International Journal of Social Science and Economic Research

ISSN: 2455-8834

Volume: 04, Issue: 05 "May 2019"

TRENDS OF PUBLIC EXPENDITURE IN INDIA: AN EMPIRICAL ANALYSIS

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Impact Factor: 2.173 (www.ijsser.org)

ABSTRACT

This study is undertaken mainly to examine the impact of GDP, public revenue and fiscal deficit on the growth of Public Expenditure of India during the period from 2003-04 to 2016-17. The ordinary least squares (OLS) regression technique and correlation was used for analyze the data. According to standard deviation it is observed that the GDP growth is more consistent than Public Expenditure, public revenue and fiscal deficit during the study period in India. The correlation between GDP growth and Public Expenditure in India is to negative but insignificant. The coefficient of correlation between fiscal deficit, public revenue and public expenditure is found positive but insignificant. The significance level of public revenue with public expenditure (0.2%) is highly significant than fiscal deficit and GDP growth in India. The results of OLS show that GDP growth, public revenue and fiscal deficit has positive relation with the public expenditure in India. It is found form the OLS results that one percent increase in public revenue will increase 0.66 percent public expenditure followed by GDP growth 0.27 percent and fiscal deficit0.06 percent. It found that GDP, Fiscal Deficit and Public Revenue have positive impact on the growth of public expenditure in India. The value of R2 (coefficient of determination) in our model represents that 73.31 percent of the variations in the dependent variable in Public Expenditure is due to independent variables included in the model.

Keywords: Public Expenditure, Public Revenue, GDP, Fiscal Deficit

INTRODUCTION

The classification of expenditure has an important bearing on the overall expenditure management. The distinction of expenditure into Plan and Non-Plan categories has significant

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implications for efficient management of public expenditure. The revenue and capital categorization also requires a fresh look in the post-FRBM scenario in view of the need for substantial resource transfers to States and local bodies. The transfer of Central resources to States through various types of schemes and multiple modes of transfer have posed problems in obtaining a comprehensive overview of transfers to States as well as in effective monitoring of expenditure. There are also issues concerning accountability of funds directly transferred to implementing agencies in States. The Eleventh Plan document also referred to innovative methods of financing of projects such as public private partnerships and new administrative mechanisms of implementation and the need, in this context, to clarify the scope of the public sector plan. In response to these issues, Planning Commission set up a High Level Expert Committee to suggest measures for the efficient management of public expenditures.[1]

In the context of improving public expenditure management, there is a new recognition on the role of institutional arrangements in influencing budget outcomes in the areas of aggregate fiscal discipline, strategic allocation of resources and operational efficiency. The essential requirements for public expenditure management include performance-focus, link between policy making, planning and budgeting, well-functioning accounting and financial management systems and appropriate links between budgeting and other systems of the Government.

The classification of expenditure into Plan and Non Plan, although not rooted in the Constitution, has evolved with planning process. Over a period of time, several issues have cropped up from the distinction between plan and non-plan, making it dysfunctional and an obstacle in outcome based budgeting. Therefore, this distinction should go for both Union and State Budgets. On removal of Plan/Non-Plan distinction in the Budget, there should be a fundamental shift in the approach of public expenditure management- from a segmented view of Plan and Non-Plan to holistic view of expenditure; from a one year horizon to a multi-year horizon; and from input based budgeting to the budgeting linked to outputs and outcomes. This shift to holistic view of expenditure would require, interalia changes in organizational structure, mandates and processes.[2]

The problem of determining the structure and growth of public expenditure has occupied the attention of researchers and theorists over several decades. Historically, public expenditure could be rightly argued to be continuously increasing overtime in almost every country. The concept of public expenditure is used to refer to the expenses, which the government incurs for its own maintenance and also for the society and economy as a whole (Bhatia, (1977)[3] and (Edame, 2001).[4] Historically, public expenditure could be rightly argued to be continuously increasing overtime in almost every country.[5]

