Fiscal Development in Orissa: Problems and Prospects

S.S. Rath

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Introduction

Orissa is endowed with rich natural resources in the form of vast mineral deposits, forest, fertile land, plentiful surface and ground water resources, long coastline and picturesque tourist potentials. It is also rich in human resources. In spite of these, Orissa is the poorest state in the country today. Nearly 48 percent of its population lives below poverty line against the all India average of 35.9 percent. According to the revised estimates for the year 2002-2003, Orissa's outstanding debt at the end of the year was 58.87 percent of GSDP compared to 30 percent on the average for the other states. The consolidated debt of Orissa was 378.36 percent of its revenue receipts in 2000-2003. Since it exceeds 300 percent, Orissa is considered a 'highly stressed' state in terms of debt and debt servicing. Considering the period 1990-91 through 2002-2003, the annual growth rate of public debt in Orissa works out to 16.44 percent. The gap between the revenue receipts and revenue expenditure is growing at an alarming rate, forcing the state government to resort to highest scales of borrowing. The unchecked borrowing has ultimately led to a debt trap, fiscal bankruptcy, and stagnation of the economy. It is, therefore, necessary to find a solution to come out of the vicious circle of mounting revenue deficit, higher doses of borrowing, higher interest liabilities and consequently still higher revenue deficit and still greater borrowing. For reducing poverty and raising the growth rate, investment has to be made in the development of adequate socio-economic infrastructure facility and thereby generating employment opportunities exploring the best

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utilisation of the natural resource potentiality and putting the available resources to best use for poverty alleviation programmes. The necessary resources cannot be generated from the public sector without debt sustainability, since even borrowed funds are likely to be so expensive that any gains from their (assumed) optimal utilisation can be nullified by the burden of servicing costs. Thus the fiscal priorities for Orissa are clear: to impart sustainability to its fiscal stance through reduction in both indebtedness and debt servicing costs, and to undertake necessary steps to at least achieve regular primary surpluses.

The remainder of the paper is divided into five sections. Section I discusses Orissa's debt position and its sustainability perspective. An interim assessment of the fiscal trends in Orissa is described in section II. In section III, an evaluation of the Medium Term Fiscal Framework (MTFF) for the period 1999-2004 and targets fixed for 2002-2007 are analysed. Section IV of the paper discusses prospects for fiscal reform as embedded in the MTFF. Section V concludes.

II. Orissa's Debt Position and its Sustainability Perspective

During the period 1990-91 to 2002-2003, the elasticity of public debt to GSDP was 1.3 and the elasticity of interest payment to public debt was 1.09 in Orissa. The annual growth rate of debt to GSDP ratio was 3.37 percent whereas the growth rate of fiscal deficit to GSDP ratio was 6.93 percent. The annual growth rate of revenue deficit, fiscal deficit, primary deficit, and interest payments are 39.1 percent, 20.44 percent, 21.35 percent and 18.05 percent respectively. The growth rate of revenue deficit without interest payment (primary revenue deficit) is 26.8 percent. The annual growth rate of capital expenditure out of net borrowed funds is only 1.4 percent, whereas the growth rate of revenue deficit's share out of the net borrowed funds is 9.1 percent annually. About three fourth of the borrowings do not contribute to capital formation, rather go towards salary and pension expenditure and debt servicing. Thus, for the government to invest one hundred rupees in Orissa today, it has to borrow 424 rupees. Salary and pension together is about 150 percent of state's own revenue and 62 percent of state's total revenue approximating to 11 percent of GSDP considering 2000-03 average. 80 percent of state's own revenue and 34 percent of its total revenue

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inclusive of shared taxes and grants-in-aid are used up in debt servicing above, which again constitutes more than 6.5 percent of GSDP. Salary, pension, and Interest payments cover 96 percent of state's total revenue and 230 percent of own revenue receipts, forming around 17.5 percent of the state's GSDP.

The comparative position of debt–GSDP ratio of Orissa with respect to all states can be observed at Table 1 and Table 2. Between 1993-94 and 2001-02, debt – GSDP ratio increased from 38.02 percent to 55.51 percent for Orissa, resulting in a hike of 17.5 percent i.e., 3.5 times the hike in the debt–GSDP ratio of all states taken together during the same period. For all states the debt–GSDP ratio increased from 23.5 percent to 28.5 percent between 1993-94 and 2001-02. The debt-GSDP ratio for Orissa represents almost twice the debt-GSDP ratio of all states during 2000-01 and 2001-02. Figure I depicts the divergence in the debt-GSDP ratio of Orissa from that of all states taken together. Moreover, it is evident from Table 1 that per capita debt burden for Orissa in the year 2002-03 was Rs. 7,388.31 crore which is almost five times of Rs. 1,431.73 crore, the per capita debt burden for Orissa in the year 1990-91.

Table 1: Debt Position of Orissa

				(Rs. crore)
Year	**GSDP**	**Outstanding debt at the end of the year (Including P.F. and excluding WMA)**	**As percentage of GSDP**	**Per capita debt**
1990-1991	10904	4538.58	41.62	1431.73
1991-1992	14012	5213.33	37.21	1619.05
1992-1993	15183	6050.06	39.97	1850.17
1993-1994	18213	6923.72	38.02	2085.46
1994-1995	21734	7958.01	36.62	2361.43
1995-1996	27118	9219.91	34.00	2695.88
1996-1997	26504	10493.75	39.59	3024.14
1997-1998	32235	12387.50	38.43	3519.18
1998-1999	35581	14751.14	41.46	4143.58
1999-2000	38629	18100.80	46.86	5014.07
2000-2001	38779	21001.90	54.16	5722.59
2001-2002	43293	24033.62	55.51	6443.33
2002-2003(R.E)	47622	28001.71	58.80	7388.31
2003-2004(B.E)	52384	32512.34	62.07	8466.76

Table 2: Debt Position of All States

(Rs. crore)

Year	Outstanding debt	Percentage of GSDP
1993-1994	1,83,049	23.4
1994-1995	2,15,506	23.5
1995-1996	2,46,496	23.0
1996-1997	2,83,854	22.8
1997-1998	3,29,171	23.7
1998-1999	3,94,694	24.7
1999-2000	4,80,939	27.4
2000-2001	5,22,682	27.6
2001-2002 (R.E)	5,87,854	28.4
2002-2003 (B.E)	6,71,653	29.8
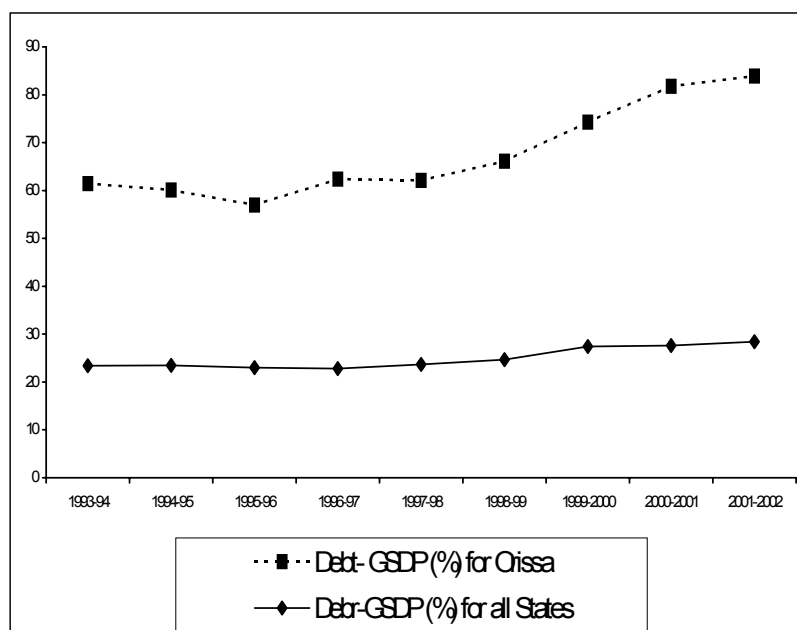
Figure I

