

THE NEXUS BETWEEN PUBLIC SPENDING ON EDUCATION AND ECONOMIC GROWTH OF KOSOVO – ECONOMETRIC APPROACH

Besime Ziberi

AAB University, Prishtina, Kosovo
besime.ziberi@universitetiaab.com

Mimoza Hodaj

AAB University, Prishtina, Kosovo

Abstract

The main aim of this study is to analyze the trend of public spending dedicated to education in case of Kosovo over the years and to measure the impact of public spending in education on economic growth of Kosovo. In order to achieve the goal, the Pearson Correlation is used and a multifactorial regression model (OLS) has been modified and adapted, where we have determined the Gross Domestic Product (GDP) as depended variable and as independent variable in the model conclude: (i) Total public expenditure on education (ii) Public expenditure on Secondary Education and (iii) Public expenditure on Higher Education (University). The data used is secondary data from the Kosovo's State Budget, Ministry of Finance and Transfers, and Kosovo Agency of Statistics. We come in conclusion that public spending dedicated to the Higher Education (University) has a positive impact on Kosovo's economic growth meanwhile the public spending on secondary education and total public expenditure on education in the model circumstances show no significance. The paper comes with further recommendations on public spending policies dedicated to education in order to influence Kosovo's economic growth.

Keywords

public spending; education; economic growth; sustainability; OLS

JEL Classification

B22; B23

Introduction

Human capital has long been considered the most distinctive feature of the economic system and further work has proven the impact of education on productivity growth empirically. The World Economic Forum 2016 suggested three channels through which education affects the productivity of a country. First, it increases the collective ability of the workforce to perform existing tasks more quickly. Second, secondary and higher education specifically facilitate the transfer of knowledge about new information, products, and technologies created by others (Barro & Lee, 2010). Finally, by increasing creativity, it enhances a country's ability to create new knowledge, products and technologies (Grant, 2017). In general, education - as a critical component of a country's human capital - increases the efficiency of each individual worker and helps economies increase the value chain beyond manual tasks or simple production processes (WEF, 2016).

Education provides a foundation for development. The foundations on which most of our economic and social well-being is built. It is the key to increasing economic efficiency and social consistency. By increasing the value and efficiency of their

work, it helps lift the poor out of poverty. It increases the overall productivity and intellectual flexibility of the workforce. Helps to ensure that a country is competitive in world markets now characterized by changing technologies and production methods. Also, education is one of the main pillars of a healthy and developed society. In order for a country to develop in many dimensions, focusing mostly on the economy, special attention must be paid to the education system. An educated person knows how to distinguish right from wrong and evil from good. Those who learn to read and write will provide a better future for their families and their country. In short, education has the power to make the world a better place.

Regarding the economic development of the country and the various factors that affect it, the well-known scholar (Mandela, 2003), has emphasized that increasing the level of education directly has a positive impact on increasing economic development, where according to him: "Education is the weapon the most powerful you can use to change the world. " Also, (Smith, 1776), Scottish philosopher and economist for the first time studied the impact of higher education on economic growth followed by (Marshall, 1890)/

There are many questions raised by academics, economists, researchers and others about the factors that influence economic growth. Many research papers have been made to assess the factors influencing economic growth dedicated to different countries. Education seems to be a crucial factor for a nation that promotes economic growth as (Friedman, 2002) said: "The profit from raising a child increases not only for the child or his parents, but also for other members of society." The education of my child contributes to your well-being, promoting a stable and democratic society. As (Mitra, 2011) puts it, "the better educated population has less unemployment, reduces dependence on the public assistance program, and higher tax revenues." An entire nation benefits from an educated nation. As (Becker, 1993) puts it, "people and society need to make it clear that education is a public benefit when all responsible persons benefit".