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REVIEW OF LITERATURE

Gulati,I.S.,(1961)[6] has Analyzed the Central Government Expenditure and argued that the broad pattern of increase in the revenue expenditure of the Central Government follows the current accent on Social and Developmental Services. Edame & Akpan (2013)[7] have conduct a study on An Empirical Analysis of the Structure and Growth of Federal Government Expenditure in Nigeria. They concluded that the growth in government expenditure has been caused by fiscal deficit, gross domestic product, government revenue and debt servicing of the federal government in Nigeria. Vora (2016)[8] has published an article on an Analysis of public income and expenditure by Indian government. This paper revealed that the Revenue receipt, capital receipt, Revenue expenditure, capital expenditure, planned expenditure and unplanned expenditure has shown significant increase during the study period. Mohanty A.R. & Mishra B.R., (2017)[9] have examines the Co-integration between Government Expenditure and Revenue: Evidence from India. The results of the Vector Error Correction Models of this study concluded that there is one-way causality running from tax revenue to expenditure both in short-run as well as in the long-run.

Seshaiah, S. V., Reddy, T.K. & Sarma, I.R.S.,(2018)[10] have undertaken a study on Ceneral Government Expenditure and Economic Growth in India: 1980-81 to 2015-16.

Theyconcluded that all the explanatory variables are positively and significantly affecting the GDP growth rate except FDI Growth rate. Goyal & Sharma (2015)[11] have conducted a study on Government Expenditure in India: Composition, Cyclicality and Multipliers. The study observed that the Capital expenditure not only has a much larger long-run positive impact on output, compared to revenue expenditure, but it also has a smaller shortrun impact on inflation and reduces inflation volatility, since it eliminates structural bottlenecks. Mehrara & Pahlavani (2011)[12] have found the Government Revenue and Government Expenditure Nexus in Asian Countries: Panel Cointegration and Causality. They found the budgetary equilibrium to be negatively signed and statistically significant in both expenditure and government equation.

Agbonkhese & Asekome (2014)[13] have observed the Impact of Public Expenditure on the Growth of Nigerian Economy. The empirical result of this study argued that the public expenditures over the years have not adequately translated to the desired economic growth and enhancement of the standard of living.

Hooda, (2015)[14] the Determinants of Public Expenditure on Health in India has examined by the author. The author argued that the state's priority variable turned significant only for EAG states but not for the other states. The health expenditure in India has influencing by political participation. Yousuf (2008)[15] has analyzed the Public Expenditure, Employment and Poverty in

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Bangladesh. This study concludes that there is link between these two and the channels through which public expenditures reduce poverty are through fostering economic growth, generating employment and raising national wages. Maswadeh, (2016)[16] has undergone through the Structure of the Public Revenues and Expenditures and their Effect on the Deficit of Jordanian Public Budget. The study found that the tax revenue's effect Jordanian public budget deficit is larger than non-tax revenues and the current expenditures effect public budget deficit is larger than capital expenditures.

OBJECTIVES

The main object of this study is to examine the impact of GDP, public revenue and fiscal deficit the growth of Public Expenditure in India. The other particular objectives of this study are as under:

1. To study the trends in public expenditure in India.
2. To examine the impact of Gross Domestic Product on Public Expenditure in India.
3. To examine the correlation between GDP, Fiscal Deficit, Public Revenue and Public Expenditure in India.

RESEARCH METHODOLOGY

This study is mainly based on secondary data collected for the period from 2003-04 to 2016-17. The data about the public expenditure was collected from the Indian Public Finance Statistics, Ministry of Finance, Department of Economic Affairs, Economic Division, Government of India and from State Finances Study of Budgets, Reserve Bank of India and from the Economic Survey of India. To observe the relationship between public expenditure and GDP, Fiscal Deficit and Public Revenue the correlation and simple linear regression model used.

