

Public Debt

and its' Sustainability: Perspective for a Backward State in India

A case study of Orissa.

Snigdha Tripathy

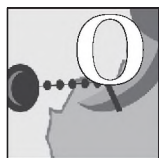
INTRODUCTION

Orissa, despite being a land with rich natural and human resources with 4.74% of India's total land mass and 3.5% of the total population of the country, has remained one of the poorest states in the country to-day. Nearly 48.06% of its population still lives below the poverty line against the all India average of 35.9%. The growth rate of Gross State Domestic Product (GSDP) of Orissa is not remarkable in spite of the heavy borrowing. The GSDP at constant prices (93-94) of Orissa has increased from Rs. 18,536.66 crore in 93-94 to Rs. 33,042.10 crore in 2005-06, registering an annual compound growth rate of 4.93% (The economic survey of Orissa 2006-07). The per-capita GSDP of Orissa by the end of 2005-06 was Rs. 13,744 as against the all India average of Rs. 60151 (by measuring GSDP at constant prices, 99-00 as the base year) with the per-capita gap at Rs. 6990.

The total outstanding debt as on 31.3.2006 is of the order of Rs. 36456.46 crore (Orissa Budget at a Glance 2007-08, published by the Department of Finance, Govt. of Orissa). In terms of Debt to GSDP ratio too, the state Govt. of Orissa had registered an annual growth rate of 16% over the period 1990-91 to 2005-06. This critical debt ridden condition of the state is due to the slow,

secular deterioration in the fiscal health of the state. The deterioration in the state's fiscal health has started from the year 1990-91. The revenue surplus state of the 80s has gradually been converted into a revenue deficit state by the end of the 2000. Towards the late 90s, the fiscal situation of the state Govt. of Orissa had become very critical leading to debt to GSDP ratio of 68%. Not only the debt but also the debt servicing in terms of interest payment had increased. The interest payment as a proportion of total revenue receipt was also very high at 40% during 1990-91 to 2005-06.

As the state government had to borrow continuously to cover the fiscal imbalances, there is a legitimate concern over the sustainability of its public debt. As per the recommendations of The 12th Finance Commission, the state govt. can approach the market directly for the 70% of the loan component of Central Assistance of the State Plan. The sustainability of the additional borrowing has become a critical issue in the present context because, if the financial market will perceive the debt stock of any Govt. as unsustainable then the further lending to the Govt. will be difficult.



OBJECTIVES OF THE STUDY

At the backdrop of the above mentioned problem the objectives of the present study have been outlined.

- ♦ To study the dimensions of the fiscal imbalances of the state Govt. of Orissa.
- ♦ To assess the fiscal sustainability of the state Govt. of Orissa, by assessing the solvency and sustainability of public debt.
- ♦ To suggest some remedial measures for policy prescription.



RESEARCH METHODOLOGY

For developing this study, the data has been obtained through the secondary source i.e. from the govt. documents and documents published by R.B.I. Solvency and sustainability criteria are developed from Domar's model.

For the growth rate of GSDP and the outstanding public debt, the semi log model of econometrics is applied.



FINDINGS OF THE STUDY

Findings of the study are presented in five sections.

SECTION – I

Relative Position of Orissa vis-à-vis other Major General Category States.

India, a home to more than one billion people, is a federation of 28 states and 7 Union territories. The growth and development of the Indian economy depends upon the fiscal performance of the constituent states and the union territories. The gradual deterioration in the fiscal performance of the states had put a negative impact on the growth of the Indian economy. The fiscal crisis which started around 1985-86 among the states, aggravated further during the post reform period. The R.B.I report for the year 2002 points out that GFD as a % of NSDP had increased in almost all states. The states' own revenue as a proportion of their aggregate expenditure had gone down from 43.5% to 41.5% between 1990-91 to 2000-01. Interest payment showed a sharp rise from 13% of RR (revenue receipt) in 1990-91 to 22.7% in 2001-02. The debt to GDP ratio, which had declined during the 1990s till 1996-97, started rising again continuously. The primary deficit of the states had deteriorated from 1.8% of GDP in the year 1990-91 to 2.4% by 1990-2000. In other words, until 2001, almost all indicators suggested worsening of the fiscal situation in all major states [RBI 2002]. This chapter has attempted to measure the states (General category) as per their fiscal performance. An effort has been put to assess the relative position of the state "Orissa" vis-à-vis other major general category states.

For the interstate comparison different fiscal parameters are taken into the consideration such as the ratio of Revenue deficit and Fiscal Deficit to their respective GSDPs to find out the relative position of Orissa in comparison to other major general category states, and in both the categories, the

situation of Orissa is found to be very grave. The trend analysis is done by taking the time series data from the year 1993-94 to 2004-05.

To probe into such high unfavorable fiscal stance, the other fiscal parameters were also studied, such as

- ♦ Own Tax Revenue as a percentage of GSDP.
- ♦ Revenue Expenditure as a percentage of GSDP.
- ♦ Capital Expenditure as a percentage of GSDP.
- ♦ Interest Payment as a percentage of Total Revenue Receipt.
- ♦ Pension as a percentage of GSDP.
- ♦ Outstanding debt as a percentage of GSDP.

The trend analysis is done by taking three averages over three different time periods; for (1993-96), (1997-2000) and (2001 – 2004). In all the categories the situation of state govt of Orissa was found to be worse than most of the other general category states.

