

Education, Human Capital and Competitiveness of Small Open Economies (Case of Georgia)

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Abstract

Education policy, which must ensure the formation of human capital and sustainable economic growth of countries, is of a particular importance for small open economies. The purposefulness of the education costs for the states having restored their independence not long ago is associated with certain risks. The goal of the work is to analyze the competitiveness of small developing economies in the context of expenditures borne for the formation of human capital. Improving a country's competitiveness is always desirable, as it gives new opportunities to the society both, at personal and microeconomic and macroeconomic levels. In terms of modern technical and technological changes, small economies are unable to improve their competitiveness without permanent improvement of human capital. There is quite a close association between human capital quality and labor productivity, while labor productivity is influenced by the achievements in the field of education. The study accomplished within the scope of the present work considers such indicators as GDP per capita, education costs, net migration, average incomes, etc. The quantitative analysis is based on the use of regressive models. The causal factors were determined mainly by using the qualitative analysis. Traditionally, Georgia is a country prone to education what must have been an advantage of the country. The paper shows how much the country with a small economy could maintain qualified labor and ensure the economic growth, how much the country's competitiveness and human capital changed. The gained results and experience must be interesting and useful for other small open economies.

Keywords: Productivity, Education, Human capital, Competitiveness, Labor market.

Introduction

Education is a necessary attribute of qualified labor. A country oriented on the economic development must ensure the education and training of the high-qualified personnel, who will develop both, fundamental and

applied sciences and will freely master and implement advanced techniques and technologies. Permanent and sustainable development what is much needed by small economies is ensured at the expense of education intensive and science intensive branches. Valuable human capital is the best means to improve the competitiveness of the country.

The significance of human capital was talked by A. Smith (Smith, A., 1776) as early as in 1776 and this factor has not lost its topicality even in the following centuries (Human Capital Investment: An International Comparison, 1998) (Savvides, A., and Thanasis Stengos, 2009, etc.). Virtually, there is a close relationship between education, the human capital and the competitiveness of the country. The more the gross domestic product is, the greater the possibility to finance the branch of education. However, the exact portion to use to develop the education system depends on the economic policy of the given country.

The study and analysis of the labor resources must consider the country's ability to reproduce the labor. No less important is to maintain local labor in the country. The labor markets in small economies face additional difficulties due to the increased migration and emigration flows (Mikiashvili, N., and Maia Giorgobiani, 2017).

The independent policy of Georgia in the field of education realized for more than a quarter of a century gained experience and achieved results need complex analysis. Particularly important is to determine the efficiency of the costs in the education sector what is mainly seen by the improved human capital, GDP growth, and maintenance of the qualified personnel both, at the companies and in the country.

Georgia's education system and human capital:

The education system of Georgia is presented by general, vocational and higher education. Particular attention is paid to inclusive education. The right of choice of the kind of education is guaranteed by the Constitution of Georgia (Constitution of Georgia, article 35). The country harmonizes the educational system of the country with the international education area. Preschool, elementary (6 years in the I-VI forms) and basic (3 years in the VII-IX forms) education is mandatory. Then, a student chooses between the secondary and the vocational education (which covers five grades).

The right to give general education to the students is granted to the educational establishments by means of a special procedure, the "Authorization". On the other hand, the national curriculum establishes the necessary minimum of the curriculum and guarantees the right of students with special needs to gain general education (Law of Georgia on General Education).

Academic education, except medical and dental education, is possible to gain as bachelor and master courses. The highest grade of all is doctoral education (Law of Georgia on General Education). There are three kinds of higher education institutions in Georgia: a university (with all three grades of the educational programs and scientific studies), an educational university (with the higher educational program(s) except doctoral courses) and a college (provides a curriculum of only the first grade of the higher education). The status of a higher education institution can be obtained only through "authorization".

In 2005, Georgia joined Bologna Process (initiated with signing the Agreement on European Higher Education Area by the ministries of 29 European countries in the city of Bologna, Italy, on June 19, 1999) (The Bologna Declaration). At the end of April of 2019, by the decision of the European Associate for Quality Assurance in Higher Education (ENQA), Georgia became a full member of the National Center for Educational Quality Enhancement (NCEQE). The official decision will be published in May.

The state supports the optimal operation of all grades of the educational system both, financially and institutionally. Generally, education in Georgia is available to both, the Georgian and foreign citizens. However, not all grades are totally available. The basic conditions of the human capital development are provided by the state and the strategic directions are also determined by the state. However, how adequate the current goals will be to future challenges will be seen by the rates of growth of the country's competitiveness and gross output.

