International Journal of Applied Business and Economic Research

ISSN : 0972-7302

available at http: www.serialsjournals.com

Volume 15 • Number 22 • 2017

Fiscal Sustainability of Odisha: Trends and Perspective of Financial Indicators

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ABSTRACT

The purpose of the paper is to examine the trend of the critical financial indicators with view to gain deeper insights into the financial sustainability of the state of Odisha, India. Time series data for the period, 1950-2015, from publicly available annual budget documents, economic surveys, audit reports, and gazettes are used to analyze the trends. The findings suggest that the introduction of corrective measures and implementation of the Fiscal Responsibility and Budget Management Act from June 2005, has resulted in substantial improvements in the critical financial indicators, from a worsening situation in the 1980s and 1990s. The insights gained in the study contributes to the existing theory on public finance and policy as the finding reflect positive impact of policy interventions on financial sustainability outcomes.

Keywords: Fiscal sustainability, Gross state domestic product, Fiscal deficit, Economic growth.

1. INTRODUCTION

The economy of the state of Odisha in India, had been experiencing acute fiscal stress for the last several years prior to the enactment of the Fiscal Responsibility and Budget Management Act. Although there was revenue surplus of ₹27.96 crore in the FY 1981-82, as per Finance Accounts, Government of Odisha data[1], the State's revenue position started deteriorating in subsequent years, sustaining revenue deficits continuously. This revenue deficit forced Government of Odisha to depend heavily on borrowing from internal sources in order to meet its expenditure requirements. The committed expenditures such as salary, pensions and interest payments caused the revenue deficit for Government of Odisha. This widening

[1]Comptroller and Auditor General (1982), Finance Accounts, 1981-82 (of Government of Odisha)

level of revenue deficit led to high level of fiscal deficit. Therefore, the unproductive expenditure of the Government with fiscal deficit and borrowing can worsen fiscal situation and adversely affect the State Government's ability to finance developmental programs.

Against the aforementioned backdrop of fiscal crisis, Odisha introduced many corrective measures such as implementation of Fiscal Responsibility and Budget Management (FRBM) Act[2] and introduction of Value Added Tax (VAT)[3] in 2005. Besides, a number of expenditure rationalization measures were implemented by the State. As a result, Odisha achieved revenue surplus from FY 2005-06 onwards. Further, Odisha aggressively embarked upon debt-swapping, where high-cost loans were replaced with soft-loans from multi-lateral agencies. It also introduced voluntary retirement scheme for its employees to reduce the salary burden and has disinvested a number of the loss making public sector units. However, concerns have been expressed by various quarters, including the Comptroller and Auditor General of India, as to whether these fiscal improvement are sustainable[4]. The ongoing slowdown in global economy and its impact on national economy has created challenge to the prospects of sustainability. As a result, the fiscal sustainability and its policy implications is prime concern for every economy. In this context, this present study makes an attempt to analyze the fiscal sustainability of Odisha.

2. REVIEW OF LITERATURE

Different schools of thought namely, Keynesian, Neoclassical and Ricardian differ in their view concerning the issue of an economy's fiscal deficit. While Keynesian economists proposed positive impact of fiscal deficit on economic growth, the neo classical economists opposed it. Further, Ricardian economists believe in neutral relationship between fiscal deficit and economic growth (Bernheim, 1989).

Keynesian economists revealed that raising public expenditure or in different term, raising fiscal deficit will drive aggregate demand and improve the confidence of the investors on the economic potential (Keynes, 1936). This will boost investments and aggregate savings, which, in turn, results in sustained high economic growth. However, Keynesian school of thought was empirically questioned when it could not address the problems during the world economic recession in 1970s and the boom in 1980s and economic slowdown in 2008 after the sub-prime crisis.

The supporters of Neo classical economists believe that the current fiscal deficit encourages increase in present consumption, dampens domestic savings and will transfer the burden to the future generation as high taxation. Also, if the domestic borrowings will be used to finance the fiscal deficit then the amount of loanable funds to private sectors will decline, rate of interest rises and private investments are discouraged (Saleh, 2003). In both the above cases, increase in fiscal deficit will crowd out private investments and acts as a constraint in the efficient allocation of resources. Under the full employment of resources in the goods market, any incremental public expenditure must inevitably lead to a decline in the equal amount of the private expenditure and adversely affects the real economic activity (Buiter, 1977).

