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A Study on Sustainability of Public Debt in Tamil Nadu, India

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,Debt Sustainability

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ABSTRACT

One of India's most industrialized states is Tamil Nadu. In recent years there was fiscal deterioration The sustainability of Tamil Nadu's debt is examined in this study.

Tamil Nadu has shown stagnant own tax revenue, declining central shares, and rising expenditures on subsidies and interest payments, alongside a decline in capital expenditure. Tamil Nadu's outstanding liabilities are above 25 percent, which is quite alarmingly high. Empirical studies of debt sustainability reveal contradictory findings: a unit root test on the debt-GDP ratio points to unsustainability, whereas a cointegration test between government revenue and overall expenditures implies sustainability. This research emphasizes the intricate and uncertain aspects of Tamil Nadu's financial condition, stressing the critical requirement for strong revenue generation and careful spending management to guarantee long-term debt viability

1. INTRODUCTION

In developing nations like India, the decentralization of subnational governments has resulted in a notable expansion of taxation and spending power.The provision of services and the security of regional and national macroeconomic stability are impacted by an unsustainable budgetary situation at the subnational level. The public debt is considered sustainable if the government is able to pay off its present and future obligations. A significant consideration in macroeconomic management is the amount of state and local debt. In India, until recently, unplanned borrowings by state governments through extensive overdrafts from the RBI were constantly a source of fiscal instability for more than two decades. Deficit indicators, income performance, spending patterns, and debt position are the four main categories into which state governments' declining fiscal health can be divided (RBI 2007).

Despite having a small natural resource base, Tamil Nadu has had remarkable growth. Tamil Nadu is among the most industrialized states in India. However, in the recent years, it showed unprecedented fiscal deterioration in the late 1990s; States both fiscal and revenue deficits were rising. (Ianchovichi et al. 2007). Tamil Nadu has shown a decline in growth since 2013-14 onwards. Tamil Nadu's fiscal situation is getting worse (Shanmugam 2018).

Fiscal and revenue deficits have been increasing in the state. India's states are having difficulty because of declining tax collections, rising spending due to the government's inclination for pensions and giveaways, and an increase in past-due payments from electricity distribution companies that are losing money. The underwhelming performance of state-owned discoms has continuously impeded the performance of the power industry and state finances. Several states have not passed fuel costs. For example, the Tamil Nadu government's white paper from 2021 mentioned that the state's power rates hadn't been changed in seven years. In this paper, the author tries to analyze the public debt sustainability in Tamil Nadu.

REVIEW OF LITERATURE

The public debt was largely viewed negatively by classical economists.They did, however, approve public debt for productive uses. The Keynesian viewpoint holds that deficit financing can boost economic growth and aggregate demand. According to the Ricardian Equivalence Theorem, the economy's aggregate demand remains unchanged whether government expenditures are financed through taxation or debt.According to a study on debt sustainability by Domar (1944), a growth rate of income that is higher than the interest rate is a prerequisite for debt sustainability. Accordingly,

economists cannot agree on whether deficit financing is neutral, beneficial, or negative (Rangarajan and Srivastava, 2005). The issue of debt and sustainability at the state level in India has been different authors. By analyzing how significant components of the state's fiscal accounts reacted to shocks and reforms, Ianchovichina et al. (2006) examined Tamil Nadu's fiscal sustainability.It illustrates the interplay between national and subnational policies by showing how threats to the state's fiscal outlook include interest rate shocks, pressures on the primary balance, and contingent liabilities. Rajaraman et al. (2005) examined state-level debt sustainability from 1992 to 2003.The research showed that over this period, the national debt rose dramatically. The research also identified the states that needed to boost their own spending and revenue.

Misra and Khundrakpam (2009) used the Present Value of Budget Constraint (PVBC) approach to determine that state governments' liabilities were unsustainable. In their study of Assam's debt and fiscal sustainability, Dutta et al. (2010).

Nonetheless, the debt-to-GDP ratio decreased, indicating a positive "Domar gap" and the state's primary surplus in certain years over the study period. Cointegration study revealed that the state was able to sustain budgetary sustainability during the studied period. Growing budgetary deficits as a result of increased state debt and insufficient own-tax collections were noted by Patnaik & Shah (2019). According to Dholakia & Karan (2020), the unpredictability of post-GST tax revenue has exacerbated fiscal imbalances. Shanmugam and Shanmugam (2022) look at the public debt of Tamil Nadu's trajectory and its sustainability. The empirical findings demonstrated the unsustainable nature of debt. According to the analysis, reducing the fiscal deficit to 2% of GSDP is the only way to reduce debt sustainability. Because interest payments will be lower, debt service costs will also decrease as debt levels reach a sustainable level. Overall, there is conflicting evidence from empirical research on debt sustainability in India at the state level.While some research have indicated that the debt is sustainable, other studies have indicated that it is not.