Literature review

There are two very basic reasons to expect to find a link between education and economic growth. First of all, at the most general level it is intuitively convincing that living standards have risen so much over the last millennium and especially since the 1800s because of education. People with very limited education often find it difficult to function at all in advanced societies. Education is necessary for people to benefit from scientific advancement as well as to contribute to it (Stevens and Weale, 2004)

A lot of studies have given different definitions of how much education affects economic growth. According to (Ozturk, 2008), education in every sense is one of the fundamental factors of development. No country can achieve sustainable economic development without substantial investment in human capital. Education raises people's productivity and creativity and promotes entrepreneurship and technological advances. Moreover, it plays a very important role in ensuring economic and social progress and improving income distribution.

Education and economic growth: It is not just going to school, but learning something, while it matters (Hanushek, 2010), the study found that education has long been seen as an important determinant of economic well-being. Education can facilitate the dissemination and transmission of knowledge needed to understand and process new information and to successfully apply new technologies created by others, which in turn promotes economic growth (Benhabib, 1994)

Education is not only about the amount of education - the percentage of the population that has completed primary, secondary or tertiary education - but also, critically, its quality. (Hanushek, E & Kimko, D., 2000), for example, find that it is not simply years of schooling, but the quality of schooling (which can be reflected in international exams) that has a significant relationship with economic growth. Another study on this issue (Akbari, 2016) emphasizes that education in every sense is one of the fundamental factors of economic development. No country can achieve sustainable economic development without substantial investment in human capital. Education enriches people's understanding of themselves and the world. Improves their quality of life and leads to broad social benefits for individuals and society.

Education raises people's productivity and creativity and promotes entrepreneurship and technological advances. Moreover, it plays a very important role in ensuring economic and social progress and improving income distribution. According to (Roser & Ospina, 2016) stressed that education is widely accepted as a fundamental resource, both for individuals and for societies. Indeed, in most countries basic education today is perceived not only as a right but also as a duty. Governments are usually expected to provide access to basic education, and citizens are often required by law to achieve education at a certain basic level. Education provides a foundation for eradicating poverty and fostering economic development. It is the basis on which a good part of the economic and social well-being of the citizens is built.

According to Roberts, (2003), the main determinants of a country's standard of living is how well it manages to develop and utilize skills and knowledge, and advance the health and education of the majority of its population. No country has achieved sustainable economic development without significant investment in education and human capital (Ozturk 2008), Unequal education tends to have a negative impact on per capita income and thus increase poverty in many countries. Several recent comparative studies, conducted by (Komatsu & Rapplee 2017) have made strong statistical claims that improvements in global learning assessments, such as PISA, will lead to higher growth rates of GDP. These claims have provided the main source of legitimacy for policy reforms led by leading international organizations, particularly the World Bank and the OECD. As researchers (Sparreboom, & Staneva 2014) point out, increasing the level of education of the emerging workforce in developing economies will not in itself provide an easy absorption of the highest skilled labor into non-vulnerable jobs. In general, incomes tend to increase in line with workers' educational attainment levels, and those with higher qualifications and / or more work experience can expect to earn more.

Public expenditures on education include direct expenditures on educational institutions, as well as public education-related subsidies, which are provided to families and administered by educational institutions. This indicator is shown as a percentage of GDP, divided by primary, primary into secondary and tertiary after secondary levels. This indicator shows the priority given by governments in education over other areas of investment, such as health care, social security, defense and security. Education expenditures cover expenditures for schools, universities and other public and private institutions that provide or support educational services (OECD, 2020)

There are many research papers that assess the link between public funding of education and economic growth in both developed and transition countries.

Gregorous & Ghosh (2007) used heterogeneous panel data to study the impact of government spending on economic growth. Their results suggest that countries with high government spending tend to experience higher economic growth. Also (Cooray, 2009) finds that total government spending on education has no statistically significant effect on economic growth. According to (Berger & Fisher 2013) states

can build a strong foundation for economic success and shared prosperity by investing in education. According to (Michaelowa, 2000) education increases an individual's earning potential, but also produces a “grabbing effect” across the economy through positive externalities and diagrams on the impact of education at the micro and macro level. The channels by which education can promote growth maybe do not lie to quantity of public spending but on quality of the policy that means where youth end after their education (Bexheti & Mustafi, 2015).