Barro (1989) the profounder of the Ricardian equivalence hypothesis argues that fiscal deficit will have neutral effect on economic growth. As fiscal deficit increases with the increase in the public expenditure, people anticipate tax rise in the future and accordingly plan to reduce consumption and to save more.

[2]Odisha Gazette (2005), Odisha Fiscal Responsibility and Budget Management Act, 2005 (of Government of Odisha)

[3]Odisha Gazette (2005), Odisha Value Added Tax (VAT) Act, 2005 (of Government of Odisha)

[4]Comptroller and Auditor General (2006), Audit Report (Civil), 2005-06 (of Government of Odisha).

Meanwhile, deficits tend to decrease public savings while on the other hand, private savings increases and keep gross domestic savings unchanged (Saleh, 2003).

A number of researches have been conducted so far in the arena of public finance relating to fiscal deficit, public debt and economic growth. Some of the studies analyzed the causal nexus between fiscal deficit and economic growth while some other studies attempted to examine the effect of fiscal deficit on economic growth. Similarly, a number of researchers have studied the causal link between public debt and economic growth whereas some other researchers examined the effect of public debt on economic growth. Various theoretical underpinnings and empirical evidences relating to fiscal deficit-growth and public debt-growth are available in the literature of public finance.

In view of the contradicting results by different researchers, the dispute on effectiveness of fiscal deficit towards encouraging growth of economy remains indecisive. While evidence is provided in some empirical studies in favor of a net positive effect (Maji & Achegbulu, 2012; Thornton, 1990), a negative net effect has been indicated by some others (Bailey, 1980; Easterly & Rebelo, 1993; Feldstein & Horioka, 1980; Fischer, 1991, 1993). Also, Ariyo and Raheem (1990)and Rahman (2012)reported that there was no stated objective underlying the deficit profile to have been observed. Therefore, it is in the light of this that the study aimed at examining the relationship between fiscal deficit and economic growth in Odisha. Further, there is no state specific study analyzing the association between fiscal deficit and economic growth to the best of knowledge. Hence, the case of Odisha is taken to analyze the relation and the direction of causality between fiscal deficit and economic growth.

Further, many studies relating to the relationship between public debt and economic growth have been conducted in Indian context. The study conducted by Venkataraman (1968) shows that during the first five year plan, India's debt followed the increasing trend and hence he stated that this rising level of debt can be a matter of concern for economic growth. Patnaik (1970) has given a danger signal for the rising level of debt. It is because every debt has to bear its interest payment which creates burden for the poor state like Odisha. Seshan (1987) also stated that high level of debt to Gross Domestic Product (GDP) ratio is unacceptable and it adversely affects the economic growth of India.

Ghosh (1989) has empirically shown the public debt as a burden for the Indian economy. Rangarajan, et. al., (1989)showed the dynamic nexus of government deficit and different mode of finance i.e., either tax or debt financing to this deficit. They came to a conclusion that debt financing is most dangerous than other mode of financing. It is because the debt finance adversely affects the economic growth of the nation. Singh (1999) has tried to find a relationship between domestic debt and growth over a period from 1959 to1995. His findings supported the Ricardian equivalence theory on public debt. This implies that public debt has neutral effect on growth of economy. The impact of public debt on economic growth during the period from 1980 to 2011 is explained by Rangarajan and Srivastava(2005) . They concluded that there exists negative relation among them. More specifically, higher debt to GDP ratio leads to lowering of the economic growth in the Indian context. Kannan and Singh (2007) investigated the impact of public debt during the period of 1971 to 2006 and concluded that in long run, public debt negatively affect the interest rate, inflation, output and trade balance. Bal and Rath (2014) have shown the impact of public debt on economic growth for India during 1980 to 2014. They included both external as well as internal debt into the growth equation and have reflected the impact through Auto Regressive Distributed Lag (ARDL)

framework. This study concluded that internal debt has positive effect on economic growth in the short run whereas the internal debt behaves negatively in the long run. The study did not get any significant impact of external debt on economic growth in Indian context. Contrast to these opinions on public debt the studies such as Gulati (1993), A study by Jha and Shrama (2004)suggest that there is a positive of public debt on economic growth for India.

