



# Public Expenditure and Economic Growth in India

Anita Sharma\*

**Abstract:** *The purpose of this study is to investigate the relationship between public expenditure (current and capital) and the economic growth of India. The data for this paper covers a period 1978-2018 of the developing country India. This study has been conducted in order to analyze that whether the public expenditure have a positive impact on the economic growth of India or not. This research paper uses the SPSS software to estimate the regression equation. The paper ends with the conclusion that a high positive correlation exists between the public expenditure and the economic growth of the country and also the public expenditure have a positive impact on the economic growth of India.*

**Keywords:** *GDP, Public Expenditure, India*

## 1. INTRODUCTION

During nineteenth century the public expenditure was not given much emphasis as most of the Governments follow the laissez faire economic policies and their main concern was to maintain law and order within their territory and to also to defend their countries from outside aggression. They spend very less amount on public expenditure. But in twentieth century the amount of public expenditure have increased to a considerable amount in the whole world. This is one of the major reasons for becoming a topic of discussion among economists and measuring its impact on the economic development of the country. Public expenditure can be classified in many ways viz, Revenue and Capital Expenditure; Development and Non-development expenditure; Productive and Unproductive Expenditure; Transfer and Non-transfer Expenditure etc. Public expenditure is expenditure on Capital account and revenue account. Former is expenditure on creation of assets and it is developmental in nature. Whereas the later is expenditure on normal running of the system it includes the expenditure on salaries etc. This paper has classified the public expenditure as Revenue and Capital Expenditure. The main aim of this paper is to study the relationship between public expenditure (current and capital) and the economic growth of India. The studies which were conducted earlier were mostly based on studying the relationship of public expenditure on other countries like Pakistan, Nigeria, Latin America countries etc. This paper is written mainly to study the effect of public expenditure on economic growth on India. India is a developing country and this matter is of great importance in order to analyze that whether we are going on the right track

or not. The data for this paper covers a period 1978-2018 of the developing country India. This study has been conducted in order to analyze that whether the public expenditure have a positive impact on the economic growth of India or not. This research paper has been divided into four sections. The literature review is dealt in the first section. The second section briefed the methodology used in this paper and the empirical results are presented in the fourth section. Finally, conclusion has been written in last section.

## 2. LITERATURE REVIEW

Various studies, theoretical or empirical which have been conducted till date regarding the impact of public expenditure on economic growth gives varied results in terms of the correlation sign and the intensity as well.

The studies conducted by Ram (1986), Holmes and Hutton (1990) and Aschauer (1989) concluded a positive relationship between government expenditures and growth. In the Ram's model total government expenditure is disaggregated into expenditure on (physical) investment, consumption spending and human capital investment. The study was on 115 countries for a period of 1950-1980 using cross section and time series data. The study found that increased productive expenditure (physical investment) has a negative impact on growth but consumption expenditure relates positively with growth.

While the study conducted by Grier and Tullock (1989) finds that the increase in government expenditure hampers the economic growth of the country. Their study was based on the pooled regression on five-year averaged data in 113 countries to analyze the relationship between cross-country growth and various macroeconomic variables.

Barro had conducted a study in 1990 to study the relationship between productive public spending and economic growth. He had taken the data of 76 countries for the period 1970-1985 and concluded that there may be a possible relationship between share of government spending and GDP and the growth rate of real per capita GDP. In 1991, while studying the data of 98 countries for the period 1970-1985 he reported a negative relationship between share of government spending and the output growth rate. Also he found a positive but statistically insignificant relationship between public investment and output growth rate.

\*Maharaja Surajmal Institute, GGSIP University; anitasharma@msi-ggsip.org

In 1993, Easterly and Rebelo conducted a study on the sample of 100 countries and found an important role of capital expenditure with special significance of transportation and communication and the economic growth.

Taking a period of 20 years of 43 developing countries Devarajan et al. (1996) found a negative relationship between capital expenditure and per capita income and a positive relationship between current government expenditure and economic growth. It is also concluded in this study that excessive spending makes the productive expenditure unproductive.