Data and methodology

Contemporary For the realization of this study, a broadly literature both theoretical and empirical is reviewed. The econometric regression model - Ordinary Least Square Regression (OLS) method and the Pearson Correlation matrix were used as methods for conducting this research. The model defines the dependent variable in our case Kosovo's economic growth measured by Gross Domestic Product (GDP) and as independent variable in the model are: (i) Total public expenditure on education (ii) the Public expenditure on Secondary Education and (iii) Public expenditure on Higher Education (University). The data used is secondary data from Kosovo's State Budget and Kosovo Agency of Statistics.

Econometrics serves to test the theory based on the data it possesses and then uses the estimates for predictions (Gujarati, 2005).

$$Y_i = \beta_0 + \beta_1 X_1 + \mu_i \quad (1)$$

In the first equation we have one factorial regression when Y_i is dependent variable = β_0 is the Constant, β_1 is the parameter and X_1 is the independent variable where the μ_i is the error term.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n + \mu \quad (2)$$

The second equation is multifactorial regression when the Y_i is dependent variable = β_0 is the Constant, $\beta_1, \beta_2, \beta_3$ are the parameters and X_1, X_2, X_3 are the independent variables where the μ_i is the error term. In our model circumstances the equation takes the following form:

$$GDP =$$

$$\beta_0 + \beta_1 \text{Total public expenditure on education} + \\ \beta_2 \text{Public expenditure on Secondary Education} + \\ \beta_3 \text{Public expenditure on Higher Education (University)} + \mu$$

In the following section we will interpret the results from OLS regression, Pearson Correlation and descriptive data related GDP growth in case of Kosovo, Public Expenditures dedicated education sector and other data related our analysis such as employment level by education.

Results

In the continuation in this section we will present the results obtained for GDP growth, public expenditures for education in total, data on expenditures in secondary

and higher education (university), as well as the number of employees by level of education and number of educated in the country. The results are obtained through SPSS program.

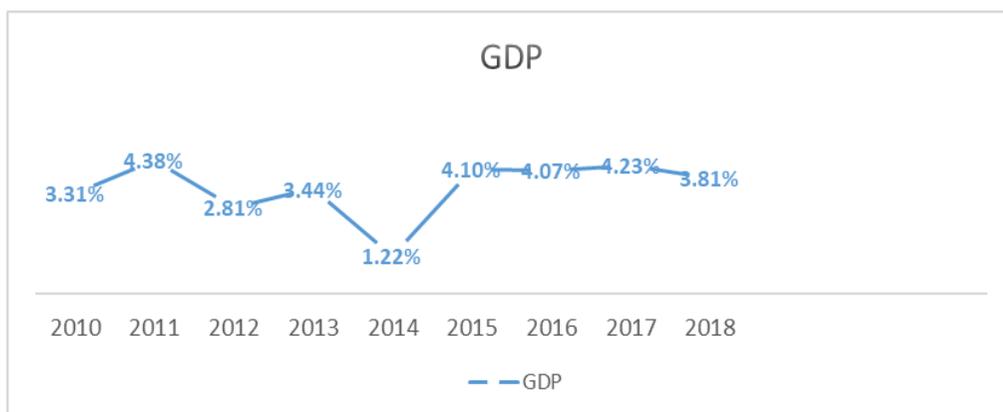


Figure 1 Real GDP growth in Kosovo (2010-2018)

Source: Secondary data from World Bank annual reports. Author's Calculations
<https://data.worldbank.org/indicator/NY.GDP>

Gross Domestic Product (GDP) as one of the key macroeconomic indicators, is a monetary measure of the market value of all final goods and services produced in a given period of time (Callen, 2016). As we see based on the data during the years 2010-2018 presented in graphical form, the GDP growth with the highest positive rate was in 2011 with an increase of 4.38%. While a low rate of economic growth of about 1.22% Kosovo had during 2014. During these years in general Kosovo has marked economic growth, but with a decrease of 0.40% during 2018.