Only in the capital expenditure category the state govt. of Orissa was found to have shown some improvements during the year 2001- 02 to 2004-05 in comparison to other states.

In the category of revenue expenditure as a % of GSDP the state govt. of Orissa was found to be with the highest ratio; it is even more than those of Bihar and West Bengal.

In the category of pension as a percentage of GSDP the state govt of Orissa has shown an increasing trend during the late 90s and onwards, mainly because of the revision of the pay scale of the state govt. employees according to the Central Govt. payment structure as per the Vth Pay Commission.

In the category of IP/TRR, Orissa is found to be a state with a very high ratio other than U.P, Rajasthan, and West Bengal.

In all the above said fiscal indicators, the situation of Orissa was found to be worse than most of the general category states. To measure the impact of this critical situation, debt to GSDP ratio was also taken and the comparison was made between two average periods; for 1993-96 and for 2000-2003. During the period 2000-2003, it was found out that Orissa was the state with the highest debt to GSDP ratio with 68.63%, an increase of 27.47% over these two average periods.

From the above analysis, the fiscal crisis that is faced by the govt of Orissa is clearly revealed. In this chapter an attempt has also been made to find out the relative position of State Govt of Orissa vis-à-vis other 14 major general category states by applying an index. The index is known as "Composite Fiscal Performance Index" developed by Archana Dholakia. This index is made up of the following indices:

Deficit Index (DI) : It consists of the following three indicators.

- ♦ GFD/TEX (Gross Fiscal Deficit/Total Expenditure)
- ♦ R.D/ED (Revenue Deficit/Fiscal Deficit)
- ♦ C.O/ED (Capital Outlay/Fiscal Deficit)

Own Revenue Effort Index (OREI) : It is constructed out of the two indicators

- ♦ OTR/REX (Own Tax Revenue/ Revenue Expenditure)
- ♦ ONTR/REX (Own Non Tax Revenue/Revenue Expenditure)

Expenditure and Debt Repayment Index (EDRI): It is constructed out of the following three indicators.

- ♦ NDRE/RR (Non Developmental Revenue Expenditure as a proportion of revenue receipt)
- ♦ IP/RR (Interest Payment as a proportion of Revenue Receipt)
- ♦ DR/CFT (Debt Repayment as a proportion of central fiscal transfer)

All these indicators are calculated by applying the following formula:

Indicators	Best-Value	Worst-Value	Formula
ED/TEX	$V = (V' - 1)$	W	$(w-x) (w-v)^*100$
R.D./ED.	$V = (V' - 1)$	W	$(w-x) (w-v)^*100$
C.O/ED	$V = (V' + 1)$	W	$(x-w) (v-w)^*100$
NDRE/RR	$V = (V' - 1)$	W	$(w-x) (w-v)^*100$
IP/REX	$V = (V' + 1)$	W	$(w-x) (w-v)^*100$
DR/CFT	$V = (V' + 1)$	W	$(x-w) (v-w)^*100$
OTR/REX	$V = (V' + 1)$	W	$(x-w) (v-w)^*100$
ONTR/REX	$V = (V' + 1)$	W	$(x-w) (v-w)^*100$

V = the best value

V' = the actual best value.

W = worst value

X = the actual value of an indicator for a given state.

To aid this calculation, the best values are adjusted by one unit point.

By applying this index, the states were ranked for the years 2001-02 to 2004-05, and it is found that the rank of Orissa is last but one in comparison to other 14 major general category states, which made it imperative to study the sustainability of the fiscal situation of Government of Orissa.

SECTION –II

Public Debt and Gross Fiscal Deficit - A Theoretical Analysis

In this section introduction of the working area has been made. As the working area is the sustainability of public debt, proper understanding of the concept of debt (public debt) and the proper definition of public debt is a pre-requisite for the required analysis.

As sustainability is usually examined by comparing the growth rate of income and average rate of interest on debt, proper measurement of debt plays a very important role. In this chapter proper definition of debt has been outlined according to the definition of Gross Fiscal Deficit.

Usually there are two ways to finance the GFD of a government; either through monetization (creation of liquidity) or through the additional borrowing. In case of a state govt., it does not have access to the seigniorage. So, the scope for monetization is very much limited or virtually nil. Hence, the additional public borrowing of a state has got a close link with the Gross Fiscal Deficit.

So for the correct definition of the outstanding liability, not only the proper definition of GFD is required, but also the different methods by which the GFD of a state is financed is

required to be found out. For this, the different definitions which are followed by the three apex bodies such as R.B.I, CAG and Govt. of Orissa were scrutinized and it is found that there is a difference in the R.B.I actual and R.B.I textual. After studying the three different definitions, the GFD definition has been outlined as below.

$$GFD = R.D + C.O + N.L - NDCR$$

GFD = Gross Fiscal Deficit

R.D = Revenue Deficit.

C.O = Capital Outlay.

N.L = Net Lending.

NDCR = Non Debt Capital Receipt.

In the budget document, the items which are recorded in the Miscellaneous Capital Receipt are usually the non debt capital receipts, Accordingly the

definition of GFD can be rewritten as follows:

$$GFD = R.D + C.O + N.L - MCR$$

After scrutinisation of the above three definitions it was found out that, there is a difference in the R.B.I actual and R.B.I textual. Because, in the calculation of GFD, RBI usually does not consider the value of MCR, as, usually, in most of the years MCR value is zero. But the proper definition of GFD cannot be found out by neglecting the MCR. However, it was found out that the State Govt of Orissa follows the right definition, and accordingly, once again the GFD of the State Govt. of Orissa is computed for 16 years; from the year 1990-91 to 2005-06.

