

Performance of Government Spending on India's Economic Growth

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Abstract: Economic growth refers to increase in a country's potential GDP, although this differs depending on how national product has been measured. Economic growth must be sustained for a developing economy to break the circle of poverty. Countries usually pursue loose fiscal policy to achieve accelerated economic growth. Perhaps, the aspect of public finance that has received much attention in the literature, debate and empirical analysis is the economic effects of public expenditures. Many scholars support a large public expenditure on the ground that it puts money into circulation, increased investment and employment and reduces tax averseness. For decades, public expenditures have been expanding in India, as in any other country of the world; increases in the finances of the Federal Government have led to a number of theoretical and empirical investigations of the sources of such increases. Researchers have particularly questioned whether increases in the size of the federal budget tend to be initiated by changes in expenditures followed by revenue adjustments or by the reverse sequence, or both. The objective of this paper is to investigate the effect of public expenditures on economic growth using a time series data of India for the period 1990-91-2014-15. This paper works on three main objectives. First, we have tried to show the trend and growth pattern of public expenditure and GDP in India. Secondly, we have tested causal relationship between the above two variables to judge whether there exist any kind of directional relationship between them or not and if yes then uni-directional or bi-directional. Lastly our paper aims to analyze whether government spending causes economic growth in India. The study is completely based on secondary data.

Keywords: Government expenditure, impact, GDP, analysis

1. INTRODUCTION

Economic growth refers to increase in a country's potential GDP, although this differs depending on how national product has been measured. Economic growth must be sustained for a developing economy to break the circle of poverty. Countries usually pursue fiscal policy to achieve accelerated economic growth. The aspect of public finance that has received much attention in the literature, debate and empirical analysis is the economic effects of public expenditures. Expenses incurred by the public authorities- central, state and local self-governments are called public expenditure. Such expenditures are made for the maintenance of the governments as well as

for the benefit of the society as whole. There was a continuous debate in the academic circles in the nineteenth century that public expenditures were wasteful. Public expenditures must be kept low as far as practicable. This conservative thinking died down in the twentieth century, especially after the Second World War. As a modern state is termed a 'welfare state', the horizon of activities of the government has expanded in length and breadth. Now we can point out the reasons for enormous increase in public expenditure throughout the world even in the capitalist countries where laissez-faire principle operates. Many support a large public expenditure on the ground that it puts money into circulation, increased investment and employment and reduces tax averseness. However, public expenditure has some obvious economic consequences. Public expenditure plays a significant role in the functions of economy at almost all stages of economic development. It counteracts inflationary pressures and helps to stabilize the economy by formulating suitable fiscal policies such as drawing up the budget, providing surpluses in deficit and boom in recessions by accelerating the rate of development expenditure in the public sector steadily. The attainment of these goals of the state governments depends on the fiscal policy of the central government and the autonomy of the state governments in raising revenue and spending it. The public expenditure can be used as a lever to raise aggregate demand and thereby to get the economy out of recession. On the other hand, through variation in public expenditure, aggregate demand can be managed to check inflation in the economy. Public expenditure can also be used to improve income distribution, to direct the allocation of resources in the desired lines and to influence the composition of national product. In the developing countries also, the role of public expenditure is highly significant. In the developing countries, the variation in public expenditure is not only to ensure economic stability but also to generate and accelerate economic growth and to promote employment opportunities. The public expenditure policy in developing countries also plays a useful role in alleviating mass poverty existing in them and to reduce inequalities in income distribution. In what follows, we shall study the causes of growth of public expenditure.

2. CAUSES OF INCREASE IN PUBLIC EXPENDITURE

- **Size of the Country and Population:** We see an expansion of geographical area of almost all countries. Even in no-man's land one finds the activities of the modern government. Assuming a fixed size of a country, developing world has seen an enormous increase in population growth. Consequently, the expansion in administrative activities of the government (like defence, police, and judiciary) has resulted in a growth of public expenditures in these areas.
- **Defence Expenditure:** The tremendous growth of public expenditure can be attributed to threats of war. No great war has been conducted in the second half of the twentieth century. But the threats of war have not vanished; rather it looms large. Thus, mere sovereignty, demands a larger allocation of financial sources for defence preparedness.
- **Welfare State:** The 19th century state was a 'police state' while, in 20th and 21st centuries modern state is a 'welfare state'. Even in a capitalist framework, socialistic principles are not altogether discarded. Since socialistic principles are respected here, modern governments have come out openly for socio-economic uplift of the masses. Various socio-economic programmes are undertaken to promote people's welfare. Modern governments spend huge money for the purpose of economic development. It plays an active role in the production of goods and services. Such investment is financed by the government. Besides development activities, welfare activities have grown tremendously. It spends money for providing various social security benefits. Social sectors like health, education, etc., receive a special treatment under the government patronage. It builds up not only social infrastructure but also economic infrastructure in the form of transport, electricity, etc. Provision of all these require huge finance. Since a hefty sum is required for financing these activities, modern governments are the only providers of money. However, various welfare activities of the government are largely shaped and influenced by the political leaders (Ministers, MPs, and MLAs to have a political mileage, as well as by the bureaucrats (MPLAD)).
- **Economic Development:** Modern government has a great role to play in shaping an economy. Private capitalists are utterly incapable of financing economic development of a country. This incapacity of the private sector has prompted modern governments to invest in various sectors so that economic development occurs. Economic development is largely conditioned by the availability of