Table 1 Total Public Expenditures in the Education Sector in Kosovo (2010-2019)

	<i>Wages and Salaries</i>	<i>Goods and Services</i>	<i>Utilities</i>	<i>Subsidies and Transfers</i>	<i>Capital Expenditures</i>	<i>Total Expenditures</i>
2010	3.081.830	5.523.894	647.657	192.730	24.409.147	35.936.258
2011	4.835.803	4.820.807	817.657	1.205.478	23.138.075	34.817.802
2012	5.836.856	8.214.353	817.667	1.810.478	24.305.411	40.984.755
2013	8.398.666	8.584.529	1.042.857	5.096.812	23.570.184	46.693.048
2014	10.089.035	9.956.656	1.274.157	3.977.404	25.000.000	50.297.252
2015	13.894.269	8.839.083	1.125.259	4.249.926	18.235.000	46.343.537
2016	15.329.774	8.126.473	1.220.259	4.029.059	14.918.673	43.624.238
2017	15.931.068	9.302.672	1.245.259	3.821.929	16.986.920	47.287.848
2018	17.286.141	9.823.419	1.596.459	4.841.929	24.455.678	58.003.626
2019	19.815.991	17.756.888	1.616.459	6.278.498	27.770.485	73.238.320

Source: Ministry of Finance and Transfers, Author's Calculations. <https://mf.rks-gov.net/ju>

The education sector is the main opportunity of any society to develop economically and to emancipate itself in cultural and political currents. This sector is considered

among the most important segments of any country, which aims to be competitive alongside developed countries. However, the education sector continues to be one of the most criticized and most sensitive social spheres in Kosovo. If we analyze the expenditures made in education during the last 10 years we see that during the years 2010-2014 a total of 208,729,115.00 Euros have been invested, while during the years 2015-2019 a total of 268,497,569.00 Euros have been invested. This investment trend indicates a change or increase in the budget by 59,768,454.00 Euros for the last 5 years.

Table 2 Public Expenditures in Higher Education (University)

	<i>Wages and Salaries</i>	<i>Goods and Services</i>	<i>Utilities</i>	<i>Subsidies and Transfers</i>	<i>Capital Expenditures</i>	<i>Total Expenses</i>
2010	1.041.415	353.908	386.287	0	0	3.781.610
2011	2.060.434	1.608.248	552.587	0	500.000	4.721.269
2012	2.845.187	3.525.056	526.087	5.000	800.000	7.737.330
2013	5.345.255	4.213.980	787.287	5.000	1.300.000	11.651.522
2014	7.478.149	5.265.213	1.136.787	55.000	1.550.000	15.485.149
2015	8.259.127	4.819.751	1.065.566	2.240.478	2.496.000	18.821.932
2016	9.482.522	4.875.973	991.566	2.445.478	1.750.901	19.546.440
2017	9.855.204	5.182.172	1.021.566	2.365.478	3.006.000	21.430.420
2018	10.882.357	5.802.919	1.304.766	1.655.478	4.121.500	23.767.020
2019	12.654.969	6.532.919	1.304.766	2.040.478	5.670.000	28.203.132

Source: Ministry of Finance and Transfers, Author's Calculations. <https://mf.rks-gov.net/e>

The second table interprets the data on public expenditures dedicated to higher education in Kosovo. From the above table we see that wages and salaries in 2010 were 1,041,415 while in 2019 they reach 12,654,969 which results in an increasing and positive trend. Taking into account the expenditures for goods and services, we notice that in 2010 there were 353,908, while in 2019 they reach 6,532,919. Municipal expenditures in 2010 were 386,287, while in 2019 they amount to 1,304,766. Subsidies and transfers in 2012 were 5,000 and in 2019 amount to 2,040,478. Capital expenditures in 2011 were 500,000 while in 2019 they reach 5,670,000. The total expenditures in 2010 were 3,781,610 while in 2019 they reach 28,203,132. The table shows that the trend of public spending dedicated to higher education in general marks an increasing and positive trend.