As a state govt. mainly borrows to finance the GFD, the strong link between GFD and the debt of a state is explained by the help of the following analytics.

$$D_{t+1} = D_t + \Delta D_{t+1}$$

$$\Delta D_{t+1} = \text{Debt finance deficit of the year } D_{t+1}$$

$$D_{t+1} = D_t + DFD_{t+1}$$

$$\text{As, } GFD_{t+1} = DFD_{t+1} + MFD_{t+1}$$

$$\Rightarrow DFD_{t+1} = GFD_{t+1} - MFD_{t+1}$$

$$\Rightarrow D_{t+1} = D_t + (GFD - MFD)_{t+1}$$

The increase in debt in the time period t+1 i.e

$$\Delta D_{t+1} = GFD_{t+1} - MFD_{t+1}$$

From the above analytics it is concluded that, the correct definition of debt can be found out by analyzing the different components through which GFD is financed. In order to have a comparable definition as per the international standard the different definitions of international bodies such as IMF, IASC (International Accounting Standard Committee) were also studied simultaneously. To make the definition comparable across the countries, different definitions which are followed by different countries such as U.S.A, Canada, United Kingdom

and Australia were also studied.

By studying all these definitions it was understood that the concept of public debt or the liability need proper definition for avoiding confusion and erroneous use. The concept should be according to the analytical framework for its effective use in policy making. The most important use of debt or liability is to access the sustainability of it. In this study, sustainability is tested according to Domar's equation. According to Domar's equation, sustainability of debt is studied by comparing the growth rate of GSDP with the rate of interest. The absolute amount of interest does not vary irrespective of the total value of the debt but the rate of interest depends upon the absolute value of the debt. So, a broader definition of debt is expected to yield a smaller interest rate. Hence, a definitional mistake might change the result of the sustainability of public debt.

By scrutinizing all the definitions provided by the different bodies, in this study, it is finally concluded that all those items which are accumulated due to the govt. operation in the past and which are extinguished by the govt. operation in future should be included in the calculation of debt. The direct financial obligations which are serviced through the interest payment should also be included.

From the above conclusion, the new definition of debt was found out as per the following equation:

Outstanding Liability = MFD + DFD

= Internal Borrowing + loans from the centre + Small savings + deposit and advances
+ contingency fund + WMA and OD from R.B.I

In this study it was found out that the definition of debt which is followed by the Govt. of Orissa is not proper as it does not take into account many items from the above. So, by using the above said definition, the outstanding liability of the Govt. of Orissa was calculated once again for the 16 years; from the year 1990-91 to 2005-06.

SECTION –III

Analytics of Debt Sustainability

This section attempts to assess the fiscal health of the State Govt. of Orissa by taking different indicators. As the study is developed to assess the sustainability of public debt, the indicators required according to sustainability perspective are specially chosen. Those indicators are as follows:

- a) Debt/GSDP (Debt to GSDP ratio)
- b) F.D/GSDP (Fiscal Deficit to GSDP ratio)
- c) P.D/GSDP (Primary Deficit to GSDP ratio)
- d) IP/TRR (Interest payment to Total Revenue Receipt)
- e) RE/TE (Revenue Expenditure to Total Expenditure)
- f) RE/RR (Revenue Expenditure to Revenue Receipt)
- g) RD/FD (Revenue Deficit to Fiscal Deficit)

Debt to GSDP ratio

As per the FRBMA, the targeted Debt to GSDP ratio was fixed at 28%. It is found out that the ratio for Orissa throughout the

study period is always more than 40% and it has reached to a height of 62.7% during the year 2005-2006, showing the critical condition of the state

GFD/GSDP ratio

For this study the GSDP data of CSO has been taken. CSO provides two time series data based on two different base years. One is from the year 93-94 up to the year 2004-05 (93-94 as the base year). Another is from the year 1999-00 to 2006-07 (99-00 as the base year). To maintain the consistency of the data, all these ratios are taken from the year 1993-94 to 2004-05. FRBMA has targeted to reduce this ratio up to 3% but it was found that in case of Orissa it was very high at around 6%.

P.D/GSDP ratio

In this category Orissa has shown some improvement. The ratio value went on increasing from 1.16% during the year 93-94 to 6.48% by the end of the year 1999-2000. But from the year 2000-01 onwards it went on decreasing and it was converted to a primary surplus state by the end of the year 2004-05. Orissa has shown the right kind of improvement only in this category.

R.D/GSDP ratio

In this category, the situation of Orissa is as bad as other indicators. This ratio has been showing a continuously increasing trend up to the year 2001-02. During the year 2001-02, this ratio was quite high with 6.75%, however, it has been reduced to 2.6% and 3.7% during 02-03 and 04-05 respectively due to various expenditure rationalization and revenue augmentation measures implemented by the state govt. since 1999-2000.

IP/TRR

The ratio had continuously increased from the year 1990-91 to 2005-06 from 16.8% to 29.27%. As per the requirement of the FRBMA, it should have been at 15% of the TRR (total revenue receipt) of the state. This increasing amount of the interest has put pressure on the revenue expenditure of the state, and in turn has further widened the revenue deficit leading to more borrowing.