The classification of states in Table 3 reflects the current servicing capacity, *vis-à-vis*, the overall debt situation. Except for Karnataka and Tamil Nadu, all other major states displayed high levels of interest payment to revenue receipt ratio. Among them, the states of Punjab, Uttar Pradesh, Orissa, Bihar, Himachal Pradesh, and Kerala depict a grim scenario, with interest payments higher then 15 percent of revenue receipts as also debt higher than 30 percent of GSDP.

Table 3: Debt – GSDP Ratio (Average of 1996-97 to 2000-2001)

	Very high (above 50 percent)	High (30-50 percent)	Medium (20-30 percent)	Low (below 20 percent)
Interest Payment				
Very High (Above 25 percent)		Punjab, U.P., Orissa	West Bengal, Rajasthan	--
Revenue Receipts Ratio				
High (15-25 percent)	Bihar, Himachal Pradesh	Kerala	Haryana, Andhra Pradesh, M.P., Assam	Gujarat, Maharashtra
Medium (10-15 percent)	J &K, Nagaland	Tripura, Manipur	Goa	Tamil Nadu, Karnataka
Low (Below 10 percent)	Mizoram, Arunachal Pradesh, Sikkim		Meghalaya	

Note: The debt figures for Bihar, Madhya Pradesh, and Uttar Pradesh are in terms of the undivided States for 1999-2000 and 2000-2001.

Debt sustainability implies enduring without breaking down; solvency on the other hand means the ability to discharge one's obligation in the long run. Fiscal Policy is sustainable if the government is able to service the stock of public debt over the foreseeable future. If an entity is insolvent and still able to continue functioning without a breakdown, i.e., sustain its stance, then it is playing a Ponzi game by borrowing more to repay the old debt finance. Solvency is a necessary condition for sustainability. Solvency however is a long-term concept.

The famous Domar model concludes that for solvency and sustainability of public debt the condition $k \leq r < g$ should be met (where k = growth rate of public debt, r = interest rate and g = growth rate of

GSDP) when an economy is running by the accumulation of primary deficit in the public sector.

Table 4: Orissa – Interest Payment on Outstanding Debt

Year	r_t (in crore)	D_{t-1} (in crore)	$r = \dfrac{r_t}{D_{t-1}} \times 100$
1990-1991	364.67	3870.84	9.42
1991-1992	480.97	4538.58	10.59
1992-1993	542.16	5213.33	10.39
1993-1994	682.76	6050.06	11.28
1994-1995	786.72	6923.72	11.36
1995-1996	929.26	7958.01	11.67
1996-1997	1079.44	9219.91	11.70
1997-1998	1291.74	10493.75	12.30
1998-1999	1484.84	12387.50	11.98
1999-2000	1237.70	14751.14	8.39
2000-2001	2286.81	18100.80	12.63
2001-2002	2834.96	21001.90	13.49
2002-2003(R.E)	2780.99	24033.62	11.57

In Orissa, average interest rate $\left(\bar{r} \right)$ = 11.29 percent between 1990-91 and 2002-03. During the period 1990-91 to 2002-03, annual growth rate of GSDP (g) = 12.63 percent and growth rate of public debt (k) = 16.44 percent. This implies that $k > g > \bar{r}$. It fulfils the debt sustainability condition but does not conform to the solvency condition. Thus, debt sustainability in future, or in a long term perspective, is uncertain as solvency is the necessary condition for sustainability and it is a long-term concept. In simple terms, "sustainability" is defined as the ability to maintain a constant debt-GSDP ratio over a period of time. Sustainability weakens when the debt-GSDP ratio reaches an excessive value and government revenue is not enough to service the debt. A stable debt-GSDP ratio could be achieved even with primary deficit, provided it is lower then the spread between growth in GSDP and interest rate.

Table 5: Impact of Spread and Primary Deficit on Debt-GSDP Ratio

Year	Interest Rate (r) percent	GSDP growth rate (g) percent	Rate spread (g-r) percent	Quantum Spread $D_t(g-r)$ Rs. crore	Fiscal imbalance $D_t(g-r)+$ Prim. Def$_t$ Rs. crore	$\dfrac{Prim.Def}{GSDP}$ percent	$\dfrac{Debt}{GSDP}$ percent
1998-1999	11.98	10.04	-1.5	-221.26	-4573.68	12.23	41.46
1999-2000	08.39	08.06	-.3	-54.30	-6872.49	17.65	46.86
2000-2001	12.63	0.04	-12.2	-2562.23	-9503.88	17.90	54.16
2001-2002	13.49	11.06	-1.8	-432.60	-8999.56	1979	55.51
2002-2003	11.57	10.0	-1.5	-420.02	-8634.86	17.25	58.80

From Table 5, it is seen that in the case of Orissa, both quantum spread and primary balance are unfavourable between 1998-99 and 2002-03 resulting in a rising debt-GSDP ratio reflecting debt unsustainability. It can be derived from the Domar condition of debt sustainability that if quantum spread together with primary deficit is zero, debt-GSDP ratio would remain constant.

From equation (13), $\dfrac{D}{Y} = \text{def}^{\,f}\left(\dfrac{1+g}{g}\right)$ (*see* Appendix 1).

Thus at 3.0 percent of $\text{def}^{\,f} = \left(\dfrac{\text{Fiscal Deficit}}{\text{GSDP}}\right)$, if growth rate (g) is 10 percent, the stable $\dfrac{\text{Debt}}{\text{GSDP}}$ ratio will be $0.03\left(\dfrac{1+0.10}{0.10}\right) = 33$ percent

Since there is a correspondence between GSDP growth and growth in state's revenues (buoyancy of total receipts for states is approximately 1), it is more appropriate to anchor debt as a percentage of total revenue receipts, and monitor this ratio.

Using this variation of the Domar formula, stable and sustainable debt to total revenue receipts work out to 300 percent for non-special category states. Those states which fall under the 'non-special category' and whose ratios of consolidated debt to revenue receipts exceed 300 percent can be considered as 'highly stressed' states in terms of debt and debt servicing. For states falling under 'special category', if the ratio exceeds 200 percent, then it can be considered 'highly stressed'. In the year 1999-2000, going by this yard-stick, two states falling under the "special category", namely, Assam and Himachal Pradesh and five states falling under the "non-special category" namely, Kerala, Orissa, Punjab, Rajasthan, and West Bengal were ' highly stressed'. By the year 2004-05, the number of 'highly stressed' states is likely to increase to eight (two non-special category states and six special category states, with Maharashtra joining the group). States like Andhra Pradesh, Kerala, Maharashtra, Orissa, Punjab, Rajasthan, Gujarat, and West Bengal remain 'highly stressed' throughout the forecast period.

