

Management of Public Expenditure on Education for Sustainable Economic Growth-A study of India

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ABSTRACT

Education plays an important role in the growth and prosperity of a nation and financial resources assume much significance in ensuring accessibility, equity and quality in education. Expenditure on education is an investment that can help foster economic growth. But, at present the education budget is declining day by day which is creating serious financial constraints in the working of education system. So, there is a need for effective and efficient use of financial resources. The present study attempts to concentrate on the management of public expenditure on education for sustainable economic growth in India. The data variables used in the present study are Government expenditure on education and Gross Domestic Product at real prices. The study period has been taken from post liberalization period i.e.1991-92 to 2011-12.CAGR (Compound Annual Growth Rate) has been used to examine the growth of education expenditure by using log linear regression model. Ordinary least square regression has been used to study the impact of education expenditure on economic growth. Study found that the public expenditure on education increased remarkably but the rate of increase not necessarily kept pace with students' enrollment and number of educational institutions. The regression results shows that increase in government expenditure on education has positive impact on economic growth which leads to sustainable development. So, there is a need to stress upon the central government, state government and planning commission to revise their thinking while making allocation of resources to education. There is a need for sustainable funding of education sector to maintain the sustainable economic growth.

Keywords: Education, Growth, Investment, Management, Sustainable

'Sustainable development starts and ends with safe, healthy and well-educated children.'

—Anthony Lake, UNICEF Executive Director

Education is a fundamental human right. It is the key to sustainable development. In the present era, Sustainable growth is the greatest challenge faced by the Indian economy. A country's development potentials are greatly dependent upon; (1) the physical resource endowments (land, minerals and other raw material); (2) the human resources (people and their level of skills) and; (3) technology progress (Todaro, 1985). The core idea of economic development expanded from income, growth and investment to knowledge and technology, human development, and sustainable development.

Education being an important component of human capital has

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always attracted the interests of economists, researchers and policy makers (Abhijeet, 2010). Education has been regarded as one of the most important determinants of economic growth. Many economic growth theories and models (Wagner's Law of Increasing Public Expenditure, Wiseman and Peacock Hypothesis, The Medium Voter Hypothesis, Musgrave and Rostow theory of public expenditure) have developed relating to public expenditure and economic growth. Public expenditure on education is an investment and plays an important role in promoting economic development but, poor financial resources

to the educational sector have been a major problem in India. Management of public expenditure in education is a sub-function of total management and it includes: allocation of resources and utilization of resources (Sharma, 1992). According to the government of India, national policy on education 1986 reaffirmed that 'education is a unique investment in the present and the future'. It can be unique if in the present era the education investment emphasis sustainable growth.

Review of Existing Literature

Author Name	Year of the Study	Objectives	Country/Study Period	Variables Studied/Techniques	Research Findings
Abhijeet	2010	Determined the causal relationship between education spending and economic growth	India/1951-2009	Gross domestic product and public expenditure on education/ Granger Causality and Vector Auto Regression	Economic growth affects the level of government spending on education irrespective of any lag effect, but investment in education also tend to influence economic growth after some time lag.
Ben U.	2010	Examined the relationship between economic growth and education expenditure	Nigeria/1980-2005	Gross Domestic product and Expenditure on education/ Granger Causality test and Cointegration test	The results showed that there is cointegration between public expenditure on education, primary school enrolment and economic growth.
Laval and Rihanat	2011	Examined the level of government spending on the educational sector and the consequential effect on the GDP	Nigeria/1979-2007	Gross Domestic Product and Public expenditure on education/ Vector Auto Regression	GDP is direct relationship with government education funds.
Gangel and Gupta	2013	Analyzed the impact of public expenditure on economic growth	India /1998-2012	Total public expenditure, Gross Domestic Product per Capita/Unit root test, Cointegration, Granger Causality test	There is a positive impact of public expenditure on economic growth.
Edame and Eturoma	2014	Examined the determinants of public expenditure on infrastructural facilities in education and economic growth	Nigeria/1970-2009	Gross Domestic Product (GDP), Public Expenditure on Education, Average Enrolment Ratio/ OLS regression	Results showed that poor financial resources to the educational sector have been a major problem. public expenditure on education has a significant impact on economic growth.

Liberalization, Globalization and Privatization as an important aspect in 21st century. There is no field which has not been influenced by it, means it has affected all the fields. The extraordinary expansion of education in the present era, its higher cost, its multiple objectives, its increasing demand and the limited resources with the government have lead to the multi dimensional problem of financing it. Investment in education has a deep impact on the overall working of the education sector. So, the purpose of this paper is to analyze the impact of public investment on economic growth in India. So the hypothesis are,

H_0 : There is no significant relationship between education expenditure and economic growth.