RE/TE

This indicator has been taken to measure the pressure of revenue expenditure on total expenditure. As revenue expenditure represents the unproductive expenditure of the state, if the major portion of the expenditure of the state will go towards this unproductive expenditure, then it will hamper the growth of the economy and subsequently the debt burden will be unsustainable. And in this category it was found that the situation of Orissa is very critical over these 16 years as the ratio is very high at around 70% to 80%.

RE/TRR

This ratio has been taken to know what proportion of TRR (Total revenue receipt) of the state goes towards revenue expenditure. It was found that revenue expenditure of the state is more than the TRR of the state and is almost 120% over these 16 years which shows that revenue expenditure only is more than 100% of the TRR. That means, the state govt. has to borrow

to cover the maintenance expenditure of the state.

All these above indicators had shown that the ratios are unfavorable for the state govt. of Orissa leading the state govt. into a debt ridden condition.

SECTION –IV

Solvency and Sustainability of Public Debt

This section focuses on the solvency and sustainability of the debt of State Govt. of Orissa. Solvency and sustainability are closely related as an unsustainable time path of debt will ultimately threaten the solvency of the state. So, solvency and sustainability are required to be studied together. These criteria have been derived from the famous Domar's equation.

The public debt of the govt. will be sustainable provided that the borrowed fund is invested for the developmental purposes and the growth thereby generated helps in further growth of the GSDP. Then only, the govt. can generate sufficient liquid asset to meet the current obligation. This sustainability will be achieved only when the rate of interest "r" is less than "g", the growth rate of GSDP.

$$=r < g \quad \dots\dots\dots (1)$$

Solvency of the public debt will be there provided that, the growth rate of the public debt will be less than equal to the rate of interest. As solvency is a term related to the ability of the state to discharge its obligation in the long term, if the public debt will grow at a higher rate than that of the rate of interest, then it will be difficult on the part of the state to discharge its obligation in the long run. So, for the solvency of the public debt the following criteria should be fulfilled.

"the growth rate of the debt (k) should be less than equal to the rate of interest (r)"

$$=k \leq r \quad \dots\dots\dots (2)$$

If we combine the equation (1) and equation (2) we can get the solvency and sustainability criteria of the public debt as follows:

$$=k \leq r < g \quad \dots\dots\dots (3)$$

The above said equation is derived in this study from the Domar's equation.

For the calculation of "g" and the "k" i.e. the annual growth rate of GSDP and Debt respectively, the econometrics semi log model has been adopted. To maintain the consistency of the data of GSDP, the GSDP data from the year 93-94 to 2004-05 have been taken for the study. Accordingly, it was found out that over these 12 years

"g" = 9.94%

"k" = 16%

"r" = 10.44%

From the above findings it is clear that

$k > r > g$

The major finding of the present study over these 12 years is that the public debt of Orissa was neither solvent nor

sustainable.

SECTION –V

Deficit, Debt and Economic Growth – Problems and Prospects

In this section an attempt has been made to explore the causes of such debt ridden condition of the State Govt. of Orissa. The major causes are as follows:

- ♦ The frequent visit of natural calamities has forced the state to resort to debt and has made the debt more and more debt prone.
- ♦ The disproportionately high employment by the state has made the salary and pension bill unsustainable for the state.
- ♦ Salary, pension and interest bill has made the committed expenditure of the state unsustainable as it has exceeded the Total Revenue of the State.
- ♦ As per the recommendation of the 12th FC, the state govt. had to approach the market for the 70% of the loan component of the central govt. But in this study it was found out that the average rate of interest on GOI loan was 12.35% and on open market loan was 14%. So, increasing dependence on open market loan had made the state more debt ridden.
- ♦ The unfavorable approach by the different Finance Commissions, in particularly by the 11th Finance Commission, has made the state more and more dependent on the R.B.I. in terms of W&MA and OD which is more costly.

In this section, along with exploring the causes of the debt ridden condition of the Govt. of Orissa, an attempt has been made to suggest some remedial measures for policy prescription. The following are some of the remedial measures.

- ♦ The state has to improve both own tax and non-tax revenue buoyancy.
- ♦ The state has to take care of unproductive revenue expenditure by the implementation of different revenue rationalization programme.
- ♦ Restructuring of the high cost debt.

Some of the institutional reforms are also suggested in this study, such as putting comprehensive cap on the state borrowing, bringing reforms in negotiated loan from financial institutions, and also in cash management, by which the dependence on W&MA and OD from R.B.I. can be systematized and interest burden can be reduced.

As per the FRBM Act, the state govt. of Orissa is required to achieve the targets of reducing ED to GSDP level to 3%, Debt to GSDP ratio to 28%, Interest Payment to TRR ratio to 15% and R.D to GSDP ratio to 0% for getting some debt relief and other central govt. incentives. The present task before the govt. is to maintain the present rate of economic growth with the achievement of the desired ratios. Otherwise, the additional funding through borrowing by the state govt. will be reduced.

By looking into the trend of the interest rate on open market loan, in the era of reducing rate of interest on market loan, it is further suggested to restructure the loan of the GoO (Govt. of

Orissa) and to convert it into more and more market loan. When a state govt. will be dependent on the market for loan, market will study the sustainability of the fiscal situation of the govt. In this respect, to increase the creditworthiness of the

Orissa state govt., the above- said fiscal as well as institutional reforms are to be undertaken by the State Govt. of Orissa on an urgent basis.



