Impact of Fiscal Deficit and Public Debt on the Economic Growth in India (2010-11 to 2016-17)

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Abstract— *The performance of an economy depends on a number of macro variables.GDP growth, fiscal deficit , public borrowing are some macroeconomic variables influencing the performance of an economy. The present paper is based on mainly secondary sources of data. This study investigates the impact of fiscal deficit and public debt on the economic growth of India by using correlation and multiple regression analysis. The economic growth of India has been assessed with the annual GDP growth rate. With the help of Karl Pearson's coefficient of correlation, the degree of relationship has been analyzed between fiscal deficit , public borrowing and annual GDP growth .Moreover the extent of relationship has been observed through multiple regression analysis. It is hopefully expected that the findings obtained from this study would help the policy makers and the researchers in understanding the significance of budgetary deficit and the debt obligations of the government of the function of the Govt.*

Index Terms— GDP , Fiscal , Macro economic , Correlation , Regression.

1 INTRODUCTION

The economic growth of India depends on a number of macro economic variables. Fiscal deficit and Public borrowing or public debt are some important macroeconomic variables affecting the GDP growth in India.

Fiscal deficit can be defined as the difference between the Government's total expenditure and Government's total revenue excluding borrowing. Fiscal deficit is the indicative of the borrowing requirement of the Government. A higher fiscal deficit is always regarded as a big impediment of the process of working of an economy. Therefore in the recent years curbing fiscal deficit has been one of the main priorities of the Government of India.

As provided under the Article 292 of the Constitution of India , public debt is the liabilities payable by the Government of India against the Consolidated Fund of India. Public debt can be broadly classified as Internal public debt and external public debt. A sustained increase in the fiscal deficit and the public debt in India raises the question of fiscal sustainability and role of fiscal policy in resorting fiscal discipline. Public borrowing is a important component of fiscal policy .In a developing country like India it has an immense role to play. Growing public debt has both positive and negative impacts on the economy. The impact public borrowing would be meaningful and fruitful if the borrowed fund or load is utilized for bringing equal distribution of income and wealth, mitigating inflationary pressure of the economy, implementing various developmental projects etc. Growing public debt has some negative implications only. Increasing public debt always leads to an increase in the payment obligations of the government. Again to repay the public debt the government has to undertake various contractionary measures which may not go well with the general public.

This paper tries to analyze the impact of fiscal deficit and public debt on the economic growth of India. GDP growth has been considered as the indicator of economic growth here.

2 OBJECTIVES

1. To study the trend of public debt In India from 2010-11 to 2016-17
2. To study the trend of fiscal deficit from 2010-11 to 2016-17.
3. To analyze the impact of fiscal deficit and the public debt in India on the GDP growth in India.

3 RESEARCH METHODOLOGY

The present study has used correlation analysis and the multiple regression analysis .To calculate the coefficient of correlation among the variable Karl Pearson's formula has been used. Mainly secondary sources of data have been used for this analysis. Data have been collected from various secondary sources like Websites of the Government of India , Various journals, Bulletin of the RBI etc.

4 ANALYSIS

1. Analysis of GDP growth in India from 2010-11 to 2016-17

Year	GDP Growth
2010-11	10.3
2011-12	6.6
2012-13	5.5
2013-14	6.4
2014-15	7.4
2015-16	8.0
2016-17	8.2

Source: Economic Survey of India

From the table we have found that in the year 2010-11 the growth rate of GDP was 103% .In the next two years the rate came down to 6.6 % and 5.5 % respectively. From 2013-14 onwards the annual growth rate of GDP started increasing. In 2016-17 the rate has been found to be 8.2%

2. Analysis of Fiscal deficit of India from 2010-11 to 2016-17

Year	Fiscal deficit
2010-11	4.8
2011-12	5.9
2012-13	4.9
2013-14	4.4
2014-15	4.1
2015-16	3.8
2016-17	3.5

Source: Economic Survey of India

The trend of fiscal deficit of India from 2010—11 to 2016-17 can be realized from the above table. Curbing the rate of fiscal deficit as a percentage of GDP has been one of the main macroeconomic target of the Government of India in recent years to maintain fiscal sustainability and to resort fiscal discipline. For the year 2010-11 the rate was found to be 4.8% which increased to 5.9% in the next year .from 2012 onwards this rate started decreasing. In 2016-17 the fiscal deficit as a percentage of GDP was 3.5 %.

