One way for universities to enhance their partnerships with the business sector is to identify a "Center of Excellence" and develop strong bonds with local firms. A Center of Excellence is a program or a unit within a university that focuses on a particular area of expertise and provides specialized education and research. By establishing strong relationships with local businesses, universities can better understand the needs of the labor market and tailor their education and research programs accordingly. This approach can help to bridge the gap between education and the labor market and provide students with more opportunities to gain practical experience and improve their employability.

According to the information of 2021, 64 universities are operating in Georgia, among them, 19 are state-owned, and 45 are private. The fact that in a study conducted by the World Economic Forum, Georgian universities rank 116th among 137 countries in terms of the university's connection with business (World Economic Forum, 2013), means that they, both separately and together, have not yet fully understood the importance of the business sector as a consumer of their "product" - only the business sector is the employer of the specialists trained by them and the implementer of the scientific research innovations performed by them, and if they do not respond to these demands, the studentship itself will reject them. The demands of students are increasing day by day, they are trying to be competitive in the labor market and obviously, they will choose only the best university to study.

In response to this challenge, the authors have developed the following recommendations for Georgian universities:

- to make the fastest adaptation to the current changes in the labor market (we have requirements in mind).
- to organize an educational-research and business relationship bridge with any foreign university working on the "Triple Helix" model and share their initiatives in this way.
- to reduce the duration of lecture-auditory teaching and extend practice at its expense.
- to introduce high-speed education, the possibility of taking additional credits and in this way to reduce 6 years of education (4+2) to 4 years (3 years of bachelor's degree + 1 year of master's degree).
- to open an "academic enterprise" under their own authority as an object of practice.
- start preparatory work for the transition to the "Triple Helix" model of education.

Conclusion.

The research showed us that the education system of Georgia, first of all, higher education, cannot respond to the demands of the labor market, and despite the reform, a large part of the graduated youth is

unemployed. The reason for this is that neither the Ministry of Education of Georgia nor individual educational institutions realized that they are also players in the labor market and their "product", whether it is a graduate specialist, or an innovation discovered through scientific research, is subject to the market principle of supply and demand. In this direction, their leaders need a radical breakthrough both psychologically and practically.

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