In states such as Orissa, West Bengal, and Himachal Pradesh, salaries, pensions and interest payments are nearly or more than 100 percent of their total revenue receipts including transfers from the center. These States' stock of debt as a percentage of projected GSDP cannot stabilize in the medium-run. To discharge even the minimum of the State's function, the State will have to borrow increasing amounts over the reform period. Orissa Government has been employing a disproportionately large number of staff in its various Departments. Ratio of government employment per 100 persons in Orissa is 1.54. Table 6 gives information on government employees in Orissa.

Table 6: Employees Position in Orissa

Grades	Total no. of employees	Percentage of total salary expenditure accounted for by the grades	Percentage of total no. of employees
A	13678	4.57	2.36
B	32094	8.43	5.53
C	394531	69.68	68.01
D	103538	9.57	17.85
DLR/NMR/JC	36281		
Total	580122		
Out of which Grants-in-aid Employees	30899	7.75	5.33

Initially, the state government had its own pay structure for employees, but in course of time the pay structure had to be revised in accordance with the pay scale of the central government employees. Salaries and retirement benefits including pension to the retired employees impose a heavy burden on the state exchequer. The annual increase in the salary bills of the government employees and the compensatory dearness allowance. results in an annual increase in wage bill and is substantially higher than the growth rate of its revenue receipts. It has been a major contributor in the deterioration of the fiscal situation.

Table 7: Interest Payment on Government of India Loan

Year	(Govt. of India Loan)$_{t-1}$	(Int)$_t$	Interest rate (percent)
1991-1992	2267.48	239.39	10.55
1992-1993	2653.31	264/32	9.96
1993-1994	2868.56	302.98	10.56
1994-1995	3148.31	345.07	10.96
1995-1996	3433.53	407.25	11.86
1996-1997	3845.51	481.60	12.52
1997-1998	4351.12	555.64	12.77
1998-1999	4866.22	697.50	14.33
1999-2000	5737.08	407.60	7.10
2000-2001	6767.99	1024.92	15.14
2001-2002	8075.88	1286.54	15.93
2002-2003	9184.20	1279.32	13.92

Note: Average interest on the Government of India Loan is 12.13 percent paid by

Government of Orissa (1991-2003)

Table 8 : Interest Payment on Open Market Loans

Year	(open market loan)$_{t-1}$ (Rs crore)	(Int)$_t$ (Rs crore)	Interest rate (percent)
1991-1992	803.24	102.94	12.81
1992-1993	946.12	107.20	11.33
1003-1994	1203.86	187.51	15.57
1994-1995	1463.86	218.75	14.94
1995-1996	1737.80	241.64	13.90
1996-1997	2036.82	310.98	15.26
1997-1998	2380.94	362.46	15.22
1998-1999	2758.13	395.60	14.34
1999-2000	3200.56	463.71	14.48
2000-2001	3476.52	575.35	16.54
2001-2002	4289.44	618.85	14.42
2002-2003	4953.48	689.33	13.91

Note: Average interest rate on open market loan is 14.39 percent paid
by Government of Orissa (1991-2003).

Table 7 and Table 8 explain interest payment on Government of India loan and open market loan respectively during the period (1991-2003); average interest payment on the Government of India loan is 12.13 percent which is less than 14.39 percent on open market loan.

Table 9: Item-wise Debt as Percentage of Total Debt of Government of Orissa

Year	GOI loan/ total debt (percent)	Open market loan/ total debt (percent)
1991-1992	72.01	25.67
1992-1993	68.85	25.89
1003-1994	66.86	31.09
1994-1995	65.04	32.92
1995-1996	64.11	33.96
1996-1997	62.93	34.43
1997-1998	61.86	35.06
1998-1999	61.69	34.41
1999-2000	62.48	33.92
2000-2001	61.51	32.67
2001-2002	60.39	31.50
2002-2003	42.43	23.42

Table 10: Percentage of Item-wise Debt to Total Debt of Government of Orissa

	1991-92	Average (1992-2003)
% of GoI Loan to Total Debt	72.01	61.65
% of Open market loan to Total Debt	25.67	31.75

Table 9 reflects item-wise debt as percentage of total debt of Government of Orissa. From Table 10 it is evident that there is a percentage decline of the Government of India loan to total debt and it is replaced by open market loan etc. as evident from a comparison between the 1991-92 figure and that of the average for the period 1992-2003. This shift has resulted in the enhancement of the proportion of interest payment to the total revenue of the Government of Orissa because the average interest rate on the open market loan is higher than the average rate of interest on Government of India loan.

Despite the highest debt-GSDP ratio in the country, Orissa has not gained much from the debt relief recommended by various Finance Commissions. This may be seen at Table 11.

Table 11: Debt Relief to Orissa by Different Finance Commissions

Finance commissions	Total debt relief recommended for all states (Rs. in crores)	Debt relief recommended for Orissa (Rs. in crores)	Orissa's share in the total debt relief (in percentage)
8th Finance Commission (1984-1989)	2285.39	195.62	8.59
9th Finance Commission (1990-1995)	975.51	28.69	2.94
10th Finance Commission (1995-2000)	210.51	17.50	8.31
11th Finance Commission (2000-2005)	Nil	Nil	Nil

The Eleventh Finance Commission did not recommend any debt relief in quantitative terms but recommended "general debt relief" for all states linked to fiscal performance.

It has also been claimed that owing to various reasons — mainly overestimation of tax devolution and underestimation of non-plan deficits — central transfers received by Orissa through the Finance Commission recommendations were substantially less than what they ought to have been. Table 12 quantifies the loss of revenue receipts of Orissa transferred from the centre through the award of Eleventh Finance Commission.

Table 12: Loss of Eleventh Finance Commission Transfers for Orissa

Year	Shortfall in central tax (Rs crore)	Excess non-plan deficit not covered (Rs crore)	Total loss (Rs crore)
2000-01	129.20	1014.35	1143.55
2001-02	547.94	2272.65	2820.59
2002-03	652.60	2162.25	2814.85
Total	1329.74	5449.25	6778.99

These direct losses caused an additional indirect loss to the state as well. As per the objective of the "Monitorable Fiscal Reform Policy" recommended by the Eleventh Finance Commission for Orissa, revenue deficit (RD) as a percentage of revenue receipts (TRR) in the base year 1999-2000 should have been limited to -33.43 percent. With reduction of 5 percent in each year, the targets for 2000-01, 2001-02 and 2002-03 were fixed at -28.43 percent, -23.43 percent and -18.43 percent respectively (*see*, Table 13). Actual reduction of RD/TRR ratio by (43.74 percent - 27.91 percent = 15.83 percent) between 1999-2000 and 2000-01, which is more than 5 percent, allowed release of the state's share of incentive fund (Rs.77.95 crore) in 2001-02. But Orissa was deprived of the incentive fund in 2002-03, as it could not actually fulfil the target of reduction of 5 percent in the RD/TRR ratio. Had the ratio been corrected for the direct losses in 2001-02, it would have been only -0.09 percent, and this would have allowed the release of incentive fund in 2002-03, which could have improved the ratio of RD/ TRR further.