3.Analysis of Public Debt (Internal and External) from 2010-11 to 2016-17

Year	**Internal Debt**	**External Debt**
2010-11	2667115	278877
2011-12	3230622	322897
2012-13	3764566	332004
2013-14	4240767	374483
2014-15	4738291	363840
2015-16	5304835	406892
2016-17	5741710	408108

4.Correlation Analysis

Variable 1	Variable 2	Karl Pearson's Coefficient of Correlation
GDP Growth	Fiscal Deficit	-.28
GDP Growth	Internal Debt	-.09
GDP Growth	External Debt	-.22

The above table shows the correlation coefficient between GDP growth and fiscal deficit, GDP growth and internal public debt , GDP growth and external public debt. The correlation coefficient between GDP growth and fiscal deficit is .28. We have found this coefficient for GDP growth and internal debt as .09 and for GDP growth and external debt this coefficient is .22

5.Multiple Linear Analysis

$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+u$

Y=GDP growth rate

B_0= It is a constant term which represents the value of dependent variable (Y) when all other independent variables are zero.

B_1= Regression coefficient which indicates the extent at which the dependent variable Y changes when the predictor variable (X_1) changes.

B_2= regression coefficient which indicates the extent at which the dependent variable Y changes when the predictor variable (X_2) changes.

B_3= Regression coefficient which indicates the extent at which the dependent variable Y changes when the predictor variable (X_3) changes.

X_1= Fiscal Deficit

X_2= Internal Public Debt

X_3=External Public Debt

u = It is random error which is the unpredictable variation of the independent variable (Y)

Regression Statistics	
Multiple R	.7231
R Square	.5228
Adjusted R Square	.0458
Standard Error	1.5242
No of observations	7

	Coefficient	Standard Error	T Stat
Intercept	28.51	11.81	2.4132
X_1	-2.41	1.63	-1.30
X_2	-2.61	3.01	-.875
X_3	-2.9	5.75	-.504

Now the estimated regression equation would be

Y= 28.51-2.41 Fiscal Deficit-2.61 Internal Borrowing-2.9 External Borrowing + u

The following results have been obtained

- Multiple R : It is one of the measures oif goodness of fit of a model. It is nothing but the coefficient of correlation. This value has been found to be .7231.
- R Square : The coefficient of determination is indicated by the R Square. It is the percentage of variation of the dependent variable which is explained by the independent variables. The value of R Square here is .5228. We can interpret that 52.28 percent variation of the dependent variable is explained by the variations of the independent variables. In other words 52.25 percent of the variation of annual GDP growth of India is explained by the variations of fiscal deficit , internal borrowing and external borrowing of the government.
- Regression Statistics: We have also analyzed the regression coefficients of the three predictor variables with the annual GDP growth of India. All three variables have showed a inverse relationship with the dependent variable Out of the three independent variables the regression coefficient is highest for external public debt. We can summarize that the external debt is more burdensome that the internal public debt.

5 CONCLUSIONS

In our study we have observed the impact of fiscal deficit , internal and external borrowing on the annual GDP growth in India. All the three variables have showed an inverse relationship with the annual growth of India. Among the three variables external public debt has been found to exert stronger influence on the growth performance of the economy. All the three variables act as a constraint for the well function of the economy. It can be suggested that the Government should adopt more flexible and comprehensive fiscal policy which will lead the economy upto the mark.

6. REFERENCES

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