State expenditure and education system:

Macroeconomic stability is very important for small economies and can be achieved by providing an organic agreement between fiscal and monetary policies (Mikiashvili, N., and Nino Lobzhanidze, 2016). Consequently, development of such a macroeconomic environment, which ensures favorable output growth at a branch level is another topical issue (Mikiashvili, N., 2017, pp.180-195), because due to the limited resources, open economies find it difficult to realize systemic changes in the unstable and institutionally chaotic environment. The funds assigned by the state for the development of education and science in the country may increase from year to year, but unless the state is stable and has a well-developed economy, such growth will be unproductive. Besides, quite often, even uptake of the funds assigned by the international organizations was problematic due to poor administration. All obstacles must be overcome and a system of international educational standards must be developed, if the country wishes to be competitive both, regionally and globally.

Georgia approaches European standards gradually. On April 9, 1991, after restoring its independence, which the country had lost 70 years ago, simultaneously with the hard process of transformation, gradual changes were made in the field of education needing relevant financial support. The Executive Authority realizes the changes in the field of education through the Ministry of Education and Science of Georgia (presently, the Ministry of Education, Science, Culture and Sport of Georgia), whose financial provision shows the state's opportunities and priorities in the given field (the corrected data of 2018 will be published on 15.11.2019, and so, we do not use them during our consideration) (See Table 1).

Table 1. The budget of the Ministry of Education and Science of Georgia in different years, mln. GEL

Year	2012	2013	2014	2015	2016	2017
Mln GEL	626,8	675,9	741,1	815,8	948,3	1100,0

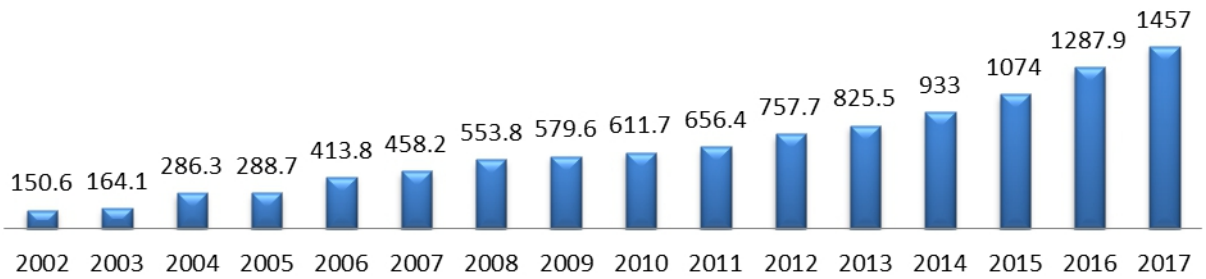
Source. The Ministry of Finance of Georgia

In addition to the Ministry of Education, Science, Culture, and Sport of Georgia, other state bodies also render support in this deed. In particular, the Ministry of Defense, Ministry of Internal Affairs, Ministry of Culture and Ministry of Sport and Youth Affairs (the two latter ministries merged to form the Ministry of Education and Science in 2018), as well as autonomous units, Ministry of Education and Science of Abkhazia, Government of Ajara, local self-governing bodies, etc. As per the official statistics, according to the consolidated budget, the funding of the field of education increases year after year what is clearly seen in the column diagram. See Diagram 1.

Diagram 1. Consolidated budget expenditures for education

Consolidated budget expenditures on education (MIn GEL)

■ Consolidated budget expenditures on education (MIn GEL)



Source. The Ministry of Finance of Georgia

Families also invest in education. As per official statistics, the funds spent on education are characterized by a non-uniformly decreasing trend.

In international practice, the state expenditures are described based on the percentage ratio of some of its parts to the gross domestic product. For Georgia, the relevant values of expenditures borne for education through from 1998 through 2017 are characterized by descriptive statistics as follows: Mean-2.65115, Standard Error-0.148399, Median-2.590265, Moda #N/A, Standard Deviation-0.593597, Simple Variance-0.352357, Kurtosis(-0.23649), Skewness-0.825619, Range-1.84663, Minimum-1.98331, Maximum-3.82994, Sum-42.4184, Count-16, Confidence Level (95.0%)-0.316305 (the data are taken from the World Bank database missing the data in some years, and as a result, cover 16 observations instead of 20). Despite the fact that in some cases, the share of expenses in the GDP borne for education purposes decreases, a generally increasing trend is observed. As per the state budget of 2017, the Ministry of Education ranked the third with the amounts of funding of 1.116 million GEL. From 2019, a large-scale reform is planned to realize in the education system envisaging funding the sector of 6% of the GDP by 2022 and 11% of GDP through the partnership between the public and private sectors.