H_1 : There is a significant relationship between education expenditure and economic growth.

Research Methodology

The data relating to study has been drawn from the Ministry of Human Resource Development(MHRD)-Government of India, Reports of the Planning Commission, Economic Survey of India (Various Years). The variables used in the present study are Real Gross Domestic Product and Public Expenditure on Education. Study period has been taken from post liberalization period i.e. 1991-92 to 2011-12. CAGR(Compound Annual Growth Rate) has been used to study the growth of public expenditure on education at current and constant prices using log linear regression model, where

$$Y = a \cdot b^t$$

$$\log y = (\log a + t \log b)$$

Where, $\log y$ = Variable for which we want to estimate the growth rate, $\log b$ = regression coefficient, a = constant, t = time

$$\text{CAGR}\% = \text{Antilog}(\log b) - 1 * 100$$

Estimation of the model consists of the ordinary least square regression and stationarity test(ADF). The functional relationship between real gross domestic product expressed as follows:

$$\text{RGDP} = C + \alpha (\text{PE}_{\text{ed}}) + e_i$$

RGDP = Real Gross Domestic Product

C = intercept

α = estimation coefficient

PE_{ed} = public expenditure on education

E_i = Error term

Data Analysis and Interpretation

Trends and Growth of Public Expenditure on Education

Table 1 shows the total budgetary allocation on education by central government and state governments with growth rate during 1991-92 to 2011-12.

Table 1. Trends and Growth of Public Expenditure on Education

Years	Total Expenditure (at current prices)	Index** Base year=2004-05	Total expenditure on education at constant (indexed) prices
1991-92	22393	44.68	50119.82
1992-93	25030	48.66	51442.7
1993-94	28279	53.46	52902.37
1994-95	32606	58.82	55430.52
1995-96	38178	64.25	59418.34
1996-97	43896	69.17	63457.35
1997-98	48552	73.58	65983.32
1998-99	61578	79.48	77471.74
1999-2000	74816	81.99	91247.99
2000-01	82486	84.97	97080.38
2001-02	79865	87.75	91013.04
2002-03	85507	91.08	93877.75
2003-04	89079	94.55	94217.03
2004-05	96694	100	96694
2005-06	113228	104.2	108630.5
2006-07	137383	110.9	123859.1
2007-08	157684	117.3	134418
2008-09	192395	127.5	150934.2
2009-10	244687	135.2	180977.9
2010-11	310374	147.3	210658.2
2011-12	354515	159.9	221715.8
CAGR*	113.76		107.46

Source: Analysis of Budgeted Expenditure on Education, MHRD, GOI (Various Years)

*CAGR significant at 0.05 level

The public expenditure on education has been increasing year after year but the growth rate is very low. The growth rate of public expenditure on education at current prices is 113.76% but at constant prices the growth rate is 107.46%, which is quite low.

Relationship Between Public Expenditure on Education and Economic Growth

Table 2 shows the summary of unit root test of the variable used for empirical analysis. The test shows that GDP were stationary at second difference with intercept and public expenditure on education was stationary at first difference with intercept.

Table 2. Unit root test

For GDP	ADF (level)	P Value	ADF (first)	P Value	ADF (Second)	P Value
With intercept	3.489	1.000	-0.074	0.938	-8.77	0.000*
With intercept and time and trends	-	-	-	-	-	-
Public expenditure With intercept	-0.653	0.835	-3.069	0.047*	-	-

Table 3 :Result of Regression Analysis

Variable	coefficient	Std. Error	t-statistics	P-Value
c	-25355.46	32138.33	-0.788	0.44
Public expenditure on education	9.95	3.39	2.93	0.009

R-Square=0.34, Adjusted R-Squared=0.30

The R-square shows that two variable GDP and public expenditure on education are positively correlated. The value of the adjusted R-Squared shows that about 30% of the variations in GDP is explained by education expenditure. Public expenditure on education significant at 5% level. So, null hypothesis is rejected. public expenditure on education has positive impact on economic growth.

Conclusion and Policy Implications

The study investigated the impact of education spending on economic growth. For assessing the impact of education

expenditure on economic growth the extent of public funding of the education sector was examined. The analysis revealed that public expenditure on education has been increasing year after year but, the rate of growth is very low. Expenditure on education doesn't kept pace with enrolment rate. Second, the public expenditure on education have a positive impact on economic growth. So, there is a need to stress upon the central government, state government and planning commission to revise their thinking while making allocation of resources to education. There is a need for sustainable funding of education sector to maintain the sustainable economic growth.

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