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A Study on the Fiscal Deficit and Economic Growth in India

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ABSTRACT:

The aim of this study is to examine the trend analysis of fiscal deficit and economic growth in India. This study was descriptive in nature. It was based on secondary data. The secondary data were collected from GOI budget document, ICRA research, economic survey of India, Hand book of statistic on the Indian economy published by Reserve Bank of India, several journals and websites. Regression analysis was used as a statistical tools and technique to achievethe research objective. FY 2013-14, FY 2014-15 and FY2015-16 were considered during this study. This study shows that the prediction related to growth in the year 2015-16 is more accurate in relation to revenue receipts, tax revenue, non-tax revenue, revenue expenditure, capital receipt (non-debt) and capital expenditure. The prediction of growth is accurate. The variation in the balance estimate and reserve estimate is not favourable in relation to tax.The findings of the study also showthat there are considerable inaccuracies in terms of balance estimation and reserve estimation of revenue expenditure, interest, subsidies, fertilizer, food, fuel etc.

Keywords: Fiscal deficit, GDP, Regression analysis

Introduction:

Every year, a budget is prepared by the central government. It implies which sectors it will earn and which sectors it will spend in the next financial year. Fiscal deficit is the difference between total revenue and total expenditure of the government. When we look at the post-independence period in India, we can see that the issue of fiscal deficit is nothing new in India. India has been witnessing this fiscal deficit for a long time. India has a lower per capita income than other developed countries in the world and the number of people living below poverty line is much higher. Various government subsidy schemes to alleviate poverty and the tendency to evade taxes are exacerbating the fiscal deficit. The difference is made up by borrowing or minting new funds. Although budget deficits may occur for numerous reasons, the term usually refers to a conscious attempt to stimulate the economy by lowering tax rates, or increasing government expenditures. There may be a very large impact of the government deficit on the economy of a nation.A fiscal deficit, however, may also result from government inefficiency, such as widespread tax evasion or unnecessary spending, rather than the operation of a planned countercyclical policy. The fiscal deficit and economic growth are mutually reinforcing. As a result of good fiscal management, foreign lending can be preserved and private investment avoided, while growth stabilizes the budget and the fiscal position.

Review of Literature:

Sheikh, R et al. (2010) conducted a study on the relationship between public debt and economic growth of the Pakistan. The findings of their study suggest that there is a negative relationship between the variables.

Mohanty (2012) conducted a study to examine short run and long run fiscal deficit on economic growth 1970-2012. The study found that there was a negative and significant relationship between fiscal deficit and economic growth in the long run.

Odhiambo et al. (2013) conducted a study on the impact of fiscal deficit on economic growth in Keneya over the period 1970-2007. The findings of their study suggest that there was a positive impact of budget deficit on economic growth.

Nayab (2015) conducted a study on budget deficit in Pakistan. The findings of his study suggest that there is a positive impact of budget deficit on economic growth.

Iqbal, Din & Ghani (2017) conducted a study on the relationship between the fiscal deficit and GDP growth of the Pakistan. The findings of their study reveals that fiscal deficit has a negative relationship with GDP growth.

Ali, K. (2019). Conducted a study am the impact of fiscal deficit on GDP growth in India from 1999 to 2003. The findings of the study suggest that fiscal deficit has a negative relationship with GDP growth.

Objectives: The main objective of this study is to trend analysis of fiscal deficit and economic growth in India. The sub- objectives of this study are--

1. To explain the reasons of fiscal deficit.

2. To analyze the adverse effect of fiscal deficit.

Methodology:

The present study isdescriptive in nature. The main objective of the study is to trend analysis offiscal deficit and economic growth in India. The data were collected from secondary sources, mostly from GOI budget document, ICRA research, Hand book of statistic on the Indian economy published by Reserve Bank of India, several journals, and websites. Regression analysis was used to examine the main objective of research. FY 2013-14, FY 2014-15 and FY2015-16 were considered during this study.

Reasons for the Fiscal Deficit:

The reasons for the fiscal deficit are-(1) To raise finance during war, (2) To promote economic development, (4) To mobilize resources, (5) To grant subsidies and (6) To increase aggregate demand.

Adverse Effect of Fiscal Deficit:

Deficit financing is not free from its effects. It has its adverse effect on economy. Important evil effects of deficit financing are – (1) It adversely effect on saving, (3) It adversely effect on investment, (4) It leads unequal income distribution, (5) It leads problem in BOP , (6) It increases cost of production and (7) It changes pattern of investment.