The correlation and multiple regression analysis of the ordinary least square (OLS) are used to determine the relationship between growth of public expenditure and the growth of GDP, Fiscal Deficit and Public Revenue in India.

For determine the impact of selected macroeconomic indicators on the growth of Public Expenditure in India the specifies model is formulated as under;

$PUE = f (FID, GDP, PUR,)$

$PUE = \beta 0 + \beta 1\ FID + \beta 2\ GDP + \beta 3\ PUR$

Where;

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PUE =Public Expenditure
FID =Fiscal deficit
GDP =Gross domestic product
PUR= Public Revenue
β = intercept

Trends in Public Expenditure in India:

Trends in public expenditure of central government of India are presented in table no 1. Total public expenditure of central government mostly divided in to two categories i.e. plan expenditure and non-plan expenditure. The plan public expenditure of central government was Rs. 1223 billion during 2003-04 which continuously increased and reached up to Rs. 8020 billion during 2016-17. Whereas, the non-plan public expenditure of central government of India was Rs.3489 billion in 2003-04 which went highest Rs. 12010 billion in 2014-15 and stood at Rs. 11761 billion in 2016-17. The non plan public expenditure of central government varied between Rs. 3489 billion in 2003-04 to Rs. 12010 billion in 2014-15 during the study period. The total public expenditure of central government of India was Rs. 4712 billion in 2003-04 which continuously increased and went up to Rs. 19781 billion during 2016-17. On an average the public expenditure of central government was 11131.29 billion. Whereas, on an average the plan public expenditure of central government was 3569.36 billion and on an average non-plan public expenditure of central government was Rs.7562 billion during the study period. It found from the data that the percentage share of plan public expenditure in total public expenditure of central government was 25.96 percent in 2003-04 which goes up to 40.54 percent in 2016-17. Whereas, the percentage share of non-plan public expenditure in total public expenditure was 74.04 percent in 2003-04 which goes down up to 59.46 percent in 2016-17. It observed form this analysis that the central government of India has successful to increase the plan public expenditure during the study period.

Table 1: Trends in Public Expenditure of Central Government in India

(Rs in Billion)

Year	Plan Expenditure	% to Total	Non-Plan Expenditure	% to Total	Total Expenditure
2003-04	1223	25.96	3489	74.04	4712
2004-05	1323	26.56	3660	73.46	4982
2005-06	1406	27.80	3651	72.20	5057

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2006-07	1699	29.12	4135	70.88	5834
2007-08	2051	28.78	5076	71.22	7127
2008-09	2752	31.13	6087	68.86	8840
2009-10	3034	29.61	7211	70.39	10245
2010-11	3793	31.68	8183	68.35	11973
2011-12	4124	31.62	8920	68.38	13044
2012-13	4136	29.33	9967	70.67	14104
2013-14	4533	29.07	11061	70.93	15594
2014-15	4626	27.81	12010	72.19	16637
2015-16	7251	40.49	10657	59.51	17908
2016-17	8020	40.54	11761	59.46	19781
Average	3569.36	30.68	7562	69.32	11131.29
Maximum	8020	40.54	12010	74.04	19781
Minimum	1223	25.96	3489	59.46	4712
SD	2113.63		3217.58		5190.40
CV	59.21		42.55		46.63

Source: Union Budget of India 2017-18

Growth rate of Public Expenditure, Public Revenue:

Table no. 2 shows the data on GDP growth, Public Expenditure, Public revenue and Fiscal deficit in India during the period from 2003-04 to 2016-17. It is observed from the table that the on an average annual growth rate of GDP in India was 7.65 percent during the study period. Whereas on an average the growth rate of Public Expenditure was found to be 12 percent during 2003-04 to 2016-17 it was very high than GDP growth rate during this period. During the study period on an average growth in Public revenue was 12.09 percent whereas the rate of Fiscal deficit was on an average -15.02 percent during the study period.