economic infrastructure. Only by building up economic infrastructure, road, transport, electricity, etc., the structure of an economy can be made to improve. Obviously, for financing these activities, government spends money.

OBJECTIVES

This paper aims to detect the impact of Total Public Expenditure on economic growth of India. For this purpose we have set three main objectives which are as follows:

1. To study the trend and growth pattern of public expenditure and GDP in India.
2. To identify the directional relationship between the two variables.
3. To detect the impact of public spending on GDP of the country.

Hypotheses

For fulfilling the above objectives, we have set two null hypotheses:

1. H_0 : There is no directional relationship between public expenditure and GDP.
2. H_0 : There is no significant impact of Public spending on country's GDP.

3. TREND AND PATTERN OF PUBLIC EXPENDITURE AND GDP IN INDIA

The relationship between public expenditure and national income has been an enduring issue in economics and public finance literatures both at theoretical and empirical levels. The focus has been mainly on two approaches, first, Wagner's law approach (Keynes, 1883), which states that national income causes public expenditure and second, Keynesian approach (Keynes, 1936), which states that public expenditure causes national income. These theories prescribe for government interventions in the economy through the fiscal policies as this plays a crucial role in the development process. According to Keynes, government could alter economic downturns by borrowing money from the private sector and then returning the money to the private sector through various spending programs. Keynesian approach pointed out that public expenditure is an exogenous factor and a policy instrument for mounting national income. Therefore, it posits that the causal relationship between public expenditure and national income runs from expenditure to income.

TABLE 1: Total Public expenditure and Gross domestic Product in India.

YEARS	TOTAL EXPENDITURE (In Billion)	AGR (TE)	GDP (In Billion)	AGR (GDP)
1990-91	1079.94	-	5686.70	-
1991-92	1144.83	0.060087	6531.20	0.148504
1992-93	1260.63	0.10115	7483.70	0.145838
1993-94	1460.50	0.158548	8592.20	0.148122
1994-95	1652.05	0.131154	10127.70	0.178709
1995-96	1830.59	0.108072	11918.13	0.176785
1996-97	2064.14	0.127582	13786.17	0.156739
1997-98	2388.14	0.156966	15271.58	0.107746
1998-99	2875.55	0.204096	17511.99	0.146705
1999-00	3070.79	0.067897	19520.36	0.114685
2000-01	3368.56	0.096969	21023.14	0.076985
2001-02	3748.20	0.112701	23483.30	0.117022
2002-03	4269.46	0.139069	25306.63	0.077644
2003-04	4387.26	0.027591	28379.00	0.121406
2004-05	4778.60	0.089199	32422.09	0.142468
2005-06	5197.37	0.087634	36933.69	0.139152
2006-07	5969.96	0.14865	42947.06	0.162815
2007-08	7263.98	0.216755	49870.90	0.161218
2008-09	8995.44	0.238362	56300.63	0.128927
2009-10	10423.43	0.158746	64778.27	0.150578
2010-11	12175.40	0.16808	77841.15	0.201655
2011-12	13323.96	0.094334	87360.39	0.122291
2012-13	14352.73	0.077212	99513.44	0.139114
2013-14	15875.74	0.106113	112727.64	0.132788
2014-15	17137.29	0.079464	124882.05	0.107821
CAGR	11.69%		13.15%	