Steps Taken to Reduce Fiscal Deficit in India:

In the last decade, the Indian economy has grown into one of the largest with vibrant economy. This is due in part to the controlled inflation, the increased domestic demand, the decline in oil prices as well as reforms. A major challenge is the current account deficit. India promised to contain fiscal deficit following the Vijay Kelkar Committee report. As part of the union budget for 2015-16, measure have been implemented to support investment, boost social spending and take measure to make the economy more investor and market friendly. Considering the pressing need for greater public investment, the government has set the fiscal deficit for 2015-16 and 2016-17 @ 3.9 % of GDP, higher than the rolling targets published in July 2014 (3.6% of GDP, respectively) or the recent recommendation of the Fourteen Finance Commission. As expected, the RE (Reverse Estimate) for 2014-15 indicates that the deficit would be restricted to 4.1% of GDP (See Table 1). The BE (Budgeted estimate) for 2015-16 shows continued fiscal consolidation but with a limited reduction in the fiscal deficit to 3.9% of GDP.

Data Analysis and Interpretation

Introduction:

The following chapter deals with the regression analysis of the budget of Government of India (GOI). The source of the data is budget document of GOI.Chatterjeeand Hadi**(**2015**)** commented that in a statistical process, regression analysis enables in estimating the relationship among variables. Cameron and Trivedi(2013) stated that the independent variables play the role of experimental or treatment variables.

Table 1: GOI's Fiscal Balances

	Rs.billion			**Growth**	
	FY 2013-14 Actual	FY 2014-15 RE	FY 2015-16 BE	FY 2014-15	FY 2015-16
Revenue Receipts	10,147	11,263	11,416	11%	1%
Tax Revenues$	8,159	9,085	9,198	11%	1%
Non Tax Revenues	1,989	2,178	2,217	10%	2%
Revenue Expenditure	13,718	14,888	15,360	9%	3%
Revenue Deficit	3,570	3,625	3,945		
% of GDP	3.1%	2.9%	2.8%		
Capital Receipts(Non Debt)	419	422	803	1%	90%
Capital Expenditure					
Fiscal Deficit	1,877	1,924	2,414	3%	25%
% of GDP	5,029	5,126	5,556		
	4.4%	4.1%	3.9%		

Source: GOI Budget Documents; CGA; ICRA Research

1.1 Regression Analysis of GOI's Fiscal Balances

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.880808							
R Square	0.775823							
Adjusted R Square	0.719779							
Standard Error	0.023135							
Observations	6							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	0.007409	0.007409	13.84306	0.020463			
Residual	4	0.002141	0.000535					
Total	5	0.00955						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.097122	0.01116	8.702325	0.00096	0.066136	0.128109	0.066136	0.128109
X Variable 1	-0.1088	0.029242	-3.72063	0.020463	-0.18999	-0.02761	-0.18999	-0.02761

Source: Compiled by researcher

The above table 1.1 represents the regression analysis of GOI's Fiscal balances.

Findings:

From the above table 1.1, the findings suggests that the value of standard error is 0.023135 and R squared value is 0.775823. The ANOVA significant value is 0.020463. The coefficients of determinants are 0.097122 intercept and -0.1088 in X Variable 1. The t-stat value is 8.702325 and P value is 0.00096.

Analysis:

According to Mela and Kopalley (2010), the standard error approximates the working of the regression model. It shows the comparison between the actual values in the dependent variable Y to the estimated value that would have resulted if Y followed exactly the linear regression. In thewords of Kannan and Nagarajan (2009), the standard error gives an indication of the predictive quality of the regression.

In the above regression findings, the standard value being lower to 0.023135 is indicating that the prediction related to growth in the year 2015-16 is more accurate in relation to revenue receipts, tax revenue, non-tax revenue, revenue expenditure, capital receipt (non-debt) and the capital expenditure.

The coefficient of determination, like the standard error, is a statistics that also indicates and specify how well the working of regression model serves as an estimation of values for the dependent variables (intersta.statjournals.net, 2010).

Olaniyi *et al.* (2011) has asserted the high R square value indicates the better predictive nature of the regression model. Bem (2011) stated that 0% R square indicates that the model do not explain the variability of the response data around its mean. In the findings above, the R square value, show the result 0.775823 that means the regression model of growth explained little variability of the response data.