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Table 2: Trends in Growth rate of Public Expenditure, Public Revenue, Fiscal Deficit and GDP Growth rate in India.

Year	Public Expenditure	Public Revenue	Fiscal Deficit	Gross Domestic Product
2003-04	14.04	15.48	-15.02	7.9
2004-05	5.73	6.59	2.03	7.9
2005-06	1.51	3.99	16.38	9.3
2006-07	15.36	9.93	-2.60	9.3
2007-08	22.16	27.79	-11.01	9.8
2008-09	24.04	13.53	165.56	3.9
2009-10	15.89	22.15	24.18	8.5
2010-11	16.87	16.08	-10.73	10.3
2011-12	8.95	10.87	38.12	6.5
2012-13	8.13	10.69	-5.00	5.1
2013-14	10.56	8.02	2.59	6.9
2014-15	6.69	0.46	1.55	7.2
2015-16	7.64	12.09	4.33	7.9
2016-17	10.46	11.62	0.53	6.6
Average	12.00	12.09	15.07	7.65
CAGR	2.12	1.78	10.07	1.29
Maximum	24,04	27,79	165,56	10,3
Minimum	1,51	0,46	-15,02	3,9
STD	6,37	6,98	45,63	1,79

Source: Union Budget of India 2017-18

It is found that the growth of public expenditure, public revenue , gross domestic product and fiscal deficit were decreased in 2016-17 with compare to the year 2003-04 initial year. It is observed from the data that the highest compound growth rate recorded by fiscal deficit i.e. 10.07 percent followed by public expenditure growth rate 2.12 percent , Public revenue 1.78

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percent and GDP growth recorded 1.29 percent compound annual growth rate respectively during the study period. The Public Expenditure grew during this study period in an average 12 percent annually whereas GDP grew by 7.65 percent, Public revenue 1209 percent and Fiscal deficit grew by 15.07 percent annually during the study period. So it is clear that the fiscal deficit grew so more than Public Expenditure, Public Revenue and GDP growth during the study period.

The standard deviations of the variables of the Public Expenditure, the public revenue, fiscal deficit and the GDP growth rate from 2003-04 to 2016-17 show the fiscal deficit was wide spread. The Minimum and the maximum fiscal deficit were -15.02 and 165.56 respectively. Because of this wide dispersion of the fiscal deficit, the standard deviation 45.63 percent in case of fiscal deficit which is higher than the other all variables during the study period. According to standard deviation it is observed that the GDP growth is more consistent than Public Expenditure, public revenue and fiscal deficit during the study period in India.

Correlation Analysis:

Table no. 3 shows the correlation between GDP growth, Fiscal Deficit, Public Revenue and Public Expenditure in India during 2003-04 to 2016-17. Correlation used for analyze relationship between two or more variables and its range between – 1 to +1 and the significant level is 0.01 to 0.05 percent more than 0.05 significant value shoes insignificant relationship between two variables. The -1 correlation value shows perfect negative relationship and in the opposite + 1 correlation value shows perfect positive relationship between two variables. The correlation between GDP growth and Public Expenditure in India is to be found -0.017 percent at significant level of 0.954 or 95.4 percent indicating the insignificant negative relationship between GDP growth and public expenditure in India. The negative correlation of -0.017 at significance level 0.954 percent suggest to reject the hypothesis that the positive relationship between GDP growth and public expenditure in India during the study period.

While the pearsons coefficient of correlation between fiscal deficit and public expenditure is found to be 0.415 with significance level of 0.139 or 13.9 percent. The coefficient of correlation 0.415 shows the positive correlation of fiscal deficit with public expenditure in India during the study period. The high level of significance (0.0.139) shows the coefficient fiscal deficit variable is highly insignificant. The coefficient of correlation between public revenue and public expenditure is also shows positive correlation i.e. 0.747 or 74.7 percent during the study period. The significance level of 0.002 (0.2 %) indicates the coefficient of public revenue variable is also positive but insignificant with dependent variable public expenditure during 2003-04 to 2016-17. It is observed form the pearsons coefficient of correlation result that the significance level of

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public revenue with public expenditure (0.2%) is higher than the significance level of fiscal deficit 13.9 percent and GDP growth 95.4 percent during the study.