REFERENCES

- 1 (2000), Report of the (E.A.S. Sarma) Committee on Fiscal Responsibility Legislation, (New Delhi: Department of Economic Affairs. Ministry of Finance).
- 2 (2000). "Managing Public Debt and Promoting Debt Markets in India", *RBI Bulletin* (October); 1083-1094.
- 3 (2000b), "Fiscal and Monetary Policy Interface: Recent Developments in India", *RBI Bulletin* (November); 1257-1268.
- 4 (2000c). Report of the Eleventh Finance Commission, 2000-2005 (New Delhi: Ministry of Finance) June.
- 5 (2001), Report of the Expert Committee to Review the System of Administered Interest Rates and Other Related Issues (Chairman: Y.V.Reddy). September.
- 6 (2003), The Fiscal Responsibility and Budget Management Act. (New Delhi: Ministry of Finance).
- 7 (2001b). "Fiscal Policy Rules for India?". *Economic and Political Weekly* (March'3); XXXVI:9; 749-756. .
- 8 Annual Report, various issues.
- 9 2002. *Terms of References of Twelfth Finance Commission: Issues to be Discussed*, Bhubaneswar. (September)
- 10 (2001), *Report on the Observance of Standards and Codes: India—fiscal Transparency*. (Washington, D.C.: Fiscal Affairs Department).
- 11 2001. *Orissa Budget 2003-2004*. Bhubaneswar. (March)
- 12 2001. *Fiscal and Governance Reforms, Report and Circular*. Bhubaneswar. (June)
- 13 11th and 12th Finance Commission's Report.
- 14 11th Finance Commission Report.
- 15 12th Finance Commission Report.
- 16 Acharya, S. (2002), "Macroeconomic Management in the 1990s". *Economic and Political Weekly* (April 20-27); XXXVII: 16, 1515-38.
- 17 Ahluwalia, Montek S. 2000. "Economic Performance of States in Post-Reform Period." *Economic and Political Weekly*, May 6:1637-1648.
- 18 Ahluwalia, Montek S. (2002a). "India's Vulnerability to External Crisis: An Assessment." in Montek Ahluwalia, S.S. Tarapore and Y.V. Reddy (eds.) *Macroeconomics and Monetary Policy: Issues for a Reforming Economy*. Essays in Honor of C. Rangarajan (Oxford University Press); XVIII; 345.
- 19 Alesina, Alberto and Tamim Bayoumi (1996), "The Costs and Benefits of Fiscal Rules: Evidence from U.S. States." *NBER Working Paper No. 5614*.
- 20 Allen, S.D., 1990 "The Effect of Federal Deficits and Debt on the lax-Adjusted. Short Term Real Interest Rate" *Economics Letters* 34:2; 169-73.
- 21 Balakrishnan, Pulapre 1997. "The Fiscal Deficit in Macro Economic Perspective", in Sudipto Mundle (ed.), *Public Finance: Policy Issue for India*. New Delhi: Oxford University Press, pp.8-29.
- 22 Balasone, Fabrizio and Franco Daniele (2000), "EMU Fiscal Rules: A New Answer to an Old Question", Published in Public Finance Workshop Papers. (Research Department. Banca D'Italia).
- 23 Barro, R. I. and Xavier Sala-i-Martin. 1995 *Economic Growth* McGraw-Hill.
- 24 Bayoumi, Tamim and Barry Eichengreen (1995), "Restraining Yourself: The Implications of Fiscal Rules for Economic Stabilization," *IMF Staff Paper No. 42:1*; 32-48.
- 25 Bhattacharya, B.B. 1992. *India's Economic Crisis, Debt Burden and Stabilization*. Delhi: B.R. Publishing Corporation.
- 26 Bhide S and Panda, M (2002) : Evaluating the Quality of Budgets with a composite Index.
- 27 Bhinde, S and M. Panda (2002): "Evaluating the Quality of Budgets with a Composite Index" *Economic and Political Weekly*, March 30
- 28 Bispham, J.A. (1987). "Rising Public Sector Indebtedness: Some More Unpleasant Arithmetic" in Michael J. Boskin, John, S. Flemming and Stefano. Gorini (eds), *Privatization and Public Debt* (Basil Blackwell); XI; 424.
- 29 Blanchard, Olivier Jean and Stanley Fischer, 1989. *Lectures on Macro Economics*. Cambridge, Massachusetts: The MIT Press p127.
- 30 Blanchard, Olivier, Jean-Claude Chouraqui, Robert P. Hagemann and Nicola Sartor (1990). "The Sustainability of Fiscal Policy: New Answers to An Old Question". *OECD Economic Studies No. 15*. Autumn.
- 31 Blanchard, O. (1980), "Suggestions for a New Set of Fiscal Indicators". *OECD Working Paper No. 79*.
- 32 Buiter Willem, Fl. (1985), "Guide to Public Sector Debt and Deficit", *Economy Policy*. (November); 13-79.
- 33 Buiter, W.H. and U. R. Patel, 1997 "Budgetary Aspects of Stabilization and Structural Adjustment in India: The Painful Road to a Sustainable Fiscal-Monetary Plan" in Mario I. Blejer and Teresa Ter-Minassian (eds.) *Macroeconomic Dimensions of Public Finance: Essays in honour of Vito Tanzi* (Routledge: London and New York).