The third table interprets the data on public expenditures dedicated to Secondary Education in Kosovo. From the above table we see that wages and salaries in 2010 were 1,094,130 while in 2019 they reach 4,533,148 which results in an increasing and positive trend. Taking into account the expenditures for goods and services, we notice that in 2010 there were 3,113,970, while in 2019 they reach 8,118,959. Municipal expenditures in 2010 were 146,500, while in 2019 they reached 254,623. Subsidies and transfers in 2010 were 165,730, while in 2019 they reach 197,003. Capital expenditures in 2015 were 8,239,000, while in 2019 they reach 22,050,486. The total expenditures in 2010 were 4,520,330, while in 2019 they reach 35,154,218. The table shows that the trend of public spending dedicated to secondary education in total marks an increasing and positive trend.

Table 3 Public Expenditures in Secondary Education (2010-2019)

	Wages and Salaries	Goods and Services	Utilities	Subsidies and Transfers	Capital Expenditures	Total Expenses
2010	1.094.130	3.113.970	146.500	165.730	0	4.520.330
2011	1.558.724	1.827.369	150.200	1.178.478	0	4.714.771
2012	1.644.927	2.404.794	170.500	1.178.478	0	5.397.699
2013	1.704.327	2.398.610	170.500	1.178.478	0	5.451.915
2014	1.309.143	2.246.021	52.300	1.178.478	0	4.785.942
2015	4.064.083	1.737.195	57.623	1.000.000	8.239.000	15.097.901
2016	4.070.404	1.744.496	170.623	74.133	9.167.772	15.227.401
2017	4.096.891	1.831.959	166.623	197.003	9.870.920	16.163.396
2018	4.316.891	1.586.959	234.623	197.005	14.504.178	20.839.654
2019	4.533.148	8.118.959	254.623	197.003	22.050.486	35.154.218

Source: Ministry of Finance and Transfers, Author's Calculations. <https://mf.rks-gov.net/>

Table 4 Employment by highest level of education (%), year and employment status (2013-2019)

	2013	2014	2015	2016	2017	2018	2019
<i>Without school</i>	0.5	0.3	0.1	2.2	2.1	4.2	3.6
<i>Classes I-VIII /IX</i>	19.0	17.9	15.0	11.3	13.5	13.8	9.8
<i>Vocational secondary education</i>	42.5	40.0	36.2	33.1	36.1	84.9	34.5
<i>High school</i>	13.3	15.7	21.2	27.0	31.7	37.4	28.5
<i>tertiary education</i>	24.7	26.1	27.5	53.2	60.2	68.9	62.8

Source: Kosovo Agency of Statistics, Author's Calculations <https://ask.rks-gov.net/>

As we are seeing based on the data in Table 4, the higher the level of education, the higher the opportunity to be employed. The percentage for higher education during 2013 is 24.7% in 2014 is 26.1% and in 2015 is 27.5%, where as you can see the percentage only increases from year to year, but during these years we see that we have the highest percentage for employment with vocational education, where in 2013 it is 42.5%, in 2014 it is 40.0% and in 2015 it is 36.2% where we notice that we have a decrease in recent years. While the opportunity for employment without education is quite low with a percentage during 2013 is 0.5%, in 2014 0.3 and in 2015 is 0.1%, which over the years is only decreasing. We see a continuous increase in the percentage for employment at the level of higher education, where in 2016 it reaches 53.2%, in 2017 the employment rate reaches 60.2%, in 2018 this figure reaches 68, 9% and in 2019 it reaches 62.8%. Thus Kosovo has positive and increasing trend of employment by the level of education. On the other hand this means that this positive trend of employment impact positively the GDP growth. On the other hand a high unemployment rate can have a long-term contribution to low GDP, and can also lead to increased crime, violence, and political instability (Ziberi & Avdiu, 2020).

Table 5 Results of the regression model according to the coefficient of determination R

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,983 ^a	,966	,946	176542,98272

- a. Predictors: (Constant), Total Public Expenditure on Education Public Expenditure on Higher Education (University), Public expenditures on secondary education

Source: author's calculation

In the table on the coefficient of determination it is seen that the model is important in our case the coefficient of determination R is 0.983. The value of the coefficient of determination suggests that the model selected in this study is significant.