Table No. 3: Correlation Result

		Growth of Public Expenditure	Growth of Public Revenue	Fiscal Deficit	GDP Growth
Growth of Public Expenditure	Correlation	1	0.747	0.415	-0.017
	P-value(2sided)		0.002	0.139	0.954
	No. of observation	14	14	14	14
Growth of Public Revenue	Correlation	0.747	1	0.002	0.269
	P-value(2sided)	0.002		0.995	0.352
	No. of observation	14	14	14	14
Fiscal Deficit	Correlation	0.415	0.002	1	-0.627
	P-value(2sided)	0.139	0.995		0.016
	No. of observation	14	14	14	14
GDP Growth	Correlation	-0.017	0.269	-0.627	1
	P-value(2sided)	0.954	0.352	0.016	
	No. of observation	14	14	14	14

Regression Analysis:

The results of OLS show that GDP growth Rate has positive relation with the public expenditure growth of India. One percent increase in GDP growth will increase public expenditure by 0.27 percent. Fiscal deficit has also positive relation with the Public expenditure of India. It shows that one percent increase in fiscal deficit will increase public expenditure by 0.06 percent. While the public revenue has also positive relation with public expenditure of India which show one percent increase in public revenue will increase 0.66 percent increase in the public expenditure of India during the study period. It found that GDP, Fiscal Deficit and Public Revenue have positive impact on the growth of public expenditure in India during the study period. The value of R2 (coefficient of determination) in our model represents that 73.31 percent of the variations in the dependent variable (ln Public Expenditure) is due to independent variables included in the model.

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Table No. 4: Econometric Regression Equation Result

Variable	Co-efficient	t-values	p- Values
Constant	0.9147	1.505	0.8834
Public Revenue	0.6624	4.165	0.0019
Fiscal Deficit	0.0646	2.149	0.0572
GDP growth	0.2751	3.461	0.7364
R-squared Adjusted R-squared F- Test	0.7331 0.653 9.155		

CONCLUSION AND RECOMMENDATIONS

This study is undertaken mainly to examine the impact of GDP, public revenue and fiscal deficit on Public Expenditure in India during the period from 2003-04 to 2016-17. According to standard deviation it is observed that the GDP growth is more consistent than Public Expenditure, public revenue and fiscal deficit during the study period in India. The correlation between GDP growth and Public Expenditure in India is to be found -0.017 percent at significant level of 0.954 or 95.4 percent indicating negative but the insignificant impact on public expenditure in India. The coefficient of correlation between fiscal deficit and public expenditure is found to be 0.415 with significance level of 0.139 or 13.9 percent. The coefficient of correlation 0.415 shows the positive but insignificant impact on public expenditure. The coefficient of correlation between public revenue and public expenditure is also shows positive correlation i.e. 0.747 or 74.7 percent during the study period. The significance level of 0.002 (0.2 %) indicates positive but insignificant impact on public expenditure in India during the study period. It is observed form the coefficient of correlation result that the significance level of public revenue with public expenditure (0.2%) is higher than the significance level of fiscal deficit and GDP growth in India.

The results of OLS show that GDP growth, public revenue and fiscal deficit has positive relation with the public expenditure growth of India. It is found form the OLS that the one percent increase in GDP growth will increase 0.27 percent public expenditure, one percent increase in fiscal deficit will increase public expenditure by 0.06 percent and one percent increase in public revenue will increase 0.66 percent public expenditure of India during the study period. It found that GDP, Fiscal Deficit and Public Revenue have positive impact on the growth of public expenditure in India during the study period. The value of R2 (coefficient of determination) in

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