The expenditure borne for education in the European Union makes up 10.3% of the budget, while it is 10.9% in Georgia; educational costs in Baltic countries are as follows: 14.5% in Lithuania, 16.2% in Latvia and 15.1% in Estonia. However, only the mean values of developed countries cannot be used as a desirable reference point, as the education funding policy in those countries relies on long traditions of infrastructural and institutional

development for decades. In this respect, the Post-Soviet countries, including Georgia, show drawback. Therefore, it is important for similar small economies to equalize a number of their indicators with those of the developed countries, but also to make double efforts to develop their own educational systems. The need for greater efforts is proved by Georgia ranking the 79th among 187 countries of the world with the Education Index (United Nations Development Programme, Education Index). With the Human Development Index (United Nations Development Programme, Human Development Reports), with the Education Index being a part thereof, Georgia ranked the 70th in 2017 and the 71st in 2016.

Expenditures on education as an independent factor of an econometric model:

Of three main investments in the labor market (investments in education and vocational training, migration costs, costs associated with finding a new job), the education and training have a key role; they are even viewed as separate units at the state level (Ehrenberg, R.G., and Robert S Smith. p.304). All these investments are supposed to bring better returns in the future, what, in an aggregate scale, will improve the economic activity and life level and finally, the competitiveness of the country. It is true that country competitiveness is measured by using a set of indices, but GDP per capita serves the function of a resultant variable in the considered econometric model (per capita indicators for quarterly and annual figures were revised in line with the updated data from 2014 general population census). Independent factors are educational expenses given based on the consolidated budget of Georgia; higher education and training as efficiency enhancer according to the global competitiveness index and net migration balance (1995-2011 based on the retro-projection; starting from 2012 based on the MIA Border Police data).

Table 2. Causal variables of the econometric model

year	GDP per capita in GEL ¹	Expenditure on education (Mln GEL) ²	Higher education and training ³	Net Migration ⁴
2006	3553.8	413.8	2.5	-12086
2007	4402.4	458.2	3.5	-23418
2008	4956.5	553.8	3.7	-20542
2009	4715.3	579.6	4.6	-34948
2010	5478	611.7	5.3	-30438
2011	6480.6	656.4	5.2	-35982
2012	7017.5	757.7	6.8	-21521
2013	7221.6	825.5	7.2	-2606
2014	7837.4	933	7.4	-6620
2015	8524.3	1074	6.3	-3408

2016	9129	1287.9	7.1	-8060
2017	10152	1457	7.1	-2212

Source. 1. and 4. National Statistic Office of Georgia, 2. Ministry of Finance of Georgia, 3. The Global Competitiveness Reports, World Economic Forum, Scope (1-7)

The correlation matrix evidence that the independent variables have a close relationship with the dependent variable and do not have multicollinearity relation among themselves.

Table 3. Pair correlation matrix of the econometric model variables

	GDP per capita in GEL	Expenditure on education	Higher education and training	Net Migration
GDP per capita in GEL	1			
Expenditure on education	0.970561	1		
Higher education and training	0.885692	0.796321	1	
Net Migration	0.62023	0.656576	0.496147	1

Source: Individual calculations

The multiple regression model identified by using regressive analysis is as follows:

$$y=820.6872+4.586403x_1+375.4593x_2-0.00258x_3$$

Where: y is GDP per capita in GEL,

820.6872 - intercept,

x_1 - Expenditure on education

x_2 - Higher education and training

x_3 - Net Migration

With a significance level of 5% (and confidence interval of 95%) all the variables are statistically significant, except net migration. The multiple R, coefficient of determination (R Square) and the adjusted coefficient of determination (Adjusted R Square) are quite high and equal 0.9888388, 0.97691 and 0.978251. The equation is statistically significant too, $F=112.823$.

It should be noted that indicator, such as net migration, has a negative coefficient. This may be the result of its being negative for years in Georgia. As for the human capital outflow, it has a negative impact on GDP growth.

Conclusion

The operation of the educational system must rely on the state view and strategic goals what will promote the further development of the country.

The human capital suitable for the modern global market can be formed and maintained only by using a systematic approach.

In terms of basic conditions, a developing economy must reform the educational sector and develop the infrastructure relevant to modern requirements.

The need for perfecting the field of education in Georgia is clear today. The planned short-term changes must make the education a dominating sector of the economy of Georgia in a mid-term period.

Georgia, with its geographical location and many other aspects, is a potential regional and global business center. Located on the crossroad between Europe, Asia, and Near East, the country has although small economy, but it is attractive for international investments. The country's market is open and its economy is liberal. In such terms, high-quality human capital will give Georgia more attractiveness and reliability.

As compared to the mean indicators of the European Union, in terms of percentage, Georgia does not spend little funds for education. However, the Post-Soviet countries, which are now EU countries, spend 5% more on average. During the active modification of the educational system, Georgia must take the existing experience into account.

The efficiency of the educational system also depends on the degree of outflow of the potential qualified labor from the country. The only way to maintain human capital is increasing the access to education and providing high-quality service meeting the international standards.

Caring about the macroeconomic stability of the country and improving the macroeconomic environment in the country will be the guarantee for the successful implementation of the changes planned in the field of education of Georgia.

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