As per the study of Kannan *et al.* (2010), f-test of overall significance enables in determination of the relationship in statistics. It shows comparison in the model with no predictors. Hoew (2009) also added that, if the f-test of overall significance test is less than the significance level then one could reject the null hypothesis and make conclusion that the model provided a better fit than the intercept-only model. In the above regression, since, the f-value is more than the significance value it indicates that the prediction of growth is accurate.

For P-value, Greene (2009) stated that if the P-value determines the statistical significance in a hypothesis test. The P-value shows the compatibility of the data with the null hypothesis. Bharathi and Natarajan (2010) stated that the high P-value indicates the accuracy of the estimation whereas low P-value indicates the inaccuracy of the estimations. Draper and Smith (2014) provide another view that if the P-value is less than 0.05 then there is no risk associated with the proceedings of the suggested prediction whereas if the P-value is more than 0.05 then there is risk associated with the proceedings. Therefore, in the given regression since, the P-value is 0.00096, which is quite less than 0.05 it means there is no risk associated with the predictions.

In the words of George,*et al.* (2012), t-stat helps in gaining the evidence of the significant difference between the variables means or between the variables and the hypothesized value. The t-value measures the size of the difference relative to the variation in the sample data. The t-value is a statistic that indicates that the effect is statistically significant if the value is away from 0 and is not statistically significant if the value is close to 0. In other words, if the t-stat or t-value is more than 1.0, then one can accept the null hypothesis or claim that the relationship to be true. Here, in the given regression, the t-value is 8.702325 that is more than 1.0. It means that the growth prediction is true (vanderbilt.edu, 2015).

Table 2: Trends in Tax Revenue Receipts in 2014-15 RE and 2015-16 BE

Rs. billion	2014-15 BE(1)	2014-15 RE(2)	2 015-16 BE(3)	Variation In 2014-15 (2)-(1)	Growth in 2015-16 BE (3)/(2)
Gross Tax Revenues	13, 645	12,514	14,495	-1,131	16%
-Corporation Tax	4,510	4,261	4,706	-249	10%
-Income Tax	2,843	2,786	3,274	-57	18%
-Custom Duty	2,018	1,887	2,083	-131	10%
-Union Excise Duty	2,071	1,855	2,298	-216	24%
- Service Tax	2,160	1,681	2,098	-478	25%

Source: GOI Budget documents; CGA; Economics Survey 2014-15; ICRA Research

Table 2.1: Regression Analysis of Trends in Tax Revenue Receipts in 2014-15 RE and 2015-16 BE

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.999213							
R Square	0.998426							
Adjusted R Square	0.998032							
Standard Error	202.2092							
Observations	6							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	1.04E+08	1.04E+08	2537.117	9.3E-07			
Residual	4	163554.2	40888.54					
Total	5	1.04E+08						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	28.10564	121.8304	0.230695	0.828871	*Lower 95%*	366.3612	-310.15	366.3612
								1.14357

Source: Compiled by researcher

The above table 2.1 represents the regression analysis of trends in tax revenue receipts in 2014-15 RE and 2015-16 BE

Findings:

Thefindings from the above table 2.1 suggest that R square value is 0.998426 that shows little variability of the response data. The standard error is 202.2092, which is greater than the standard measure. The ANOVA significant value is 9.3E-07. The coefficients of determinants are 28.10564 intercept and 1.083828 in X Variable 1. The t-stat value is 0.230695 and P value is 0.8328871.

Analysis:

The analysis of regression suggested that the variations in the gross tax revenue, corporation tax,

income tax, custom duty, union excise duty, service tax is less than expected in financial year 2014-2015. The standard error, which is greater, suggested the variation between the balance estimate and the reserve estimate of the financial year 2014-15 has not generated an expected outcome. The f-test value, which is very less than the overall significant value, indicated that the variation in the balance estimate and reserve estimate is not favourable in relation to tax. The t-stat value and P-value also suggests that the difference between the balance estimate and reserve estimate is not in favour in relation to tax revenue.