COMPOSITION OF REVENUE AND EXPENDITURE IN TAMIL NADU

Tamil Nadu has shown improvement in its own tax revenue. However, there was a significant decline in the ratio of own tax receipts to GSDP, from 13.35 percent in 2009-10 to a continuous decline to 8.70 percent in 2020-21.

Table 1 Trends in Revenue (Rs in crores)

Year	State's Own Tax Revenue	NonTax Revenue	Share in Central Taxes	Grants-in-Aid from Government of India	Total Revenue Receipts
2007-08	29619.10 (7.49)	3304.37 (0.83)	8065.27 (2.04)	6531.77 (1.65)	47520.51 (12.02)
2008-09	33684.37 (7.45)	5712.33 (1.26)	8510.80 (1.88)	7135.01 (1.57)	55042.51 (12.17)
2009-10	36546.67 (6.76)	5027.05 (0.93)	8756.19 (1.62)	5514.22 (1.02)	55844.13 (10.33)
2010-11	47782.18 (7.25)	4651.45 (0.70)	10913.97 (1.65)	6840.02 (1.03)	70187.62 (10.65)
2011-12	59517.31 (7.91)	5683.57 (0.75)	12714.95 (1.69)	7286.31 (0.96)	85202.14 (11.33)
2012-13	71254.28 (8.33)	6554.26 (0.76)	14519.69 (1.69)	6499.48 (0.76)	98827.71 (11.56)
2013-14	73718.11 (7.61)	9343.27 (0.96)	15852.76 (1.63)	9122.28 (0.94)	108036.42 (11.15)
2014-15	78656.54 (7.33)	8350.6 (0.77)	16824.03 (1.56)	18589.27 (1.73)	122420.44 (11.41)
2015-16	80476.08 (6.84)	8918.31 (0.75)	20353.86 (1.73)	19259.62 (1.63)	129007.87 (10.96)
2016-17	85941.41 (6.59)	9913.76 (0.76)	24537.76 (1.88)	19838.20 (1.52)	140231.13 (10.76)

2017-18	93736.61 (6.39)	10764.00 (0.73)	27099.70 (1.84)	14679.44 (1.00)	146279.75 (9.98)
2018-19	105534.16 (6.47)	14200.02 (0.87)	30638.77 (1.87)	23368.21 (1.43)	173741.16 (10.65)
2019-20	107462.29 (6.16)	12887.85 (0.73)	26392.41 (1.57)	27783.37 (1.59)	174525.92 (10.01)
2020-21	106171.70 (5.93)	9040.43 (0.50)	24906.62 (1.39)	28893.52 (1.61)	169012.27 (9.45)

Source: White Paper on TamilNadu Government's Finances

Note:In bracket as percentage of GSDP

The state's own revenue resources remained stagnant around 7-6 percent of the GSDP. A small portion of total revenue comes from non-tax sources. The state continued to underutilize non-tax revenue. On the other hand, the central tax share decreased from 2.04 percent of GSDP to 1.39 percent. From 12.02 percent of GSDP in 2007–08 to 9.45 percent of GSDP in 2020–21, overall revenue receipts have decreased.

This can be one of the reasons for the rising fiscal deficit and debt in the state(Shanmugam & Shanmugam 2022).Tamil Nadu's fiscal situation deteriorated after 2020.

Table 2 Items of Revenue Expenditure as a percentage of GSDP

Year	Salaries &Wages	Non-wage Operation &Maintenance	Subsidies	Grants-in-Aid	Transfers and others	Pensions& Other Retirement benefits	Interest Payment	Others	Total
2007-08	3.31	1.23	1.45	1.90	0.41	1.64	1.76	0.00	11.71
2008-09	3.88	1.11	1.88	2.10	0.62	1.87	1.54	0.00	13.00
2009-10	3.91	0.99	1.62	1.75	0.57	1.66	1.42	0.00	11.92
2010-11	3.92	0.77	1.55	1.89	0.56	1.91	1.38	0.00	12.00
2011-12	3.57	0.85	1.50	1.61	0.74	1.63	1.25	0.00	11.16
2012-13	3.23	0.99	1.88	1.59	0.93	1.46	1.27	0.00	11.36
2013-14	3.29	0.93	1.70	1.64	0.96	1.46	1.36	0.00	11.34
2014-15	3.46	0.89	1.68	2.14	0.91	1.48	1.46	0.00	12.01
2015-16	3.16	0.83	1.72	2.32	0.98	1.44	1.54	0.00	11.98
2016-17	3.08	0.67	1.99	2.18	0.77	1.41	1.65	0.01	11.76
2017-18	3.07	0.64	2.16	1.58	0.81	1.39	1.82	0.00	11.46
2018-19	3.22	0.62	2.36	1.65	0.77	1.67	1.80	0.00	12.10
2019-20	3.13	0.60	2.20	1.53	0.66	1.48	1.78	0.00	11.40
2020-21	2.95	0.65	3.21	1.62	0.54	1.25	1.64	0.00	11.85