3. METHODOLOGY

A descriptive methodology is used for gaining insights into the fiscal indicators. The fiscal indicators are derived from the time series data using XLSTAT.

The threshold model used to determine the threshold level for fiscal deficit. It is based on the work of Khan and Senhadji(2001), which was originally used for analysis of threshold level for inflation. Threshold level of fiscal deficit is based on the following equation:

$$LNGSDP_t = \beta_0 + \beta_1(FDR_t) + \beta_2 \times D_t(FDR_t - k) + U_t \quad (1)$$

Here,

LNGSDP: Natural Logarithm of Gross State Domestic Product at current prices.

FDR: Fiscal Deficit Ratio as percentage of GSDP

Besides, β_0 is the intercept constant, β_1 and β_2 are the coefficients, D_t is the time dummy taken for the FDR and U_t is the error term. In the model, k is used as the focus of testing for the threshold value of the fiscal deficit. While the value of k is given arbitrarily for the estimation, the optimal k is obtained by finding that value that minimizes the residual sum of squares (RSS). Thus, the optimal threshold level is that which minimizes the sequence of residual sum of square (RSS). Besides, the coefficient of determination, R-squared value becomes maximum at the optimal level of$k$. Both the residual sum of squares (RSS) and R-squared value at different applied values k of are determined to find the optimal value of k. Fiscal deficit at this level has a significant impact on economic growth.

4. DATA ANALYSIS AND RESULTS

The continued uncertainty in the economic environment has adversely affected the manufacturing as well as the mining sector of the State. As a result, buoyancy in State's own revenue both own tax and non-tax has been visibly affected. Central transfer in the form of share in central taxes and grant-in-aid as ratios of GSDP have shown declining trend during 2012-13 and 2013-14. However, the central transfer increased in 2014-15 and 2015-16 mainly on account of the decision of Government of India to transfer the Central Assistance for 66 restructured CSS through the Consolidated Fund of the State and the discontinuance of the previous practice of direct transfer of central assistance to various implementing agencies. Therefore, the higher amount of grants from the Centre is because of the change in the procedure for transfer of central assistance for the centrally sponsored schemes (CSS).

Total revenue receipts (as % of GSDP) have gone up from 17.65% in 2013-14 to 18.40% in 2014-15 and estimated at 20.38% in 2015-16(BE). Figure 4.11 presents the trends in broad fiscal parameters of revenue and expenditure that gives the broad picture on the fiscal position Odisha.