- 34 Buiter, Willem H. 1995. "Measuring Fiscal Sustainability" Washington D.C: International Monetary Fund.
- 35 Buiter, Willem H. and Urjit R. Patel, 1992. "Debt Deficits and Inflation: An Application to Public Finance of India", *Journal of Public Economics*, Vol. 47: 172-205.
- 36 Buiter, W.H. and U.R. Patel. 1992 "Debt, Deficits and Inflation: An Application to the Public Finances of India" *Journal of Public Economics* 47:2; 171-205.
- 37 Buiter, Willem IT. and Urjit R. Patel (1992), "Debt, Deficits and Inflation: An Application to the Public Finances of India", *Journal of Public Economics* (March): 47; 172-205.
- 38 Chalk, Nigel and Richard Hemming (2000), "Assessing Fiscal Sustainability in Theory and Practice", *IMF Working Papers No. 00/81*
- 39 Chandrasekar, C.P. (2000). "Economic Reform and the Budget" *Economic and Political Weekly*. (April 1); XXXV:14; 1140-1142.
- 40 Chouraqui, Jean-Chaude, Robert. P. Hagemann and Nicola Sartor (1990). "Indicators of Fiscal Policy: A Re-examination". *OECD Working Paper No. 78*.
- 41 Corsetti, Giancarlo and Nouriel Roubini (1996). "European versus American Perspectives on Balanced-Budget Rules." *The American Economic Review*. (May) 86:2; 408-413.
- 42 Cuddington John T. 1996. *Analysing the Sustainability of Fiscal Deficits in Developing Countries*, Economics Department, Georgetown University, Washington.
- 43 Darrat, A.E, 1990 "The Impact of Federal Debt upon Stock Prices in the United States" *Journal of Post Keynesian Economics* 12:3:375-89.
- 44 Devarajan, Shantayanan, V. Swaroop and H. Zou (1996), "The Composition of Public Expenditure and Economic Growth" *Journal of Monetary Economics*: 37; 313-44.
- 45 Dholakia & Karan (2005) : Consistent Measurement and Debt and Deficit of states in India.
- 46 Dholakia Archana (2005) : Measuring Fiscal Performance of States : An Alternative Approach.
- 47 Dholakia Archana and Tarang Solanki (2001) : Ranking states on Fiscal performances of states.
- 48 Dholakia Archana and Tarang Solanki (2001): ranking States on Fiscal Performances of States
- 49 Dholakia Archana (2005) "Measuring Fiscal Performance of the States : An Alternative Approach." *Economic and Political Weekly* July 30, 2005.
- 50 Dholakia, Rammoham & Karan (2004): Fiscal sustainability of Debt of States.
- 51 Domar, E. (1944), "The Burden of Debt and National Income". *American Economic Review*: 34; 798-827.
- 52 Domar, E., 1944 "The Burden of the Debt and the National Income" *American Economic Review* 34; 798-827.
- 53 Economic Survey of Orissa (2006-07)
- 54 Economic Survey of Orissa (2007-08)
- 55 Feldstein, Martin (2004), "Budget Deficits and National Debt" L.K. Jha Memorial Lecture at the Reserve Bank of India in Mumbai, India, 12 January.
- 56 Finance Department Govt. of Orissa (2007-08)
- 57 Finance Department, Government of Orissa, 2001: *White Paper on Orissa State Finance*. Bhubaneswar. (March)
- 58 Fourie, E.C.V.N and P. Burger, 2000. "Is Fiscal Sustainability Attainable? High Interest Rates, Low Growth and the General Balance Effect", *The South African Journal of Economics*, Vol.68.
- 59 Gavind Rao M (2004) "Linking Central Transfers To fiscal Performance of the States." *Economic and Political Weekly* March-1.
- 60 Gershenson, Dmitryi 2001. "Lectures on Fiscal Policy and Fiscal Sustainability," IMF Institute, Washington D.C. (mimeo)
- 61 Government of India (Gol), *Review of State's Fiscal Reforms Facility (2000-01 to 2004-05) An Internal Assessment*, Ministry of Finance, Department of Expenditure.
- 62 Government of India, (1994). Report of the Tenth Finance Commission, 1995-2000 (New Delhi: Ministry of Finance).
- 63 Goyal, Rajan, Jeevan Khundrakpam and Partha Ray (2004), "Is India's Public Finance Unsustainable? Or, Are the Claims Exaggerated?", *Journal of Policy Modeling* 26; 401-420.
- 64 Hamilton J. and M. Flavin (1986), "On the Limitations of Government Borrowing: A Framework for Empirical Testing", *American Economic Review*: 76: 808-819.
- 65 Hamilton, J. D. and Marjorie A. Flavin, 1986 "On the Limitations of Government Borrowing: A Framework for Empirical Testing" *American Economic Review* 76:4 (September) 808-819.
- 66 Haque, Nadeem U. and Peter. J. Montiel (1992), "Fiscal Policy in Pakistan since 1970". *IMF Working Paper No., WP/92/97* (November).
- 67 Harvey, A.C., 1981 *Time-Series Models* (Oxford: Philip Allan).