Table 13: TRR, RD, and RD/TRR for Orissa if Corrected

Year	TRR (actual) (Rs. crore)	RD (actual) (Rs. crore)	TRR If connect-ed (Rs. crore)	RD if corrected (Rs. crore)	RD / TRR (actual) (Rs. crore)	RD / TRR if corrected (percent)
2000-01	6902.02	-1931.96	8045.57	-788.41	-27.91	-9.79
2001-02	7047.98	-2829.56	9868.57	-8.97	-40.15	-0.09
2002-03	9435.83	1460.48	12250.68	+1354.37 (surplus)	-15.47	+11.05

Another indirect loss to the state was in respect of debt relief recommended by the Eleventh Finance Commission. According to the

recommendation of the Commission, improvement in fiscal performance is to be measured by comparing the ratio of revenue receipt (including share in central taxes but excluding the grants-in-aid under Article 275) to the revenue expenditure in a given year (r) with the average of the corresponding ratio (r*) of immediately preceding three years. Thus each state is to be considered against its own performance in the past. Debt relief will be calculated as a percentage of repayments falling due in each year of the period of recommendation, 2000-05. Only those repayments as pertaining to central loans to the state during 1995-96 to 1999-2000 and as outstanding on 31.3.2000 will be covered. The percentage (R) will be five times of $\left(r - \overset{*}{r} \right)$, defined above. Thus if the performance of a State improves by 2.5 percent, i.e., $\left(r - \overset{*}{r} \right)$ = 2.5 percent, the state government will become entitled to a relief equivalent to 12.5 percent (R=12.5%). The maximum limit of R has been prescribed as 25 percent.

Table 14: Corrected (r)

Year	Net revenue receipts (actual) (Rs crore)	Net revenue receipts (if corrected) (Rs crore)	Revenue expenditure (Rs crore)	(r) (actual)	(r) if (correct-ed)
2000-01	6597.29	6726.49	9158.11	.72377	.7304484
2001-02	7047.98	7595.92	10133.13	.68558	.749612

Note: Net Revenue Receipts = Revenue Receipts including share in central taxes but excluding the grants-in-aid.

Table 15: Debt Relief on Corrected (r – r*)

Year	(r-r*) (actual)	(r-r*) (if corrected)	Debt relief (actual)	Debt relief (if corrected)
2000-01	- .008298	. 006	Nil	3 percent
2001-02	- .006003	. 053	Nil	26 percent (25 percent maximum)

It is evident from Table 14 and Table 15 that Orissa could have been benefited through debt relief of 3 percent and 25 percent of repayment of debt to central government falling due in the year 2000-01

and 2001-02 respectively pertaining to central government loan to Orissa during 1995-96 to 1999-2000 in accordance with the provision of Eleventh Finance Commission.

Table 16: Consolidated Debt to Corrected TRR Ratio

Year	Consolidated debt / corrected revenue receipt	(2000-03) average
2000-01	308.05 percent	
2001-02	299.74 percent	293.82 percent
2002-03	273.67 percent	

Table 16 projects the ratio of consolidated debt to corrected revenue receipt, had there been debt relief from the centre to Orissa during 2000-01 to 2002-03 and derives the average of the ratio in the period 2000-03 at 293.82 percent.

The ultimate aim of medium term fiscal reforms is to attempt to bring down debt to a sustainable level. Therefore, the stock of consolidated debt to total revenue receipts should not exceed 300 percent. This could have been possible if there had been debt relief by the central government amounting to

$$\left(\text{Total Revenue Receipts} \right) \left[\frac{\begin{pmatrix} \text{Actual } 2000\text{-}03 \text{ Avg.} \\ \text{Debt} \end{pmatrix}}{\text{TRR}}\% - 300\% \right] \text{ in 2002-03.}$$

This implies debt relief amounting to
Rs. $\left(9435.83 \right) \times \left(378.36 - 300.00 \right)\% = \left(9435.83 \right) \times \left(78.36 \right)\% = 7393.16$ crore.

In 2002-03, Orissa's outstanding loan from the central government was Rs. 11916.28 crore. After the proposed debt relief this might have been Rs. (11916.28-7393.16) = 4523.12 crore with 62 percent of debt relief. It might have resulted in total outstanding debt amounting to Rs. (28001.71 – 7393.16) =20608.55 crore. Estimated Debt–GSDP ratio would have been 43.27 percent instead of 58.80 percent (actual) in 2002-03.

III. An Interim Assessment of the Fiscal Trends in Orissa

Some select indicators of State finances for the period 1999-2000 and the time profile till 2000-03 are given in Table17 and Table18. It is evident that the overall performance of Orissa in comparison to all states taken together is satisfactory.

Table 17: Fiscal Indicators of Orissa

Indicator	1999-2000 (percent)	(2000-03) Average (percent)
SOR / TRR	63.96	62.09
OTR / TRR	49.53	49.49
R.D / TRR	- 26.02	- 21.12
Int. Pay / TRR	21.81	23.73
NPRE / TRR	107.69	98.55
$\dfrac{\text{Consolidated debt}}{\text{TRR}}$	213.94	223.23
$\dfrac{\text{Central transfer}}{\text{TRR}}$	36.04	37.91
$\dfrac{\text{Salaries pensions and Int. payment}}{\text{TRR}}$	87.53	81.61
State's own fiscal effort	- 62.06	-59.81

SOR: State Own Revenue, TRR: Total Revenue Receipts, OTR: Own Tax Revenue, RD: Revenue Deficit, NPRE: Non-plan Revenue Expenditure.

Table 18: Fiscal Indicators of all States

Indicator	1999-2000 (percent)	2000-03 (Average) (percent)
SOR/TRR	41.13	42.20
OTR/TRR	28.85	32.74
RD/TRR	-43.74	-27.84
Int. pay./TRR	21.03	34.27
NPRE/TRR	112.68	95.88
$\dfrac{\text{Consolidated debt}}{\text{TRR}}$	372.63	378.36
Salaries, pension and int. pay/ TRR	96.03	96.64
Int. Pay/SOR	51.13	80.53
Salaries, pension and int. pay/SOR	237.13	230.13
RD/SOR	-106.34	-64.93
Central transfer/TRR	58.86	57.58
State's fiscal effort = $\dfrac{(SOR) - (R.E)}{TRR}$	-102.61	-85.45

One matter of concern for Orissa is the significant difference of consolidated debt-TRR ratio on the higher side, i.e. (378.36 – 223.23) percent = 115.13 percent in the average for the period 2000-03. In Orissa, the proportion of central transfers to total revenue receipts has declined from 58.86 percent to 57.58 percent, whereas this proportion has increased from 36.04 percent to 37.91 percent for all states. Also, in Orissa the proportion of salaries, pensions, and interest payments to total revenue receipts is also much higher in comparison to all states taken together, even though there is no significant difference in the proportion of non-plan revenue expenditure to total revenue receipts between Orissa and all states taken together. In fact there is a higher reduction in the proportion of NPRE to TRR between that for 1999-2000 and the 2000-03 average of Orissa in comparison to all other states. However, the proportion of interest payment to TRR has increased considerably for Orissa from that of all states during the period under consideration.

IV. An Evaluation of Medium Term Fiscal Framework

Under the medium term fiscal reform strategy (MTFRS), the debt to GSDP ratio and interest payments to revenue expenditure ratios are targeted to decline over the medium term. The MTFRS has the dual aim of:

- reducing wasteful expenditure and cutting low priority spending; and
- improving tax collection and improving the efficiency of the tax administration and tax regime.