Table 6 ANOVA

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4453973904371,688	3	1484657968123,896	47,635	,000 ^b
	Residual	155837123743,202	5	31167424748,640		
	Total	4609811028114,890	8			

Source: author's calculation

Based on the ANOVA table we see that the model is significant at the 0.000 significant level.

Table 7 The importance of variables in the model based on the p-value of the coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3772244,650	597263,001		6,316	,001
	Total Public expenditure on education	,012	,018	,116	,696	,517
	Public expenditures dedicated to higher education (University)	,072	,028	,702	2,563	,050
	Public expenditures dedicated to secondary education.	,024	,023	,202	1,037	,347

- a. Dependent Variable: GDP

Source: author's calculations

In the table seven we present the values of the coefficients of the variables in the model. We emphasize that the regression model modified and adapted in our study is multifactorial regression (OLS) where the dependent variable in the model is Gross Domestic Product (GDP) and independent variables in the models includes:(i) Total public expenditures on education,(ii) public expenditures dedicated to Higher Education (University) and (iii) public expenditures dedicated to secondary education. We present the importance of the variables based on the p-value. We can see that the first independent variable, namely the total public expenditure on education is not significant since the p-value is 0.517 the p-value condition less than 0.05 is not met thus have no impact on dependent variable (GDP).

The second independent variable defined in the model, namely Public expenditures dedicated to higher education (University) is significant with p-value 0.050 that meets the p-value condition less than or equal to 0.05. In this case we present the importance of the variable emphasizing that an increase per unit of public expenditure dedicated to higher education (University) will have a positive impact on the growth of Gross Domestic Product in case of Kosovo exactly will increase the GDP for ,072 (in our model circumstances).

The third independent variable in the model defined as public expenditure dedicated to Secondary Education with p-value 0.347 turns out to be insignificant thus does not explain the impact on Gross Domestic Product. In cases where the independent variables result in a p-value greater than 0.05, the effect of the variables is not explained, but is considered insignificant in the model, specifically in the model conditions.

**Table 8 Pearson Correlation Matrix
Correlations**

		Correlations				
		GDP	Total public expenditure dedicated to education	Public Expenditure Dedicated to Higher Education (University)	Public Expenditure dedicated to secondary education.	Total employment
GDP	Pearson Correlation	1				
Total public expenditure dedicated to education	Pearson Correlation	,839**	1			
Public Expenditure Dedicated to Higher Education (University)	Pearson Correlation	,979**	,857**	1		
Public Expenditure dedicated to secondary education	Pearson Correlation	,901**	,871**	,883**	1	
Total employment	Pearson Correlation	,632	,473	,514	,373	1

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Secondary data provided by the Kosovo budget, data over the years, calculated by the author himself through the IBM SPSS program

From the above table we see that Gross Domestic Product (GDP) is strongly and positively correlated to the variable Total public expenditures dedicated to education in the value of the Pearson coefficient 0.839 also GDP is positively and strongly correlated to the variable Public expenditures dedicated to Higher Education (University) in the value of the Pearson coefficient 0.979, GDP is strongly and positively correlated with the variable Public Expenditure dedicated to secondary education at the value of the Pearson coefficient 0.901. It is noticed in our case that GDP is in a positive relationship with the variable employment in total at the value of the Pearson coefficient 0.632.

The variable of total public expenditures dedicated to education is strongly and positively correlated to the variables public expenditures dedicated to higher education (University) and public expenditures dedicated to secondary education.

Public Expenditure Dedicated to Higher Education (University) is strongly and positively correlated with the variable Public Expenditure dedicated to secondary education at the value of the Pearson coefficient 0.883, also in positive relation with the variable total employment with the Pearson Correlation 0.473. The variable Public Expenditure Dedicated to Secondary Education is positively correlated with the variable total employment with the Pearson coefficient value 0.373. From the Pearson Correlation Matrix we can conclude in general that GDP in case of our analysis is strongly in relationship with Total public expenditure dedicated to education, Public Expenditure Dedicated to Higher Education (University) and in medium strength of relationship with the variable Total employment. Thus the policy makers should take into account the importance of quality spending on education.