- 68 Harvey, A.C., 1989 Forecasting. Structural. Time-Series Models and the 'Kalman Filter (Cambridge University Press).
- 69 Hemming, Richard and Michael Kell (2001), "Promoting Fiscal Responsibility - Transparency. Rules and Independent Fiscal Authorities". Presented at a workshop on *Public Finance* (Fiscal Affairs Department. IMF), Feb 1-3 2001; mimeo.
- 70 Horne. Jocelyn (1991), "Indicators of Fiscal Sustainability", *IMF Working Papers WP/91/5* (January).
- 71 Howes. Stephen and Shikha Jha (2001), "State Finances In India: Towards Fiscal Responsibility" World Bank.
- 72 International Monetary Fund (1999), *Manual on Fiscal Transparency* (Washington. D.C.: Fiscal Affairs Department).
- 73 Jalan, Bimal. (1996), *India's Economic Policy: Preparing for the Twenty-first Century* (Penguin Books).
- 74 Joshi, Vijay and I.M.D. Little. 1995 "Macroeconomic Stabilization in India 1991-93 and Beyond" in Robert Cassen and Vijay Joshi, ed. *India: The Future of Economic Reform* (Oxford University Press).
- 75 Kanagasabapathy, K., R.K. Pattanaik and Ms K.A. Jayanthi (1997). "Placing a Statutory Limit on Public Debt" *RBI Bulletin* (December); 983-1009.
- 76 Khundrakpam. J.K. (1998). "Sustainability of Central Government Debt". *RBI Occasional Papers* 17:1.
- 77 Koopman, Siem Jan, Andrew C. Harvey, Jurgen A. Doornik and Neil Shephard. 1995 Stamp 5.0: Structural Time-Series Analyser, Modeller and Predictor (London: Chapman and Hall).
- 78 Kopits George. (2001a). "'Fiscal Rules: Useful Policy Framework or Unnecessary Ornament?" *IMF Working Paper No. 145* (September).
- 79 Kopits. George and S. Symansky (1998). "Fiscal Policy Rules", *IMF Occasional Paper No.162*.
- 80 Lahiri, Ashok K. and Kannan, R. 2001. "India's fiscal deficit and their sustainability in perspective", National Institute of Public Finance and Policy, New Delhi, (working paper)
- 81 Lahiri, Ashok. K. 2000. "Budget Deficits and Reforms" *Economic and Political Weekly*, November 11:4048-4055.
- 82 Lahiri, A. and R. Kannan (2001). "India's Fiscal Deficits and Their Sustainability in Perspective". Paper presented at World Bank-NIPFP Seminar, on Fiscal Policies for Growth.
- 83 Lapittus, Jerry 2000. "Lectures on Sustainability of Public Debt", IMF Institute, Washington D.C. (mimeo)
- 84 Masson, P.R. (1985). "The Sustainability of Fiscal Deficit". *IMF Staff Papers No. 32:4* (December).
- 85 Masson, P.R. 1985 "The Sustainability of Fiscal Deficits" International Monetary Fund Staff Papers 32:4 (December).
- 86 Miliar. Jonathan (1997), "The Effects of Budget Rules on Fiscal Performance and Macroeconomic Stabilization" *Bank of Canada Working Paper* 97-15.
- 87 Mohan. Rakesh (2000), "Fiscal Correction for Economic Growth: Data Analysis and Suggestions" *Economic and Political Weekly* (June 10-16), XXXV:24: 2027-36.
- 88 Moorthy, Vivek 2004. "India's Primary Deficit and Interest Payments Burden, An Assessment" *Economic and Political Weekly*, June 26: 2711-2717.
- 89 Orissa Budget At a Glance (2002-03)
- 90 Orissa Budget At a Glance (2005-06)
- 91 Orissa Budget At a Glance (2006-07)
- 92 Orissa Budget At a Glance (2007-08)
- 93 Pattanaik, R.K (1996), "Budget Deficit in India: Measurement, Analysis and Management" Ph D Thesis submitted to IIT Delhi.
- 94 Pattanaik, R.K, S.M Pillai and Sangeeta Das (2000). "Primer on Budget Deficit in India" *RBI Staff Studies*.
- 95 Pillai, S.M., S. Chatterjee. B. Singh. S. Das and A. Gupta (1997). "Fiscal Policy: Issues and Perspectives, *RBI Occasional Papers No. 18*.
- 96 Pinto. Brian and Farah Zahir (2004), "India: Why Fiscal Adjustment Now" *World Bank Policy Research Working Paper* 3230 (March)
- 97 Poterba, J.M. and J. von Hagen (eds.). *Fiscal Institutions and Fiscal Performance* (The University of Chicago Press); 59-80.
- 98 Poterba, James M., (1996). "Do Budget Rules Work?". *National Bureau of Economic Research. Working Paper* 5550; also in *Fiscal Policy: Lessons from Empirical Research*, ed. by Alan Auerbach (MIT Press. 1997).
- 99 Prasad, Abha, Rajan Goyal, and Anup Prakash, 2004. "States' Debt and Debt Relief, *Economic and Political Weekly*, June 26: 2726-2736.
- 100 Prasad, Abha, Rajan Goyal and Anupam Prakash (2004), "States Debt And Debt Relief" *Economic and Political Weekly*, XXXIX:26: 2726-2736.
- 101 Premchand, A. (2003), "Ethical Dimensions of Public Expenditure Management". *Working Paper* 03-14 (Andrew Young School of Policy Studies. Georgia State University).
- 102 Quintos. C. (1995), "Sustainability of the Deficit Process With Structural* Shifts. *Journal of Business and Economic Statistics*, 13; 409-417.
- 103 R.B.I (2006): Report of working Group on compilation of State Government Liabilities.