The target fixed by the Government of Orissa through MTFRS is to reduce the debt-GSDP ratio to 48 percent by 2005-06 and 36 percent by 2009-10. Figure-2 plots proportion of debt and different types of deficit to GSDP for Orissa.
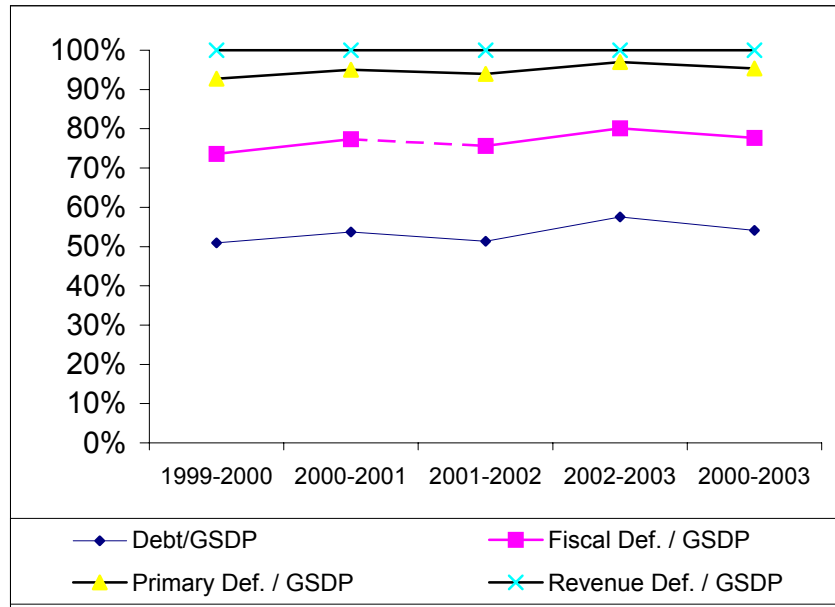
Figure II
Table 19: MTFF (1999-2000 to 2005-06)

| | | | | (percentage) |
Ratio	1999-2000	2005-06 (targeted)	2005-06 (projected)	Annual average reduction (desired)
$\underline{Debt}$ GSDP	48.86	48	67	3.00
$\underline{Fiscal\ Def.}$ GSDP	20.85	44.74	62.43	2.95
	17.65	4.70	27.85	3.86
$\underline{Primary\ \ Def.}$ GSDP				

Table 20: MTFF (2002-03 to 2009-10)

| | | | | (percentage) |
(In percent)	1999-2000	2005-06 (targeted)	2005-06 (projected)	Annual average reduction (desired)
$\underline{Debt}$ GSDP	28.80	36	82.39	6.60
$\underline{Fiscal\ Def.}$ GSDP	23.09	33.35	71.51	5.45
	17.25	3.50	29.15	3.66
$\underline{Primary\ \ Def.}$ GSDP				

Note: *See* Appendix – II

Table 19 and Table 20 spell out the desired annual average reduction of the different ratios to achieve the targeted debt-GSDP ratio of 48 percent and 36 percent by 2005-06 and 2009-10 respectively. It is evident from Figure 2 that excepting revenue deficit to GSDP ratio, other ratios have increased from 1999-2000 to 2000-03 average.

The fiscal problem faced by Orissa broadly consists of two facets, namely:

- the structural imbalance between annual revenues and non-interest expenditures; and
- the inherited problem of high debt-servicing burden resulting in high cost of current borrowing.

Accordingly, the approach of the Government of Orissa to emerge from the crisis and achieve fiscal sustainability consists of two components, namely:

- revenue and expenditure reforms to eliminate the primary (non-interest) deficit and thereby attack the structural roots of the problem;
- reduce the debt-servicing burden through maximum possible use of debt swaps/ restructuring and by achieving a lower average cost of fresh financing during 2002-07 through increased use of external assistance in place of high-cost domestic borrowing.

The Government of Orissa agreed to adopt the following assumptions for the period 2002-07 in the final MTFF for Programmatic Structure Adjustment Loan (PSAL).

- Orissa's own tax revenue would grow with a buoyancy of 1.25 with respect to GSDP or around 13 percent in nominal terms, on average during 2002-07.
- Central tax devolution to Orissa would grow at the rate of nominal GDP of India (around 12 percent).
- Non-tax revenue, including user charges, would grow to reach 2 percent of GSDP by 2006-07 compared to 1.6 percent in 2001-02.
- Government of Orissa would swap Rs.1800 crore of high cost Government of India loans during 2002-05, for fresh and less expensive small savings and bonds issued to Government of India owned banks and financial institutions.
- Salary bill will be contained through right sizing and measures to rationalise staff benefits, thereby reducing its share of the state's own and mandated resources to less than 50 percent by 2004-05 and about 40 percent by 2006-07.
- Reduction of primary deficit to no more than 1.5 percent of GSDP in 2003-04 is the likely requirement for PSAL-II, while the

achievement of primary surplus is likely to be required for PSAL-III in 2005-06 or 2006-07, depending on how soon a primary surplus is achieved, by 2004-05 or by 2005-06.

The State Government abolished 75 percent base level posts on April 1, 2004. As many as 24,220 of the 59,364 vacant posts were done away with, and by the end of August, it was proposed to abolish another 21,000 posts. In its efforts to bring fiscal correction, the state government is committed to bring down the ratio of salary to state's own revenue (SOR) from 100 percent in 2000-03 to 80 percent by 2007-08. To achieve this, the government will have to reduce the staff strength by a further 20 percent.

V. Prospects for Medium Term Fiscal Framework

Given the high level of state's outstanding liabilities, certain corrective measures are inevitable. Corrective measures leading to sustainability of debt can be effective only when the state government makes persistent attempts to put their finances on a sound footing by additional revenue effort, expenditure compression and re-prioritisation in line with the restructuring plans. An immediate focus of the fiscal reforms should be on achieving revenue balance or at least reducing the revenue imbalance to a minimum. Bailouts through write offs or waivers can never be a long-term solution.

The Government of Orissa has taken a number of measures for revenue generation through rationalisation of different tax rates, broadening the tax base, and better enforcement. The average annual growth rate of state's own revenue in the period 1997-2002 is 11 percent, while the targeted average growth rate is 13 percent for the period 2002-07.

With a view to generate additional resources and bail out the cash-strapped government, recently the cabinet gave green signal to the proposal for including 30 more items under the purview of entry tax. More institutions and professions will now come under the purview of professional tax. The institutions which will be brought under the purview

of professional tax include tutorials, nursing homes, private clinics, diagnostic centres, video parlours, *kalyan mandap*s, ISD-STD booths, photocopy centres, cable operators, courier services, transport contract agencies, advertisement firms, travel agencies, interior decorators, and brokers and sub brokers of stock exchanges. Minimum entry tax of Rs. 2,500 will be imposed.

The state government has set milestones for all administrative departments. Formulating the medium term fiscal plan for 2004-2008, it has decided to undertake structural correction at micro level for the administrative departments.

While asking the finance department to table a Fiscal Responsibility Bill in the Assembly, the government intended to bring down the deficit target by 0.5 percent of the gross domestic product every year. It also fixed up a benchmark for the finance department for reducing the salary of the government employees to 96 percent of state's own revenue by the end of 2003-04. The finance department has been asked to continue its drive to reduce the gap between the revenue expenditure and revenue receipts.