Using the pooled time series and cross sectional data of seven countries in South Eastern Europe during the period 1995 to 2005, Alexiou, in 2009, suggested that on some occasions lower levels of GE would enhance economic growth, while on other occasions higher levels of government spending might be more desirable. His study had taken five variables i.e. government spending as a dependent variable on capital formation, development assistance, private investment and a proxy for trade-openness.

Tang's study in 2009 also stated co-integration between government expenditure on education and defense with the national income and no co integration between government spending on health and national.

Hamsaz in 2011 had explored the association between government expenditure and economic growth in Malaysia over the period 1970-2007. His study had taken 11 sectors of government spending and find out those only three sectors i.e. health, transport and public utilities have a positive and significant relationship with economic growth.

Among the twelve Asian developing countries taken under the study by Zamanian et al. (2012) for the period 1960-2009, only six countries affirms the cause and effect relationship between government expenditure and economic growth while the rest of the countries do not show this causality relationship

Chamorro-Narvaez (2012) studied the relationship of capital and current spending on the economic growth for 12 Latin America countries over the period 1975 – 2000 using annual data. His findings reveal that there exists no impact of these two components of expenditure over the per capita economic growth rate. The study emphasized that the reason for this is the poor governance and corruption present in the countries.

Shahid et al. (2013) made an attempt to examine the role of sub categories of government expenditures in Pakistan for the period of 1972- 2009. Using ARDL model they showed that the coefficient of development expenditure positively affects economic growth. It also supports the public capital

hypothesis that states that public and private investments are complements to each other. The results also showed that current expenditure does not contribute to economic growth.

While in the study conducted by D'Agostino et al. (2016) based on the assumption that an increase in government spending might be a cause of increased corruption in the country. In other words the corruption increase is the indirect effect of GDP growth. The study revealed that the government expenditure results in the enhancement of economic growth while high amount of government spending on military and non capital government spending reduces the GDP.

In June 2017, Osuji, E. E.; Ehirim, N. C.; Ukoha, I. I.; Anyanwu, U. G. examined the effect of government expenditure on economic growth and development in Nigeria for the period of 1990–2012 using Ordinary Least Square (OLS) multiple regression technique. Time series data for twenty-two years were sourced from secondary data such as the CBN statistical bulletin and other relevant publications using the desk survey method. Gross Domestic Product, proxy for economic growth and development was adopted as the dependent variable while Total Recurrent Expenditure and Total Capital Expenditure constitute the independent variables. The conclusion of their study showed a Positive impact of Government Expenditure on Education, Health, General Administration, and Road Construction on the economic growth but an inverse relationship between expenditure on Agriculture and GDP.

Using an autoregressive-distributed lag (ARDL) model Dan Lupu, Mihai Bogdan Petrisor, Ana Bercu & Mihaela Tofan study the correlation between real GDP growth and 10 different categories of public expenditure. Their study conducted in 2018 on 10 selected Central and Eastern European countries for the period 1995-2015 show that expenditures on education and health care have a positive impact on the economy, while expenditures on defense, economic affairs, general public services, and social welfare have a negative impact.

These studies revealed a possible relationship between government expenditure and economic growth sometimes positive and sometimes negative depending upon the socio economic development of the country. It also reveals that to make expenditure on certain particular areas will give positive relationship between the government expenditure and economic growth while it will be negative for other heads of expenditure.

### 3. DATA AND RESEARCH METHODOLOGY

The empirical analysis uses the data of public expenditures (current and capital) and the GDP growth rate covering the period from 1979 to 2019 forty years. The explanatory

variables are, Gross Domestic Product (GDP) which is taken as the proxy for economic growth of the country and is considered as the dependent variables while the Share of total public expenditures (current and capital) i.e. revenue expenditure is taken as the independent variable. Under Capital expenditure only the expenditure on loans and advances and capital outlay is taken for the study. The time series data of forty years has been sourced for this paper through secondary source Reserve Bank of India-Handbook of Statistics on Indian Economy 2017-18. The data has been analyzed using regression model of the SPSS software.