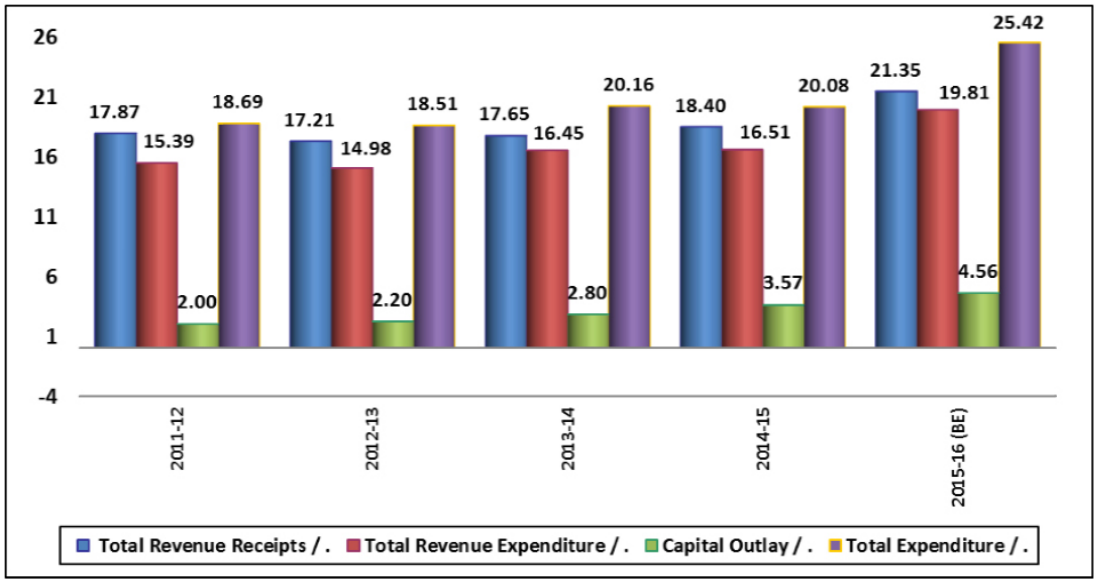

Figure 1: Trends in Broad Expenditure Ratio (% GSDP)
***Source:* Odisha Economic Survey, 2015-16**

Total revenue expenditure which was 16.45% of GSDP in 2013-14 increased to 16.51% of GSDP in 2014-15. On the other hand, the State could break the capital outlay barrier of 3 per cent of GSDP in 2014-15 by achieving Capital Outlay at 3.57% of GSDP. Besides, the State could achieve total expenditure more than 20% of GSDP in 2014-15.

Total revenue receipt and total revenue expenditure are budgeted at 21.35% and 19.81% of GSDP respectively in 2015-16. The Capital Outlay and Total Expenditure are estimated at 4.56% and 25.42% of GSDP in 2015-16.

During 2012-13 to 2014-15, the annual average total revenue receipt has increased by 0.40% of GSDP as against annual average rise in revenue expenditure of 0.51% of GSDP during the same period. As a result, the revenue surplus of 2.23% of GSDP in 2012-13 has come down to the level of 1.89% of GSDP in 2014-15. The zero fiscal deficit position in 2012-13 has gone up to -1.17% of GSDP in 2014-15. This implies the entire borrowing during this time period has been utilized to finance higher capital outlay and it has reached to a level of 3.57 % of GSDP. It is budgeted at 4.56% of GSDP in 2015-16. Figure 4.12 depicts the trends the major deficit indicators.

During 2011-12 to 2015-16(BE), the State has been generating Revenue Surplus as against the revenue deficit of all the states in India at the consolidated level during the same time period. Though, the fiscal deficit which indicates the net borrowing of the states is going up since 2011-12, because of less interest expenditure, the primary deficit ratio of the State has remained favorable as compared to all states in India[5]. However, the fiscal deficit was kept within the prescribed FRBM limit of 3% of GSDP in the revised estimates for the year 2015-16.

Fiscal consolidation in Odisha has been undertaken under a rule based framework through the enactment of Odisha Fiscal Responsibility and Budget Management (FRBM) Act, 2005. Amendment to the FRBM Act, 2005 on the recommendations of the 13th Finance Commission has also been made by