- 104 R.B.I. Bulletin on State Finances.
- 105 R.B.I. Bulletin on State Finances.
- 106 Rajaraman, Bhide & Pattanaik (2005): A study of Debt sustainability At state level In India.
- 107 Rajaraman, Indira (2004b) "Fiscal Developments and Outlook in India" *Working Paper*. No. 15. (New Delhi: NIPFP).
- 108 Rajaraman, Indira and A. Mukhopadhyay, (2004). "Univariate Time Series Analysis of Public Debt" *Journal of Quantitative Economics* 2(New Series):2 (July); 122-134.
- 109 Rajaraman, Indira and A. Mukhopadhyay, (2005). "Sustainability of Public Debt", in Amaresh Bagchi. ed. *Readings in Public Finance* (Oxford University Press); 320-338.
- 110 Rajaraman, Indira and Abhiroop Mukhopadhyay (2000), "Sustainability of Public Domestic Debt in India", in D.K. Srivastava, ed. *Fiscal Federalism in India: Contemporary Challenges - Papers for the Eleventh Finance Commission* (Har-Anand); 207-226.
- 111 Rajaraman, Indira and Abhiroop Mukhopadhyay, 1999 Sustainability of Public Domestic Debt in India (NIPFP; mime).
- 112 Rajaraman, Indira and Debdata Majumdar (2005) "Equity and Consistency Properties of the Twelfth Finance Commission Recommendations" *Economic and Political Weekly*, XL:30(July30).
- 113 Rajaraman. Indira (2004a) "Fiscal Restructuring in the Context of Trade Reform" *Economic and Political Weekly*, XXXIX:26: 2787-2794.
- 114 Rajaraman. Indira and A. Mukhopadhyay. (2000). "Sustainability of Public Domestic Debt in India" in O.K. Srivastava, ed. *Fiscal Federalism in India: Contemporary challenges - Papers for the Eleventh Finance Commission* (Har-Anand); 207-226.
- 115 Rajaraman. Indira, Shashank Bhide and R.K. Pattanaik, (2005). A Study of Debt Sustainability at State Level in India (Reserve Bank of India)
- 116 Rakshit. Mihir (2001), "Restoring Fiscal Balance Through Legislative Fiat: The Indian Experiment", *Economic and Political Weekly* (June 9); XXXVI:23: 2053-2062.
- 117 Rangarajan. C and D K Srivastava (2003). "Dynamics of Debt Accumulation in India" *Economic and Political Weekly* (November 15-21); XXXVIII:46; 4851-4858.
- 118 Rangarajan. C, Anupam Basu and Narendra Jadhav (1994), "Dynamics of Interaction Between Government Deficit and Domestic Debt in India", in Amaresh Bagchi and Nicholas Stern (ed.) *Tax Policy and Planning in Developing Countries*, (Delhi: Oxford University Press); 135.
- 119 Rao Govind. M (2004): Linking Central Transfers to Fiscal Performance of the states.
- 120 Rao. V.K.R.V. (1952), "Investment, Income and the Multiplier in an Underdeveloped Economy". *Indian Economic Review* (February); 1:1; 55-67.
- 121 Rath, Sudhansu Sekhar 2002. "Fiscal Deficit and its Sustainability Perspective for a Backward State in India: A Case Study of Orissa" in K.R. Gupta (ed: *Liberalization and Globalization of Indian Economy*, Vol. V:330-343.
- 122 Reddy. Y.V. (2000a). *Legislation on Fiscal Responsibility and the Reserve Banks' Role: Some Issues*, Speech delivered at the Workshop on Fiscal Responsibility of Government, held at India Habitat Center, New Delhi, February 15.
- 123 Reserve Bank of India: State Finances A study of Budget of 2005-06.
- 124 Reserve Bank of India: State Finances A study of Budgets of 2006-07
- 125 Reserve Bank of India, Report on Currency and Finance, various issues.
- 126 Schiavo-Campo. Salvatore. (1998) "Government Employment and Pay: The Global and Regional Evidence" *Public Administration and Development*: 18; 457-78.
- 127 Seshan. A. (1987). "The Burden of Domestic Public Debt in India". *RBI Occasional Papers* (June) 8:1; 45-77.
- 128 Shenoy, B.R. (1955), A Note of Dissent", in "Second Five Year Plan: Hie Framework" (Publications Division, Ministry of Information and Broadcasting, Government of India); 163.
- 129 Shome, Parthasarathi 2002. *India's Fiscal Matters*. New Delhi: Oxford University Press.
- 130 Sobhee, Sanjeev K. 2000. "Modeling the Sustainability of Public Debt: The Case of Mauritius" *Indian Journal of Economics*, Vol- LXXX, No-319.
- 131 Spaventa, Luigi (1987). "The Growth of Public Debt". *IMF Staff Papers No. 34:4* (December);
- 132 Spaventa. L., 1987 "The Growth of Public Debt: Sustainability, Fiscal Rules and Monetary Rules" International Monetary Fund Staff Paper 34:2 (June) 374-399.
- 133 White Paper On State Finances (2001-02)
- 134 World Bank (2002), Global Development Finance. World Bank.
- 135 World Bank (2005): Report on State Fiscal Reforms in India Progress and prospects.
- 136 World Bank Report, 2005: State Fiscal Reforms of in India Progress and Prospects.
- 137 Zee, Howell H. (1988). "The Sustainability and Optimality of Government Debt" *IMF Staff Papers* (December); 658-685