Regression Analysis Formula

$$Y = a + b X$$

Where, Y= GDP, X= Public Expenditures (current and capital)

The Null hypothesis used is that there is no relationship between the Public Expenditure and GDP. The alternate hypothesis is that there is a relationship between the Public Expenditure and GDP.

#### 4. EMPIRICAL RESULTS

The data has been analyzed using regression model of the SPSS software through which the following output has been received:

**TABLE1: Correlations**

		GDP	PE
Pearson Correlation	GDP	1.000	.997
	PE	.997	1.000
Sig.(1-tailed)	GDP		.000
	PE	.000	
N	GDP	38	38
	PE	38	38

The results in Table 1 indicate that the correlation between Public Expenditure and GDP is .997 which shows that there is a strong positive correlation between Public Expenditure and GDP. The p value for the correlation coefficient is .000 which shows that the correlation coefficient between Public Expenditure and GDP is high and statistically significant.

<i>Variables Entered/Removed<sup>b</sup></i>			
Model		Variables Entered	Variables Removed
dimension0	1	Expenditure <sup>a</sup>	.
a. All requested variables entered.			
b. Dependent Variable: GDP			

**TABLE 2: Model Summary**

Model		R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. Change
dimension0	1	.997 <sup>a</sup>	.995	.994	3508.008	.995	6614.343	1	36	.000
a. Predictors: (Constant), Expenditure										

ANOVA <sup>b</sup>						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.140E10	1	8.140E10	6614.343	.000 <sup>a</sup>
	Residual	4.430E8	36	1.231E7		
	Total	8.184E10	37			
a. Predictors: (Constant), Expenditure						
b. Dependent Variable: GDP						

TABLE 3: Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2337.414	761.005		-3.071	.004
	Expenditure	8.199	.101	.997	81.329	.000

a. Dependent Variable: GDP

In Table2, the value of r is also .997 which shows that the goodness of fitting the linear equation is high. R square value shows that the 99percent of variations in GDP is explained by Public Expenditure and is a better fit of trend line. Thus rejecting the null hypothesis and accepting the alternate hypothesis that there exists a strong relationship between the Public Expenditure and GDP.

On analyzing the data through advance excel also the same out been received. The output of advance excel is as follows:

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.99729							
R Square	0.994587							
Adjusted R Square	0.994436							
Standard Error	3508.009							
Observations	38							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	8.14E+10	8.14E+10	6614.338	2.11E-42			
Residual	36	4.43E+08	12306129					
Total	37	8.18E+10						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-2337.42	761.0054	-3.07148	0.004041	-3880.81	-794.025	-3880.81	-794.0249264
X Variable 1	8.19873	0.10081	81.32858	2.11E-42	7.994278	8.403182	7.994278	8.403182486

Now our equation will become  
 $GDP = -2337.42 + 8.19873 \text{ Public Expenditure}$

This shows that if the public expenditure is increased by 1 unit then it will result in 8.19 units increase in GDP. It shows that the public expenditure have a positive impact on the economic growth of India

## 5. CONCLUSIONS

This paper investigated the relationship between public expenditure (current and capital) and the economic growth of India.

The empirical analysis uses the data of public expenditures (current and capital) and the GDP growth rate from 1979 to 2019 covering a period of forty years. The regression model of SPSS software is used for the purpose of the study. The Null hypothesis used is that there is no relationship between the Public Expenditure and GDP. The alternate hypothesis is that there is a relationship between the Public Expenditure and GDP. Our empirical result shows that a high strong positive relationship exists between the public expenditures (current and capital) and the GDP growth rate. The public expenditure has a positive impact on the economic growth of India. If the country increases the public expenditure it will surely results

in an increase in the GDP which means the economic growth of the country.

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