[5]State Finances: A Study of Budgets 2014-15, Reserve Bank of India

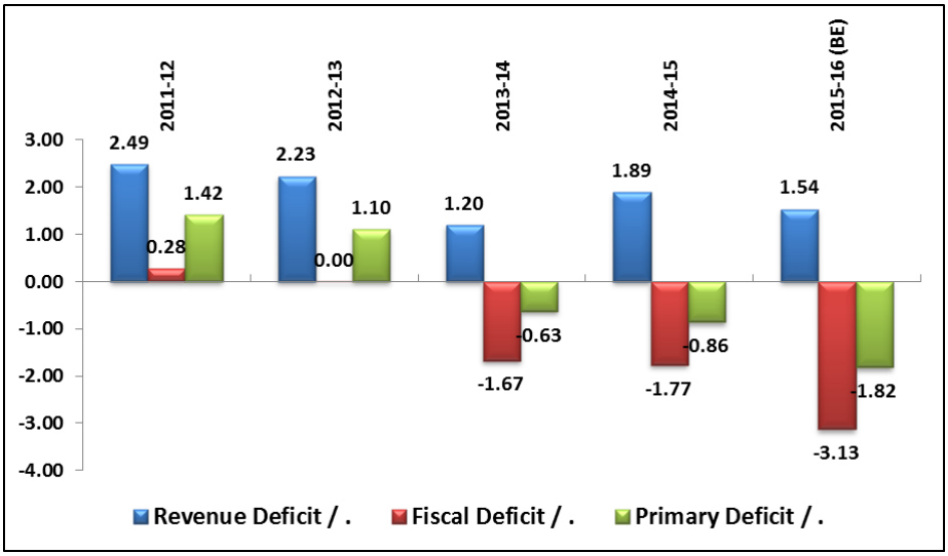

Figure 2: Major Deficit Indicators (% GSDP)
***Negative (-) sign indicates deficit, Source: Odisha Economic Survey, 2015-16**

the state government. Since enactment of the Fiscal Responsibility Legislation, the state has been able to manage the finances within the broad ambit of the FRBM Act and recommendations of successive central finance commissions. In order to examine the impact of FRBM Act on the Odisha's fiscal space, the time period for assessment of fiscal performance is undertaken by considering two time periods around the implementation of FRBM legislation. The time periods for assessing the fiscal performance in terms of major deficit indicators are from 1995-96 to 2004-05 (Pre FRBM Period) and 2005-06 to 2014-15 (Post FRBM Period). Each time period is of ten year duration and annual average of major fiscal deficit indicators are taken to assess the impact of FRBM Act on state fiscal performance.

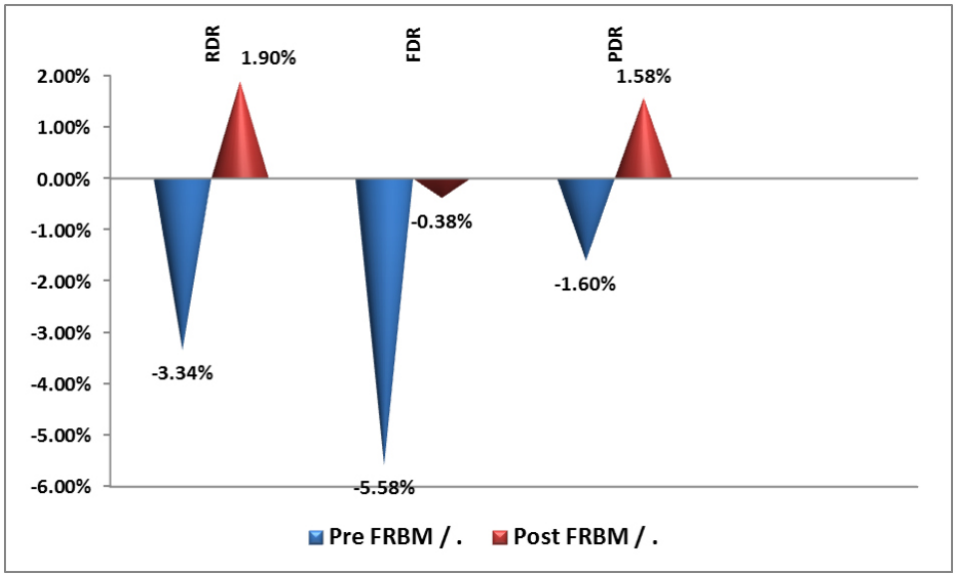

Figure 3: Major Deficit Indicators (% GSDP): Pre FRBM and Post FRBM
***Negative (-) sign indicates deficit, RDR,FDR and PDR are Revenue Deficit, Fiscal Deficit and Primary Deficit Ratio as proportion of GSDP, Source: Odisha Economic Survey, 2015-16**

Figure 4.13 presents a comparative view of State Fiscal Performance in terms of major fiscal deficit indicators in Pre FRBM and Post FRBM Period. A significant improvement in almost all the fiscal indicators has been achieved in Post FRBM Period over Pre FRBM Period.

The following Table 4.3 represents a comparative view of comprehensive set of fiscal indicators during pre and post FRBM period.