While the industrial scenario is looking up after a lull, the government has directed the industry department to implement further measures to rationalise regulations for entry of private investment. Introduction of an *Industrial Facilitation Bill* for single window clearance of projects is the need of the hour.

The agenda for the Agriculture and Cooperation Department is to bring amendments in its existing policy on marketing of agricultural produce and to lift state monopoly for attracting private investment in market yard and storage facility.

The Public Enterprise (PE) Department has been given the task of speeding up reforms by privatising at least two additional PE units every year.

Finance, higher education, school and mass education departments have been asked to expedite the civil service reforms by reducing the staff strength to the desired level of abolishing 75 percent of the base level vacant posts.

The energy department has been asked to establish time mechanism to ensure regular and full payment of current energy bill by the government. It has also been asked to prepare a business plan to substantially eliminate of power theft.

The target for planning and coordination department is to ensure timely expenditure of the funds allotted under state plan and centrally sponsored schemes and submission of utilisation certificate to the centre.

The general administrative department will submit an anti-corruption action plan. The objective of the micro structural correction is to mobilise additional resources to enhance the pace of economic growth of the state.

Debt-Swap

Debt restructuring involves a combination of debt conversion and debt reduction strategies by employing instruments like debt-swap, debt buy-back, and debt relief. In case of debt-swap there is a substitution of high cost, past debt with fresh debt at current (lower) market rates of interest. Though there is no reduction in the size of the debt, considerable reduction in the required interest payment would reduce the size of future fresh borrowings. Since there is no put or call option attached to liabilities of state governments, restructuring of debt could be possible only in the case of central loans through the debt-swap scheme (what is often termed as within the family approach). The union government has announced a debt-swap scheme that would enable states to pre-pay their high cost debt. Under the scheme mutually agreed between the central and state governments, all state loans from the centre bearing coupons in excess of 13 percent would be swapped with market borrowings and small saving proceeds at prevailing interest rates over a period of three years ending in 2004-05.

Under the debt-swap scheme for Orissa during the year 2002-03, adjustment out of state's share of net small savings collections amounts to Rs.87.56 crore and Rs.387.00 crore is the allowed SLR market borrowings.

Table 21: Improvement in Quantum Spread through Debt –Swapping

Year	(Projected) debt (Rs crore)	Projected govt. of India loan (Rs crore)	Interest		Interest rate after debt swapping $(r')\%$	Improvement in spread = $(r-r')\%$	Improvement in Quantum spread $D_t(r-r')\%$ (Rs crore)
			Assumed (r=11 percent)	Interest after debt-swapping of entire GoI loan			
2002-03	28001.71	9184.20		2620.97	9.36	1.64	533.20
2003-04	32512.34	14595.94	3080.18	2846.56	8.75	2.25	851.79
2004-05	37857.36	22714.41	3576.35	3028.60	8.00	3.00	1322.42
2005-06	44080.69	26448.41	4164.30	3526.47	8.00	3.00	1539.82
2006-07	51327.55	30796.53	4848.87	4106.21	8.00	3.00	1793.06
2007-08	54765.79	35859.47	5643.06				

First, the debt-swap scenario has been generated assuming that Orissa is allowed to replace the entire liability owed to the centre through fresh low cost market borrowings at the assumed interest rate of 6.0 percent. As a result, projected overall interest rate on the debt stock comes down to 8 percent in 2007-08 with the assumption of prevailing 11 percent average rate of interest, the Government of India loan being 60 percent of the total debt and growth rate of public debt considered as 16.44 percent i.e., the average growth rate between the period 1990-91 to 2002-03. Improvement in rate spread and quantum spread is calculated in Table 21. However, they continue to be inadequate to accommodate the primary deficit, which is projected to grow at 21.35 percent in the corresponding period. The impact of the debt-swap scheme cannot be felt significantly on the debt servicing liabilities of the state towards achieving a stable debt-GSDP ratio. Nevertheless, this process will help the state in reducing the burden of interest payments in the years to come. However, with the state's credit rating going down its scope of market borrowing is limited for the purpose without guarantee from the union government.

VI. Conclusion

Orissa, the poorest state in the country, survives financially for most part of the year with ways and means advances as well as overdraft (OD) from the RBI. In 2003-04, the debt trapped state was able to manage its finances without recourse to these only for 15 days. The precarious fiscal situation is due to poor tax base, drop of transfer of revenue from the centre, unsustainable debt burden, and the ever-rising debt servicing liabilities.

The state has been forced into a situation where the government has to excessively depend on WMA and OD from RBI. In 2002-03, the state depended on WMA and OD from RBI for 358 days. In 2001-02, it was bailed out by RBI almost throughout the year. However, in 2000-01, the state's dependence on RBI was limited to 345 days. The state borrowed Rs.7,700 crore as WMA and OD loan in 2003-04, according to the revised estimate. The state's WMA and OD in 2002-03 was Rs. 6,723 crore compared to Rs 7,830 crore in 2001-02. Even in 1990-91, WMA and OD was 629.73 crore. The main cause of fiscal deterioration in Orissa is the ever-increasing interest burden. The state has been forced

to borrow more funds for debt servicing and meeting other expenditures. With the state's credit rating going down, its scope of borrowing from the open market is also getting limited. Government estimates put outstanding debt of the state at Rs. 42,453.51 crore in 2007-08, an amount exceeding the revised estimate of 32,312.49 crore in 2003-04 by Rs. 10,141.00 crore. The per-capita debt burden of the state is estimated at Rs. 9,439.00 in 2004-05.

The structural adjustment programme involves a series of hard decisions affecting entrenched vested interests. There has to be, therefore, a definite commitment of all political parties to carry through this programme of the government for the broader interest of the state. No one disputes the responsibility of the state to augment the tax effort and to control the revenue expenditure. But with a low tax base, in spite of the best tax efforts a substantially larger tax revenue cannot be harnessed in a period of five years, that too in a state which is regularly visited and revisited with various types of natural calamities that reduce the disposable incomes of the people and push more people below the poverty line.

The present pattern of plan assistance has an in-built loan component of 70 percent, which automatically increase the debt burden over a period of time in terms of redemption of principal amount and also enhance the revenue expenditure by increasing the interest liability at relatively high average rate of interest. It has a direct bearing on plan resources and it becomes difficult for a state to maintain a positive balance. Reduction in the proportion of central transfer to total revenue receipts contributes adversely even when the state government concentrates on the improvement of the state's fiscal effort through the adoption of fiscal and governance reforms programme. In the case of Orissa, the government fails to benefit from the fiscal incentive schemes and in addition to this, gets deprived of debt relief programme of the central government loans as it is linked to prescribed fiscal indicators. Therefore, there is the need for a prescription of a critical and sustainable debt-GSDP ratio by the Finance Commission. States like Orissa having debt-GSDP ratio above the sustainable level should be covered by a special debt relief scheme.

The soundness of a state's finances depends on the level of development and structure of the economy. In the present thinking, an ideal situation in state finance is one where the state generates adequate

revenues for its own development needs and incurs as little debt as possible, and borrowings are only made for productive investment. This proposition assumes that the problem of an economy is only one of governance and management and rules out the role of structural constraints in inhibiting the process of development. On the other hand, in the context of an economy with structural deficiencies and dominance of market imperfections, the government should hasten the process of development and should attempt to overcome structural bottlenecks in the economy.