Source: Reserve Bank of India and IMF Statistics

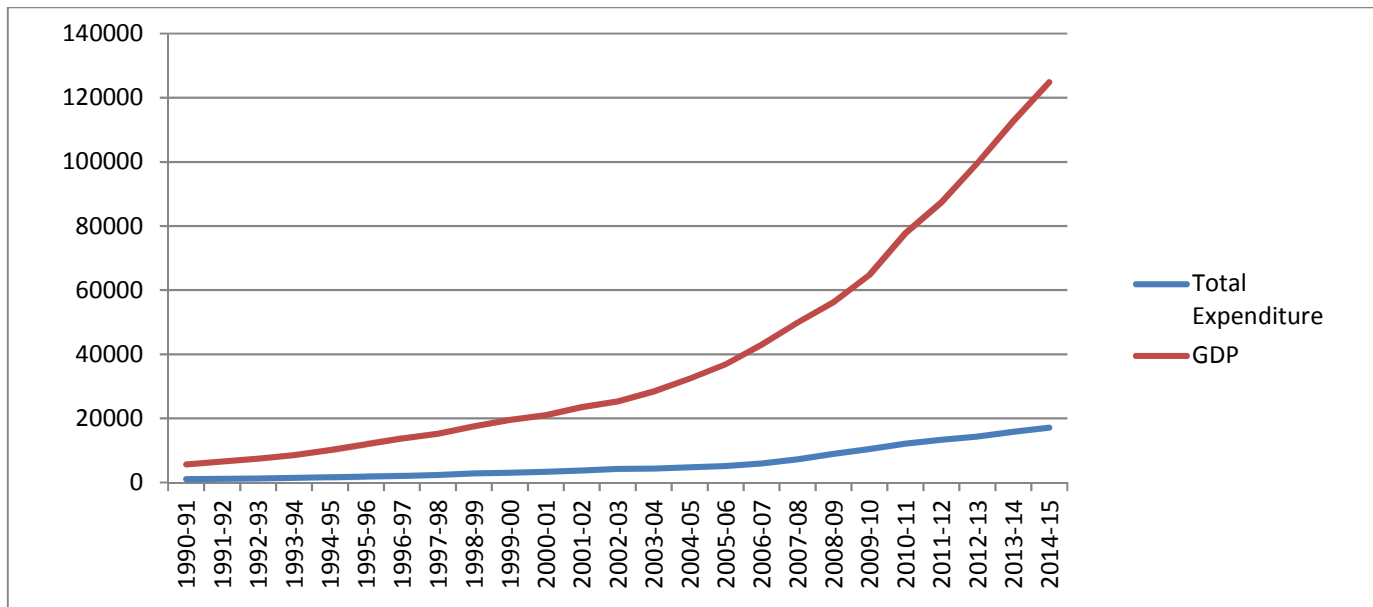


Chart 1: Trend and Growth Pattern of Total Expenditure and GDP

Our first and foremost objective here is to study the trend and growth pattern of public expenditure and gross domestic product. If we have a look at the table and the chart shown above, both the variables have marked a positive growth in our 25 years period of study. While GDP has grown to almost 21 folds from about 5686 billion in 1990-91 to 124882 billion in 2014-15, public expenditure grew around 16 folds from 1079 billion in 1990-91 to 17000 billion in 2014-15. This clearly suggests that there has been an increasing trend, but in the initial years, the growth has been minimal in both the cases. Especially, if we have a look at our expenditure chart, it registered a negligible growth almost touching the horizontal axis. It was only after a decade and a half since the reforms had been undertaken that the expenditure shown a 0.2% of Annual Growth Rate.

So we may say that the growth pattern of expenditure has been quite slow but if we look at the overall figure i.e. the CAGR which came out to be 11.69%, we may conclude that it has shown satisfactory growth not much though. Coming to the next variable, GDP has grown at a Compound Annual Growth Rate of 13.15% which again can be considered a decent growth keeping in mind that we were at 5686 billion in 1990-91. Focusing on the chart, we can clearly see that GDP growth has been sluggish giving more or less a flatter curve till 1999-2000 after which it has rise at a faster pace thereby giving a steeper curve as can be seen in the above diagram. The gap between the two variables has gradually increased with time so much so that public expenditure remained below the 20,000 mark whereas GDP has shown a massive rise above 120000 billion in 2014-15.

4. A CAUSAL RELATIONSHIP BETWEEN THE VARIABLES

There are different types of variables that inter connectedly shows the impact on the Indian economy. Some of the variable has the bilateral relationship whereas some shows the single directional relationship. In this study we are here to find out that the directional relationship between the public expenditure and GDP exist or not and either they have the single directional relationship or bilateral. In this part of the paper, we are trying to find out the causal relationship between Total Public Expenditure and Economic Growth using pair wise granger causality test. After knowing the direction of the relationship, we will try to show the impact of public Expenditure on gross domestic product with the help of regression analysis which will fulfill the main objective of this paper.

5. PAIR-WISE GRANGER CAUSALITY TEST

Granger Causality test has been used to see whether the time series i.e. variable X is useful for forecasting another variable Y. This Paper will help us to see the causality relationship between public Expenditure with GDP. Enders suggests granger causality and mentions that it is tested in order to understand that whether the lag value of one variable cause another variable or not. If there are two equation models X and Y having p lags, x is granger cause y if the whole co efficient are not equal to zero. Generally the pair wise granger causality test model in the form of X and Y are:

$$X_t = \beta_0 + \beta_1 Y_{t-1} + \beta_2 X_{t-j} + u_{1t}$$

$$Y_t = \beta_0 + \beta_1 Y_{t-1} + \beta_2 X_{t-j} + u_{2t}$$

Here we assume that X and Y variables are stationary and we also suppose that the disturbance of u_{1t} and u_{2t} are uncorrelated. The null hypothesis of Granger causality can be expressed as:

H_0 : Y does not Granger Cause X and vice versa.

