# GOVERNMENT EXPENDITURE ON HIGHER EDUCATION AND ECONOMIC GROWTH: AN EMPIRICAL STUDY ON SRI LANKA

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## ABSTRACT

The modern economy is becoming more knowledge-intensive and service-oriented, which consider the role of human capital is more important for economic growth of a country. Therefore, education is the main channel of governments' influence on human capital formation. Due to this, it changes as an important research subject in the field of economic growth. Government expenditure on higher education is an investment in human capital because it leads to raise skill formation and thus increases the ability to work and produce more. Higher education spending of Government is very important for economic growth of a country and plays a vital role in promoting national development also. This study focuses on Government expenditure on higher education and economic growth in Sri Lanka for the period from 1991- 2017. In order to achieve the objective, time series data was collected from the authorized sources. The study completely based on secondary data. Multiple regressions model and Minitab package were used for the analyzing. Findings from the study show that economic growth (GDP) is positively related with selected variables namely government expenditure on higher education, labour force participation and domestic fixed capital formation. This indicates the role of government spending on higher education play a vital role in economic growth. Thus the study recommends that the government should increase the expenditure on higher education sector in order to improve the economic performances and achieve the desired positive effects in the economy.

**Keywords:** economic growth, education expenditure, capital formation

## INTRODUCTION

Education is very essential for economic growth of a country. To improve the education, the government expenditure on education is needed. Education expenditure covers expenditure on schools, universities and other public and private institutions delivering or supporting educational services.  Higher education is also referred to as tertiary education which includes university, vocational colleges and technical colleges.

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Spending includes instruction and ancillary services for students and families provided through educational institutions. Expenditure on higher education and economic growth are very closed in nature. In fact, economists argued that advanced education sector will certainly lead successfulness of a country's economics and socials development. Higher education expenditure is an important tool which can be lead to the enhancement of the skilled labour force, productivity, innovation, high wages and social development of a country. It plays vital role in promoting economic growth and national development.

Even though Sri Lanka is a developing country, from independence it is investing a vast amount of resources on education by offering free education from grade one up to first degree in the university level. Sri Lanka's education and higher education expenditure is increasing year by year. In 2017 higher education expenditure is RS. 40327 Million (Central Bank of Sri Lanka, 2018). Thus this research tries to find how the higher education expenditure of government effects in the economic growth of Sri Lanka.

## LITERATURE REVIEW

In this regard there have been numerous studies in different countries on education expenditure and economic growth. But studies related on higher educational expenditure and economic growth is relatively low. If we analyze the literature review,

(Amina, 2018) this paper examines efficiency of public expenditure on secondary and tertiary education in the New Member States (NMS) in EU. Data Envelopment Analysis (DEA) is applied to assess relative technical efficiency of public expenditure on secondary and tertiary education in NMS, with a particular focus on Croatia. Input variables are public expenditure on education per student and as % of total education expenditure, while output variables for secondary education are PISA results and for tertiary education share of unemployed with a tertiary education and Shanghai ranking of leading national universities. The results show high inefficiency of public spending on education in Croatia.

(Saima et al., 2011) this study empirically investigates the impact of education expenditures on economic growth of Pakistan over a period of 1972 to 2010, using bonds testing approach. The empirical results show that education expenditures have a positive and significant impact on economic growth in the long run. The elasticities of the model suggest that if there is a one percent increase in education expenditures, it increases up to 0.039 percent in output in the long run.

(Hussin et al., 2012) this paper focuses on the long-run relationship and causality between government expenditure in education and economic growth in Malaysian economy. Time series data is used for the period 1970 to 2010. In order to achieve the objective, an estimation of Vector Auto Regression (VAR) method is applied. Findings from the study show that economic growth (GDP) positively co integrated with selected variables namely fixed capital formation, labor force participation and government expenditure on education.

(Jeffrey Kouton, 2018) the aim of this paper is then to investigate that relationship for Côte d'Ivoire for the period from 1970 to 2015. The study provides evidence of the existence of a negative and significant long term effect of government education expenditure on economic growth for the aforementioned period. Moreover, there is a non-significant positive effect of government education expenditure on economic growth in the short term.

(Lahirushan et al., 2015) main purpose of this study is to identify the impact of government expenditure on economic growth in Asian Countries from 1970 to 2013. The model used is the random effects panel OLS model. Empirical findings exhibit a momentous positive impact of government expenditure on Gross Domestic Production in Asian region. And also government expenditure and economic growth indicate a long-run relationship in Asian countries. In conclusion, there is a unidirectional causality from economic growth to government expenditure and government expenditure to economic growth in Asian countries.