Given the continuing backwardness of Orissa's economy, the role of the state and increasing public investment to overcome the structural rigidities cannot be overestimated. Given the low per capita income of the state, the importance of public goods with its externalities and consequent failure of the market to enter has to be properly understood before the withdrawal of the state from investment decisions. In such a context a declining central assistance keeps the state backward and coupled with poor governance, leads the state into a possible debt trap. It must be remembered that in the last more than fifty years the structure of plan investment has not undergone major changes and the state has shown a propensity to increase the service sector at the expense of primary and secondary sector in its State Domestic Product. This has not helped the cause of state finances either.

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APPENDIX - I

According to Domar's model for solvency of public debt,

$$D_o = -\sum_{t=1}^{\infty} \frac{DEF_t^P}{(1+r)^t} \qquad \ldots\ldots\ldots\ldots(i),$$

where D_o is the present stock of outstanding debt and DEF_t^P represents primary deficit for the time period t and r is the interest rate. It implies that for solvency, present outstanding stock of public debt must be equal to the summation of discounted primary surplus of future years expressed it terms of present value.

$$\therefore \quad DEF_t^P = D_t - (1+r)D_{t-1} \qquad \ldots\ldots\ldots\ldots(ii)$$

So

$$D_o = -\sum_{t=1}^{\infty} \frac{D_t - (1+r)D_{t-1}}{(1+r)^t} \qquad \ldots\ldots\ldots \quad (iii)$$

Let $D_t = (1+k)D_{t-1}$, where k is the annual growth rate of public debt.

$$\Rightarrow D_o = -\sum_{t=1}^{\infty} \frac{(1+k)D_{t-1} - (1+r)D_{t-1}}{(1+r)^t}$$

$$= -\sum_{t=1}^{\infty} \frac{(k-r)D_{t-1}}{(1+r)^t} = (r-k)\sum_{t=1}^{\infty} \frac{D_{t-1}}{(1+r)^t} \qquad \ldots\ldots\ldots\ldots(iv)$$

$$= (r-k)\sum_{t=1}^{\infty} \frac{(1+k)^{t-1}D_o}{(1+r)^t} = \frac{(r-k)}{(1+r)}\sum_{t=1}^{\infty}\left(\frac{1+k}{1+r}\right)^{t-1} D_o \qquad \ldots\ldots\ldots\ldots(v)$$

$$\Rightarrow \quad D_o = 0 \text{ , if } r=k$$

i.e., Interest rate = growth rate of public debt.

$$\therefore \quad D_t = (1+r)D_{t-1} + DEF_t^P \qquad \ldots\ldots\ldots\ldots \quad (1) \qquad \text{from}$$

equation (i)

$$\Rightarrow \quad \frac{Dt}{y_t} = \frac{(1+r)D_{t-1}}{y_t} + \frac{DEF_t^P}{y_t} \qquad \ldots\ldots\ldots\ldots \quad (2)$$

$$\Rightarrow \qquad \left(\frac{D}{y}\right)_t = \left(\frac{1+r}{1+g}\right)\left(\frac{D}{y}\right)_{t-1} + \frac{DEF^P_t}{y_t} \quad \text{........ (3),}$$

where g is the annual growth rate of GSDP.

$$\Rightarrow \qquad d_t = \left(\frac{1+r}{1+g}\right)d_{t-1} + def^P \quad \text{.....................} \qquad (4),$$

where d_t and d_{t-1} represent debt to GSDP ratio in time period t and t-1, respectively. $def^P_t = def^P$, since the ratio of primary deficit to GSDP is targeted to a constant value.

Solving the first-order difference equation (4)

$$d_t = \left[d_o - \left(\frac{1+g}{g-r}\right)def^P\right]\left(\frac{1+r}{1+g}\right)^t + \left(\frac{1+g}{g-r}\right)def^P \quad \text{....................(5)}$$

$$\therefore \qquad d_t \text{ tends to} \left(\frac{1+g}{g-r}\right)def^P$$

$$\Leftrightarrow \left(\frac{1+r}{1+g}\right)^t \rightarrow 0, \text{ for } t \rightarrow \infty$$

This is possible if

$$0 < \frac{1+r}{1+g} < 1$$

$$\Rightarrow (1+r) < (1+g)$$
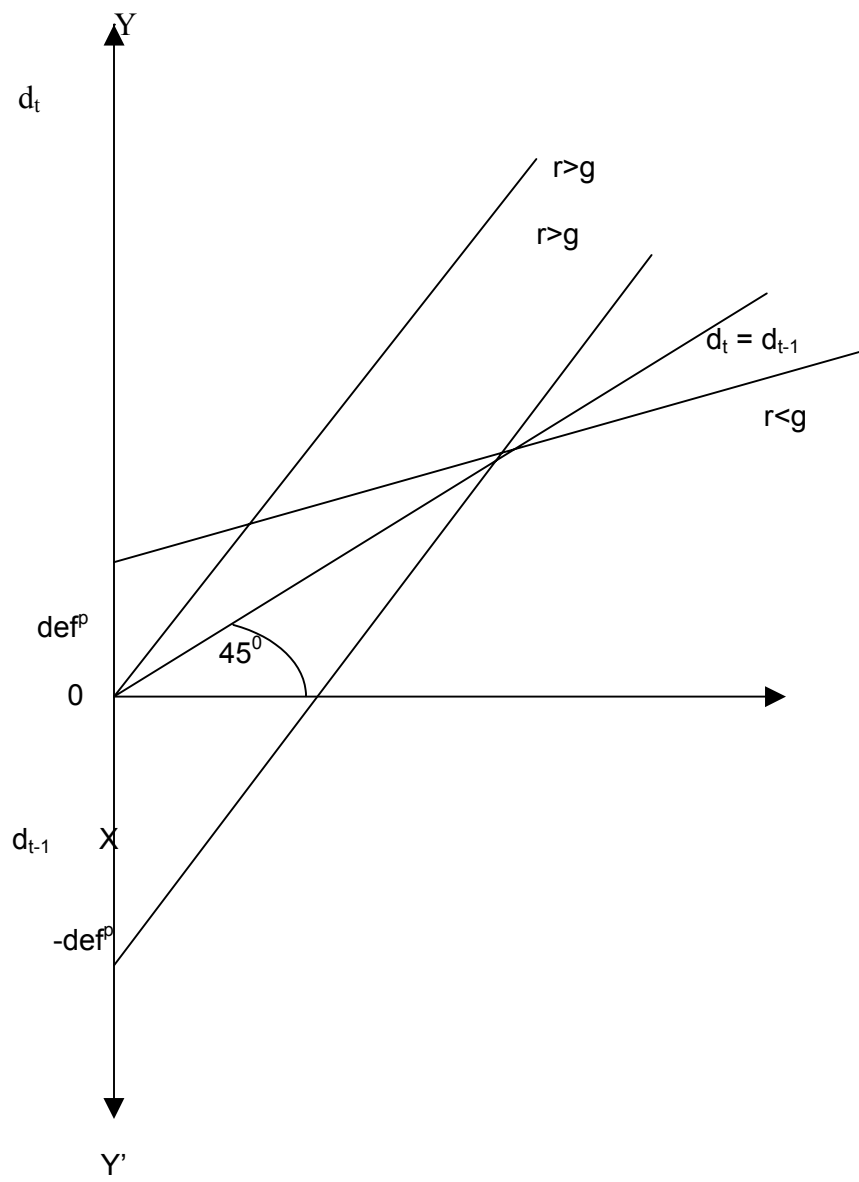
$$\Rightarrow r < g$$

i.e., interest rate must be less than the annual growth rate of GSDP. Domar model concludes that for solvency and sustainability of public debt $k \leq r < g$, i.e., growth rate of public debt $\leq$ interest rate $<$ growth rate of GSDP when an economy is running by the accumulation of primary deficit.