TABLE 2: Result From Pair-Wise Granger Causality Test with Lag 1

Null Hypothesis:	Obs	F-Statistic	P-value
GDP does not Granger Cause TE	24	0.01471	0.9046
TE does not Granger Cause GDP		4.96318	0.0370

TABLE 3: Result From Pair-Wise Granger Causality Test with Lag 2

Null Hypothesis:	Obs	F-Statistic	P-value
GDP does not Granger Cause TE	23	1.26131	0.3072
TE does not Granger Cause GDP		2.04458	0.1584

TABLE 4: Result From Pair-Wise Granger Causality Test with Lag 3

Null Hypothesis:	Obs	F-Statistic	P-value
GDP does not Granger Cause TE	22	6.76277	0.0042
TE does not Granger Cause GDP		4.62801	0.0370

Result of the granger causality test has been judged under the 5% level of significance, it means that if the result is less than the 5% level of significance we reject the null hypothesis whereas the result greater than 5% will accept the null hypothesis. Now, we have three results of granger causality test that is for one lag, two lags and three lags. Actually we have an opportunity to perform the test up to four lags as Akaike Information Criterion and Schwartz Information Criterion allow us to perform the test within four lags. As can be seen above, two of our results are correct but to perform the

7. RESULT OF THE REGRESSION

TABLE 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.918 ^a	.916	.916	.05794	.916	6175.401	1	23	.000

a. Predictors: (Constant), TE

regression test we have to choose one and which one is best for our analysis depends on how much relationship we have found to be significant.

The result from the lags 1 shows that one null hypothesis seems to be accepted or we can also say that p-value is not significant with 5% level of significance that's why we are not considering this result. Similarly the result from the lag 2 also seems to be accepting the null hypothesis in both the direction. Now considering the result from lags three, both the null hypothesis are rejected that means we are having a bi-directional relationship between the variables, so we are choosing the lags 3 model according to the SIC and AIC and the result are as follows:

- GDP (Gross Domestic Product) P-value is 0.0042 which is less than significant value so null hypothesis is rejected and conclude that GDP affects Total Public Expenditure.
- TE (Total Expenditure) P-value is 0.0370 which is less than significant value so again our null hypothesis is rejected and can be concluded that Total Public Expenditure affect the GDP. If Total Public Expenditure increases it will have an impact on GDP causing an increase or decrease in the GDP.
- The final result from the pair wise granger causality test shows that there is the bi directional relationship between the Public Expenditure and GDP and also shows that there is impact of Total Public expenditure on India's GDP within 5% level of significance.

6. IMPACT OF TOTAL PUBLIC EXPENDITURE ON GDP IN INDIA

With the result from the Pair wise granger Causality test we can say that there is a bidirectional relationship between the variables under study. We will now perform the Multiple regression to show the impact of TE on GDP.

Model,
 $\ln GDP = \beta_0 + \beta_1 \ln TE + u_1$
 Where,
 lnTE = Natural Log of Total Expenditure
 lnGDP = Natural Log of Gross Domestic Product
 U_1 = Error terms
 And Coefficient of variable is β_0 and β_1

TABLE 6: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.344	.113		11.857	.000
	TE	1.061	.014	.998	78.584	.000
<i>a. Dependent Variable: GDP</i>						

In this study we have used regression analysis to know if there is any significant impact of Public expenditure on India's GDP. The time series data that we have used in this regression model have been converted into natural log so as to make the series comparable in growth form. Coming to the results, we can see our model is a good fit keeping in mind the value of R^2 (91.6%) in table 5 given above. Further, in table 6 we can see that with 1% change in Total Public Expenditure, a 1.061% change in GDP is taking place i.e. whatever changes in the public expenditure are taking place are leading to more or less equal changes in country's GDP. Here, it is important to point out the fact that Total Public Expenditure have a significant impact on country's GDP in the sense that a single percent rise in Public Expenditure will lead to even greater changes in country's GDP.

8. CONCLUSION

After working on the set objectives, it can be concluded that both our variables, Public Expenditure and GDP in India has shown an upward trend with a Compound Annual Growth Rate of about 11% and 13% respectively. We achieved our second objective using Pair wise Granger Causality test to show the directional relationship between the variables and proved that both the variables are having causal relationship with significant p value. Thirdly, we run the regression analysis to show the significant impact of public expenditure on the GDP of the country. Both our null hypothesis got rejected. This paper clearly depicts that public expenditure has a positive influence on India's economic growth in the sense that if government decides to raise the level of its spending, it will definitely lead to an upward swing in the GDP statistics.

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