Table 1
Comparison of fiscal indicators of Odisha in pre and post FRBM period

Fiscal Parameter	*Pre- FRBM*	*Post-FRBM*
Revenue Deficit/GSDP	–3.03%	1.83%
Fiscal Deficit/GSDP	–5.36%	–0.88%
Interest Payment/TRR	28.32%	10.51%
Debt Stock/GSDP	38.39%	22.37%
SOTR/GSDP	4.24%	5.91%
SONTR/GSDP	1.66%	2.50%
Total Central Transfer/GSDP	7.59%	9.49%
Committed Expenditure/TRR	87.66%	47.66%
Capital Outlay/TE	10.6%	13.8%
Dev. Exp./TE	61.59%	67.42%
Non-Dev. Exp./TE	38.41%	32.58%
Rev. Exp./GSDP	16.51%	16.07%
Capital Outlay/GSDP	1.94%	2.66%
Total Expenditure/GSDP	18.45%	18.73%
CAGR of GSDP	12.2%	14.7%
CAGR of Interest Payments	15.5%	2.1%
CAGR of Debt Stock	15.6%	5.4%
Plan Exp./GSDP	5.4%	7.1%
Non-Plan Exp./GSDP	13.0%	11.6%

Source: Finance Accounts of Odisha (various issues), Odisha Budget at a Glance (various issues)

In June 2005, FRBM legislation was enacted in Odisha. The Pre-FRBM Period is taken from 1993-94 to 2004-05 for twelve year period. Similarly, the Post-FRBM consists of twelve year period from 2005-06 to 2016-17. Then the annual average of each of these above fiscal indicators is taken during both pre FRBM and post FRBM period. It is clearly evidenced that there has been a significant improvement in overall fiscal scenario of the state.

The Fiscal Deficit target for Odisha as suggested by FRBM Act is 3 percent. As per the recommendation of Fourteenth Finance Commission, the upward revision of fiscal deficit ratio by 0.5 percent is applicable to those states whose debt stock to GSDP ratio is below 25% and interest payment to revenue receipt (IPRR) ratio is below 10% with zero revenue deficit. Odisha satisfies both the conditions and hence is eligible for the additional borrowing of 0.5%. Accordingly, the FRBM limit for fiscal deficit in case of Odisha stands at 3.5%.

The analysis shows that fiscal deficit has significant and positive effect on economic growth. However, too much of deficit may have adverse effect on economic growth rate. Hence, the threshold fiscal deficit limit is calculated using the threshold model of Khan and Senhadji (2001) up to which growth can be accelerated and above that the economic growth will decline. The threshold equation is estimated and the residual sum of square (RSS) for threshold level of fiscal deficit ranging from k_1 percent to k_n percent was computed. The value of k is given arbitrarily starting from 2% with an interval of 0.5% up to the level of 4.5% for the estimation. The optimal threshold level is the one that minimizes the sequence of RSS and maximizes the R-Square value.

The Residual Sum of Square (RSS) value at 2% fiscal deficit level is 259.31, which comes down to 222.41 at 2.5% level. When the fiscal deficit becomes 3%, the RSS value comes down to 209.13 and at 3.5% level, it further comes down to 190.07. However, the RSS value increases to 242.95 and 241.77 at 4% and 4.5% of fiscal deficit level respectively. On the other hand, the R-square value is 0.064 at 2% fiscal deficit level, which increases to 0.197 at 2.5% level. When the fiscal deficit becomes 3%, the R-Square value increases to 0.245 and at 3.5% level, it further increases to 0.345. However, the R-Square value then comes down to 0.127 and 0.123 at 4% and 4.5% of fiscal deficit level respectively. The test results on RSS and R-Square values in the fiscal deficit range from 2% to 4.5% is shown below in Figure 4.