Table 3: Trends in Tax Revenue Receipts in 9MFY15

	2014-15 RE	9MFY15		
	Rs. billion	Rs. billion	% of RE	Growth
Gross Tax Revenues^	12,514	7,957	64%	7%
Corporation Tax	4,261	2,776	65%	7%
Income Tax	2,786	1,666	60%	8%
Customs Duty	1,887	1,356	72%	9%
Excise Duty	1,855	1,019	55%	0%
Service Tax	1,681	1,052	63%	9%

Source: GOI Budget Documents; CGA; ICRA Research

Table 3.1:Regression Analysis of Tax Revenue Receipt with Reference to Growth

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.999545							
R Square	0.99909							
Adjusted R Square	0.998862							
Standard Error	141.7749							
Observations	6							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	88231891	88231891	4389.618	3.11E-07			
Residual	4	80400.52	20100.13					
Total	5	88312292						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-21.7917	85.68227	-0.25433	0.811779	-259.684	216.1004	-259.684	216.1004
X Variable 1	0.867402	0.013092	66.25419	3.11E-07	0.831052	0.903751	0.831052	0.903751

Source: Compiled by researcher

The above table 3.1 represents the regression analysis of tax revenue receipt with reference to growth**.**

Findings:

The findings form the table 3.1 show the regression in relation to the growth in financial year 2015-2016. According to the regression, the R square is 0.99909, standard error is 141.7749, and significant value is 3.11E-07. The t-stat value is -0.25433 and P-value is 0.811779.

Analysis:

The standard error helps in determining the predictive quality of a regression model (intersta.statjournals.net 2010).

Table 4: Trends in Revenue and Capital Expenditure

Rs billion	2014-15 BE(1)	2014-15 RE (2)	2015-16 BE(3)	variation in 2014-15 (2)-(1)	Growth in 2015-16 (3)/(2)
Revenue Expenditure	15,681	14,888	15,360	-793	3%
Interest	4,270	4,144	4,561	-157	11%
Subsidies	2,607	2,667	2,438	60	-9%
Fertiliser	730	710	730	-20	3%
Food	1,150	1,227	1,244	77	1%
Fuel	634	603	300	-32	-50%
Pensions	820	817	885	-3	8%
Defence	1,344	1,404	1,521	60	8%
CST Compensation	0	110	150	110	37%
Grants Capital Asset	1,681	1,319	1,106	-362	16%
Balance	4,959	4,457	4,699	-5025%	
Capital Exp.Gross Loans&Adv.	2,268	1,924	2,414	-344 25%	
Defence	946	820	946	-126	15%
Recapitalisation of Banks etc	112	70	79	-42	13%
Balance	1,210	1,034	1,389	-176	34%

Source: GOI Budget Documents, CGA, ICRA Research

Finding:

The R square value is 0.122662, which represent more than 100%. This suggests that the model completely explained all the variability of the response data around the mean and model is good fit. However, the standard error is much greater, i.e. 3784.527. The t-stat value is 0.613415 less than the standard value of 1.0 and P-value is 0.550185 more the ideal measure of 0.05.

Analysis:

According to Vanhoudt (2009), if P-value is less than the overall significant value then one can reject the null hypothesis. Considering this view, the trends in reserve and capital expenditure indicates towards the disadvantageous situation. The model has considered all the variables to an accurate level. Since the standard error shows greater value, it indicates that considerable inaccuracy in terms of balance estimation and reserve estimation of revenue expenditure interest, subsidies, fertilizer, food, fuel etc..

Concluding Observation:

The findings of the study show that the prediction related to growth in the year 2015-16 is more accurate in relation to revenue receipts, tax revenue, non-tax revenue, revenue expenditure, capital receipt (non-debt) and capital expenditure. The prediction of growth is accurate. The variation in the gross tax revenue, corporation tax, custom duty, union excise duty, service tax is less than expected in financial year 2014-15. The variation in the

balance estimate and reserve estimate is not favourable in relation to tax. The findings of the study also showthat there is a considerable inaccuracy in terms of balance estimation and reserve estimation of revenue expenditure, interest, subsidies, fertilizer, food, fuel etc.This trend in reserve and capital should not persist in the system. The Government of India needs to make an attempt regarding the discontinuance of such trend.

Suggestions:

The government should be more active to create more economic activity. Making manufacturing here possible requires laying the ground work. Economic reforms must be accelerated and resumed by both the government and the private sector for the country to achieve sustainable higher economic growth. For states to come out of their financial crisis, the center needs to take some bold and drastic measure. These measure will have to be taken on all fronts if they are to succeed. It is imperative to reform tax policy in a way that broadens the tax base, reduces tax breaks for corporations and improves tax collection and tax administration.

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