## METHODOLOGY

The study tries to find the relationship between government expenditure on higher education and economic growth in Sri Lanka. For this purpose higher education expenditure, labour force participation, domestic fixed capital formation and economic growth data are collected from the authorized sources for the period from 1991 to 2017. As well other data are collected from books, research articles, journal, news papers and web sites. The Minitab 14 package was used to run the multiple regressions model to analyze the data.

Thus the following model is used to analyze the data.

$Y = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + U$

Y = Economic growth

$X_1$ = Government expenditure on higher education

$X_2$ = Labour force participation

$X_3$ = Domestic fixed capital formation

U = Error term

t = Time

## RESULTS AND DISCUSSIONS

The multiple regressions model is used to find the relationship between government expenditure on higher education and economic growth. As well as the labour force participation and domestic fixed capital formation are also included in the model. According to that, first of all we choose the appropriate model for the research with Minitab package.

According to the model economic growth is taken as a dependent variable and government expenditure on higher education, Labour force participation and Domestic fixed capital formation are taken as independent variables. Various statistics are used to find the relationship between this dependent and independent variables. Under the multiple regressions model the Linear – Linear, Linear – Log, Log – Linear and Log – Log models are analyzed to choose the appropriate model.

### *Table 1. Choose the Appropriate Model (1991 -2017)*

| Models | "R (adj)" % | "F" Value | "P" Value | DW | VIF |
|---|---|---|---|---|---|
| $GDP_t = \beta_0 + \beta_1 HEDU_t + \beta_2 LAB_t - \beta_3 CAP_t + U$ | **88%** | **62.29** | **0.000** | **1.60843** | **1.1 - 2.3** |
| $GDP_t = \beta_0 + \beta_1$ **Log** $HEDU_t + \beta_2$ **Log** $LAB_t - \beta_3$ **Log** $CAP_t + U$ | 82.3% | 31.93 | 0.000 | 1.34813 | 2.4 – 3.4 |
| $LogGDP_t = \beta_0 + \beta_1 HEDU_t + \beta_2 LAB_t - \beta_3 CAP_t + U$ | 94.2% | 137.01 | 0.000 | 1.32354 | 1.7 - 2.2 |
| **Log** $GDP_t = \beta_0 + \beta_1$ **Log** $HEDU_t + \beta_2$ **Log** $LAB_t - \beta_3$ **Log** $CAP_t + U$ | 94.6% | 117.09 | 0.000 | 1.29252 | 2.4 - 3.4 |

Estimated

Note: Log stands for natural log

dL= 0.95≤ DW ≥ dU=1.41;       dL = 1.16 ≤ DW ≥ dU= 1.65;

According to the table the value of adjusted R is between 82.3 to 94.6 percent. As well as the value of VIF in all model is within 1.7 – 3.4. The Durbin Watson (DW) is between the dL= 0.95 < DW < du= 1.41. Here Durbin Watson value of all the models except Linear- Linear is in the indecision area. Linear –Linear model's DW value only is in the accepting area. So there is no any autocorrelation in these model (α =0.01). Therefore according to the results the Linear – Linear model is selected as an appropriate model.

Through the appropriate model we can find the results in the following manner.

**Table 2. Results of the Regression Model (1991- 2017)**

| Variables | Coefficient | T value | P value |
| --- | --- | --- | --- |
| Constant | -8950661 | -3.82 | 0.001 |
| Higher education expenditure | 709.9 | 5.83 | 0.000 |
| Labour force participation | 1646.0 | 4.47 | 0.000 |
| Domestic fixed capital formation | 0.43141 | 6.99 | 0.000 |

Estimated

According to the table, the government expenditure on higher education, Labour force participation and Domestic fixed capital formation are positively related to the economic growth of Sri Lanka. When Higher education expenditure of government increases by 1 percent the increases of economic growth will be 709.9. When the Labour force participation increases by 1 percent, the increases of economic growth will be increased as 1646.0 and the domestic fixed capital formation increases by 1 percent the increases of economic growth will be 0.4314.

**CONCLUSION**

The higher education expenditure of government is a great tool which can be lead to the economic growth of a country. This paper investigates the relationship of government higher educational expenditure on economic growth in Sri Lanka for the period 1991-2017. By using multiple regressions

model with Minitab 14 package, it has revealed that the GDP has a positive relationship with government expenditure on higher education, labour force participation and domestic fixed capital formation. All these show a significant relationship. The results confirm that higher education expenditure of Sri Lanka has relationship with economic growth. This finding implies that higher education is essential to increase the country's economic growth. Therefore, it is suggested that the government should increase the expenditure on higher education sector in order to improve the economic performances.

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