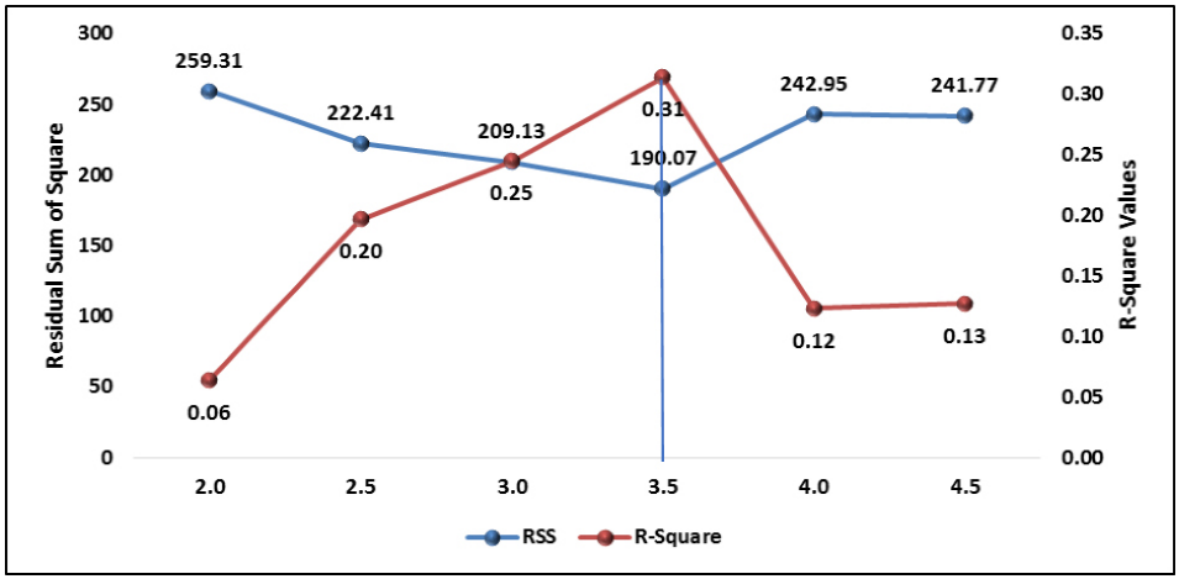

Figure 4: Threshold Fiscal Deficit limit test - RSS and R-Square Values

The result of the threshold model identifies 3.5 per cent as the fiscal deficit threshold value up to which there is positive impact of fiscal deficit on growth of GSDP in case of Odisha, which is aligned with limit set in the FRBM act. Thus the threshold level of fiscal deficit is aligned with limit set in the FRBM act.

5. DISCUSSION AND CONCLUSION

The fiscal indicators presented in Table 1 are self-explanatory. It shows substantial improvement in all parameters. For example interest payment/ total revenue receipt has come down from 28.32% in the pre-FRBM period to 10.51% in the post-FRBM period. Similarly, capital outlay/GSDP has gone up from 1.94% in the pre-FRBM period to 2.66% in the post-FRBM period.

The threshold limit at 3.5 percent is estimated. The State can borrow 3.5% of GSDP in each year in medium term to induce growth in economy. But, if borrowing goes beyond 3.5%, then it will have adverse impact on growth in GSDP. The FRBM limit of fiscal deficit is pegged at 3% and Odisha has been a FRBM compliant state. However, Odisha can go up to permissible level of fiscal deficit at 3.5% in accordance with 14th finance commission as both debt to GSDP ratio and interest payment to revenue receipt ratio are below 25% and 10% respectively in Odisha. The fourteenth finance commission recommendations for fiscal deficit is in tune with empirical finding of the study.

Odisha's fiscal performance has reasonably improved in the post FRBM period. The state's finances have now achieved considerable stability. With improvement in fiscal position, there has been improvement in the quality of expenditure through higher investment in social, physical and human capital to achieve higher inclusive growth. The higher capital investment has been financed through generation of revenue surplus and borrowing. However, the state has not fully utilized the fiscal space available through borrowing for financing the capital outlay in development sector.

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List Showing Full Form of Terms Used

GSDP	Gross State Domestic Product
TRR	Total Revenue Receipts
SOTR	State's Own Tax Revenue
SONTR	State's Own Non Tax Revenue
TE	Total Expenditure
CAGR	Cumulative Average Growth Rate