Discussion and conclusions

In order to have a developed and sustainable economy, it is very important to identify the factors that are most important in this regard, where as one of the main factors is education thus the efficient public spending on education sector is plays a very important role.

As discussed above, the state-building process in the Republic of Kosovo continues to be associated with strategic problems and challenges: unemployment, poverty, corruption, lack of democracy and the miserable situation in the health system. However, education is a challenge and at the same time a major opportunity for Kosovo society and institutions. Lack of quality and autonomy of higher education institutions, poor infrastructure, insufficient academic staff, lack of research and poor public funding are just some of the problems that are affecting the poor level of this sector. Given that our orientations are directed towards a "knowledge society" and "competition society", because only in this way we can integrate into the "labor market" and "market of ideas", the efforts and commitments of Kosovo institutions have been insufficient to achieve and meet these goals. The government should increase the productive expenditures dedicated to education, in order to meet the demands of the labor market and act as a catalyst from the degree holders and the labor market. Educational policy design should be based on the principle of concrete analysis and research (Ziberi, 2020) Based on the above conclusion, it is recommended that the country spend more on education in order to encourage economic growth. So more priority should be given to education expenditures because according to the results obtained from the multifunctional regression model we came to the conclusion that Higher (University) Education affects the growth of Gross Domestic Product in case of Kosovo.

It is also recommended to increase spending on education, because from the employment data by level of education we saw that the more educated a person is, the more employment opportunities there are, because the chances of an uneducated person being employed are smaller compared to those with a higher level of education. So with higher education the person has the opportunity to be employed in an adequate and non-vulnerable job.

References

- Akbari, M. (2016), The role of education in economic development.
- Barro, R. J., & Lee, W. (2010), *A New Dataset of Educational Attainment in the World, 1950-2010*, NBER Working Paper No. 15902. Cambridge, MA: National Bureau of Economic Research.
- Becker, G. (1993), Seminal Work: Human Capital.
- Benhabib, J. :-1. (1994), The role of human capital in economic development. 34(2), 143-174.
- Berger N., & P., F. (2013), A well-educated workforce is key to state prosperity. 22(1), 1-14.
- Bexheti, A., & Mustafi, B. (2015), *Impact of public funding of education on economic growth in Macedonia*. Bamberg Working Paper Series.
- Cooray. (2009), The role of education in economic growth, *Australian Conference of Economists*. 1-27.
- Friedman, M. (2002), The Market Can Transform Our Schools, New York Times,.
- Grant, C. (2017), *The contribution of education to economic growth*. Institute of Development Studies.
- Gregorous, A., & Ghosh, S. (n.d.). Fiscal Policy in an Endogenous Growth Model with Public Capital and Pollution. 67-84.
- Hanushek, E. &. (2010), Education and economic growth, 60-67.
- Komatsu, H. (2017), A new global policy regime founded on invalid statistics? Hanushek, Woessmann, PISA, and economic growth.
- Mandela, N. (2003), Education and Economic Development.
- Marshall, A. (1890), *Principles of economics*, London, Mcmillan.
- Michaelowa, K. (2000), *Returns to education in low income countries: Evidence for Africa*, University of Zurich.
- Mitra, D. (2011), The Social and Economic Benefits of Public Education.
- OECD. (2020), Education Spending.
- Ozturk, I. (2008), The role of education in economic development:
- Roberts, J. (2003), *Poverty reduction outcomes in education and health, public expenditure and aid*, Overseas Development Institute.
- Roser, M., & Ospina, O. E. (2016), Global growth of education. Our World in Data.
- Smith, A. (1776), *The Wealth of Nations*, New York: Library.
- Sparreboom, T. (2014), Is education the solution to decent work for youth in developing economies? International Labour Office.
- Stevens, P. &. (2004), Education and Economic Growth, *International Handbook on the Economics of Education*.
- WEF, W. E. (2016), Global Competitiveness Report.
- Ziberi, B. (2020), Skills Mismatch in the Labor Market a Precondition of Brain - Drain Phenomenon in Developing Countries with Special Emphasis in