Source: White Paper on Tamil Nadu Government's Finances

Salaries and wages are considered an important component of expenditure for state governments. There is a mild decline trend from 3.31 percent in 2007-08 to 2.95 percent in 2020-21. There is modest control over pension and other retirement benefits. There are rising trends in subsidies and interest payments after 2016. Rising interest payments and subsidies may increase the fiscal stress of the state. RBI report on State finance(2023) states that Indian States allocating 20 percent of revenue for interest payment which is not fiscal viability. The overall revenue expenditure as a percentage of GSDP ranges from 11.16 to 13%.

Table 3 :Trends in Capital Expenditure

Year	Total Capital Expenditure (Rs.in crore)	Capital Expenditure as percentage of GSDP	Year on Year Growth
2007-08	7462	2.03	25.35
2008-09	9104	2.21	22
2009-10	8572	1.72	-5.84
2010-11	12437	2.05	45.09
2011-12	16336	2.17	31.35
2012-13	14568	1.7	-10.82
2013-14	17173	1.77	17.88
2014-15	17804	1.66	3.67
2015-16	18995	1.61	6.69
2016-17	20709	1.59	9.02
2017-18	20202	1.38	-2.45
2018-19	24311	1.49	20.34
2019-20	25632	1.39	5.43
2020-21	32474	1.67	26.69

Source: White Paper on Tamil Nadu Government's Finances

Capital expenditure has shown a decline from 2.03 percent in 2007-08 to 1.67 percent in 2020-21. However, there is no consistent growth trend in year-to-year growth. This might be due to the economic and revenue situation of the state.

OVER DEBT TRENDS IN TAMIL NADU

Overall trends in Debt have shown the rising trends. Chart 1 shows Outstanding liabilities rose from 15.64 percent to 30.98 percent in 2022-23 (RE), which is quite high.

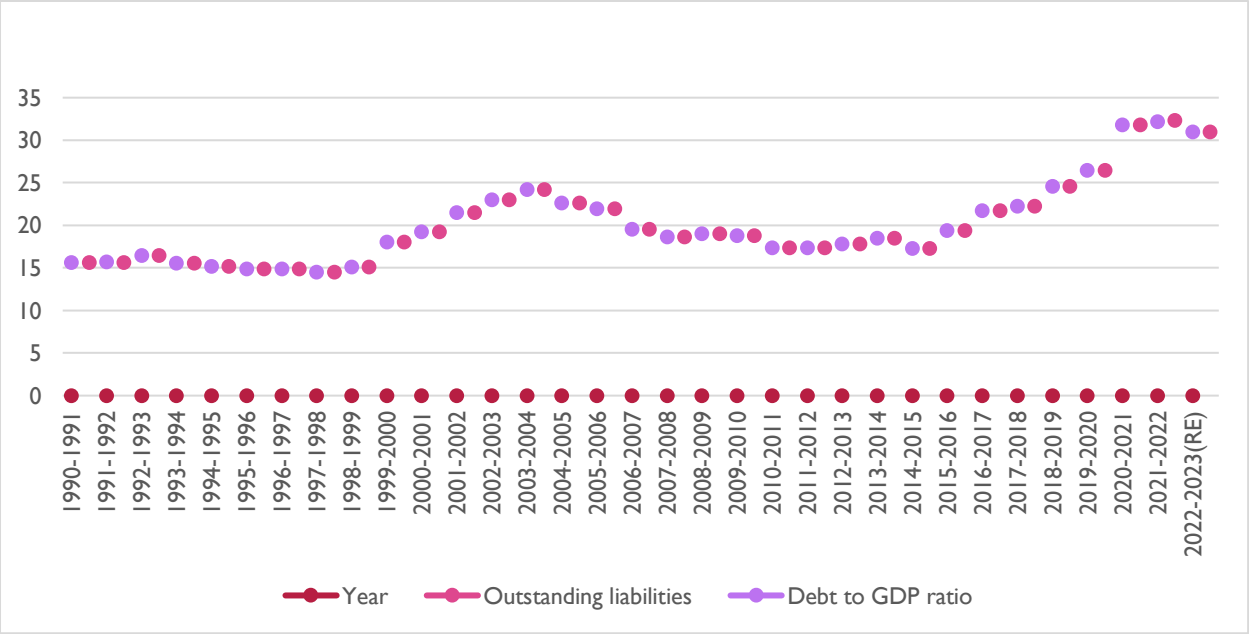

Chart 1 Outstanding liabilities and Debt to GDP ratio of Tamil Nadu

Debt sustainability depends on future economic growth and improved revenue generation. The interest payment range between percentages of GSDP remained within 1.0–2.0 percent, which is quite manageable (See Appendix Table 1). Additionally, the debt-to GDP ratio rose from 15.64 in 1990–1991 to 30.98 in 2022 2023 (RE), which could lead to further debt accumulation in the years to come.