Equation (4) can also be expressed as

$$d_t = (r-g)d_{t-1} + def^P \quad \text{............... ...(6)}$$

It can be represented through the following diagram:

Y

d_t

r>g

r>g

$d_t = d_{t-1}$

r<g

def^p

45⁰

0

d_{t-1} X

$-def^p$

Y'

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From the above diagram it is evident that when r > g, for the sustainability of public debt, i.e., to keep $d_t = d_{t-1}$ or for achieving a stable constant debt-GSDP ratio for the future there must be targeted $\left(-def^P\right)$, i.e., primary surplus to GSDP ratio. This can be derived in the following manner:

$$d_t = \left(\frac{1+r}{1+g}\right) d_{t-1} + def^P \quad \text{by equation (4)}$$

$$\Rightarrow d_t = \left(\frac{1+r}{1+g}\right) d_{t-1} - Sur^P$$

or, $Sur^P = \left(\frac{1+r}{1+g}\right) d - d$ in static sense.

$$= \left(\frac{r-g}{1+g}\right) d \quad\text{............} \quad (7)$$

Therefore when r > g, for an economy to achieve debt sustainability

$$Sur^P = \frac{Primary\ Surplus}{GSDP} = \left(\frac{r-g}{1+g}\right) \cdot \frac{Debt}{GSDP}$$

Debt sustainability can also be considered in terms of fiscal deficit by the Domar Model

$$(FiscalDeficit)_t = D_t - D_{t-1} \quad\text{........................} \quad (8)$$

$$\Rightarrow D_t = D_{t-1} + (FiscalDeficit)_t \quad\text{.......................} \quad (9)$$

$$\Rightarrow \frac{D_t}{yt} = \frac{D_{t-1}}{yt} + \frac{(FiscalDeficit)_t}{yt} \quad\text{..............} \quad (10)$$

$$\Rightarrow \frac{D_t}{Y_t} = \frac{D_{t-1}}{(1+g) Y_{t-1}} + \frac{DEF^f_t}{Y_t} \quad\text{.....................} \quad (11)$$

$$\Rightarrow \frac{D}{y} - \frac{D}{(1+g) y} = def^f \quad\text{........................} \quad (12) \text{ in static sense.}$$

$$\Rightarrow \frac{D}{y}\left(1 - \frac{1}{1+g}\right) = \frac{D}{y}\left(\frac{g}{1+g}\right) = def^f \quad\text{..........} \quad (13).$$

It implies that for the debt sustainability

$$\frac{Debt}{GSDP} = \left(\frac{1+g}{g}\right) \cdot \left(\frac{Fiscal\ Deficit}{GSDP}\right) \quad\text{.......} \quad (14)$$

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APPENDIX - II

It is already mentioned that between 1990-91 and 2002-03 annual growth rate of GSDP (g), Public Debt (k), $\frac{\text{Debt}}{\text{GSDP}}$ and $\frac{\text{Fiscal Deficit}}{\text{GSDP}}$ are 12.63 percent, 16.44 percent, 3.37 percent and 6.93 percent respectively. The average rate of interest is 11.29 percent. Growth rate of $\frac{\text{Primary Deficit}}{\text{GSDP}} = 1.7\%$

In 1999-2000, $\frac{\text{Debt}}{\text{GSDP}}$ = 46.86 percent; therefore it is projected that in 2005-06, the $\frac{\text{Debt}}{\text{GSDP}}$ = 46.86 percent + (3.37 percent X 6) = 67.08 percent.

To keep the $\frac{\text{Debt}}{\text{GSDP}}$ ratio at 48 percent in 2005-06, the average reduction in the $\frac{\text{Debt}}{\text{GSDP}}$ ratio should be $\frac{(67\% - 48\%)}{6} = 3\%$ approximately.

To keep the $\frac{\text{Debt}}{\text{GSDP}}$ ratio at 48 percent

$$\frac{\text{Primary Deficit}}{\text{GSDP}} = 48\% \times \left(\frac{g-r}{1+g}\right) = 48\% \times \left(\frac{12.63\% - 11.29\%}{1+12.63}\right) = 48\% \times \left(\frac{1.34}{13.63}\right) = 4.7\%$$

The projection of the $\frac{\text{Primary Deficit}}{\text{GSDP}}$ in 2005-06 is $17.65\% + (1.7 \times 6)\% = 27.85\%$. The average reduction in the $\frac{\text{Primary Deficit}}{\text{GSDP}}$ should be $\frac{(27.85 - 4.70)\%}{6} = 3.86\%$

$$\frac{\text{Fiscal Deficit}}{\text{GSDP}} = 48\% \times \left(\frac{g}{1+g}\right) = 48\% \times \left(\frac{12.63\%}{13.63\%}\right) = 44.47\%$$

The projection of the $\frac{FiscalDeficit}{GSDP}$ in 2005-06 is 20.85 percent + (6.93 x 6) percent = 62.43 percent.

The average annual reduction in $\frac{FiscalDeficit}{GSDP}$ should be [(62.43 – 44.74)/6] percent = 2.95 percent

In 2009-10, if the same trend continues, $\frac{Debt}{GSDP}$ will be projected at: (58.80 percent) + (3.37 percent) X 7 = 58.80 percent + 23.59 percent =82.39 percent.

Therefore to stabilize the $\frac{Debt}{GSDP}$ at 36 percent by 2009-10, average annual reduction in $\frac{Debt}{GSDP}$ should be $\frac{(82.39-36.00)\%}{7} = 6.6\%$.

$$\frac{Primary\ Deficit}{GSDP}\ should\ be\ = 36\% \times \left(\frac{g\ -\ r}{1\ +\ g}\right) = 36\% \times$$

$$\left(\frac{12.63\%\ -\ 11.29\%}{1\ +\ 12.63\%}\right) = 36\% \times \left(\frac{1.34}{13.63}\right) = 3.5\%$$

Projected $\frac{Primary\ Deficit}{GSDP}$ in 2009-10 will be $17.25\% + (1.7\times 7)\% = 29.15\%$.

The average reduction in the $\frac{Primary\ Deficit}{GSDP}$ should be $\frac{(29.15-3.50)\%}{7} = 3.66\%$

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$$\frac{\text{Fiscal\ \ \ Deficit}}{\text{GSDP}} \text{ must \ \ be } = 36\% \ \times \left(\frac{g}{1 + g} \right)$$

$$= 36\% \ \times \left(\frac{12.63}{13.63} \right) = 33.35\%$$

Projected $\frac{\text{FiscalDeficit}}{\text{GSDP}}$ in 2009-10 will be 23 percent + (6.93 percent) x 7 = 71.51 percent.

This requires average annual reduction of

$$\frac{\text{FiscalDeficit}}{\text{GSDP}} \text{ to be } \frac{(71.51 - 33.35\ )\%}{7} = 5.45\%$$