Comparing fiscal Position of Tamil Nadu with the Similar States

Development expenditure is considered to create assets in the economy, while non-development expenditure generally does not create assets in the economy. The state's growth is positively impacted by development spending.

Maharashtra shows the rise in the development and non-development expenditure, but there is a decline in 2024-25.

Table 4: Development and Non-Development Expenditure

Development Expenditure					**Rs crores**
State	**2022-23**	**2023-24(RE)**	**2024-25(BE)**	**Variation(percent)**	
Col.1	**Col.2**	**Col.3**	**Col.4**	**Col.3/Col.2**	**Col.4/Col.3**
Tamil Nadu	2,06,638.80	2,28,980.20	2,56,704.10	10.80	12.10
Gujarat	1,53,887.90	1,87,588.10	2,15,974.80	21.90	15.10
Karnataka	1,97,051.20	2,08,697.90	2,41,732.00	5.90	15.80
Maharashtra	3,06,922.50	4,08,635.00	3,85,577.60	33.10	-5.60
Non-Development Expenditure				**Rs crores**	
State	**2022-23**	**2023-24(RE)**	**2024-25(BE)**	**Variation(percent)**	
Col.1	**Col.2**	**Col.3**	**Col.4**	**Col.3/Col.2**	**Col.4/Col.3**
Tamil Nadu	1,00,190.80	1,15,874.70	1,30,982.90	15.70	13.00
Gujarat	62,143.50	70,339.10	82,719.50	13.20	17.60
Karnataka	73,469.40	79,880.80	97,843	8.7	22.5
Maharashtra	1,34,125.40	1,59,937.00	1,93,859.40	19.20	21.20

Source: RBI State Finances-A study of Budgets 2024-25

Maharashtra and Karnataka demonstrated an increase in non-development spending relative to development spending, which could provide fiscal challenges in the years to come.

Tamil Nadu maintains moderate and stable growth, showing some balance in its fiscal position.

Table 5 : Fiscal Deficit, Revenue Deficit and as a percentage of GSDP – Comparison with similar States

States	**GFD**			**RD**			**PD**		
	2022-23	2023-24(RE)	2024-25(BE)	2022-23	2023-24(RE)	2024-25(BE)	2022-23	2023-24(RE)	2024-25(BE)
Tamil Nadu	3.4	3.5	3.4	1.5	1.7	1.6	1.5	1.4	1.5
Gujarat	0.8	1.7	1.9	-0.9	-0.8	-0.4	-0.4	0.6	0.8
Karnataka	2.1	2.7	3	-0.6	0.6	1	0.8	1.5	1.6
Maharashtra	1.9	2.8	2.6	0.1	0.5	0.5	0.7	1.6	1.3

Source:RBI State Finances-A study of Budgets 2024-25 Note : RE: Revised Estimates. BE: Budget Estimates. RD: Revenue Deficit. GFD: Gross Fiscal Deficit. PD: Primary Deficit

Overall, Tamil Nadu's fiscal deficit is at 3.4 percent. In both years, comparable states like Gujarat, Karnataka, and Maharashtra had smaller fiscal deficits.

According to the Tamil Nadu government's White Paper, the UDAY program's acquisition of TANGEDCO's debt in 2016-17 raised the state's budget deficit above the 3% threshold that the Indian government expressly approved. The payment of several corporate and civil supply subsidies was delayed, but this had no effect on the budget imbalance.

Table 6: Debt to GDP ratio of Major Indian States

States	**Debt -GDP ratio**		
	2019-20	**2026-27(Projected)**	**change in debt-GSDP ratio**
Tamil Nadu	25.7	31	5.3
Gujarat	20.2	16.6	-3.6
Karnataka	20.8	22.6	1.8
Maharastra	17.1	18.6	1.5

Source: RBI Bulletin June 2022

The debt to GDP ratio calculates debt as a percentage of GDP. It demonstrates the ability to pay debt. The debt-to-GDP ratio of states influences the budgetary decisions, credit ratings, and fiscal management. A 30% above debt-to-GDP ratio creates a stress for the states. According to a World Bank study by Rangarajan and Prasad (2012), a state is considered extremely debt-stressed if its debt-GSDP ratio and interest payments-revenue receipts ratio are between 30 and 50 percent and 15 and 25 percent, respectively.

Table 7: Outstanding Debt as a percentage of GSDP

States	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024(RE)**	**2025(BE)**
Tamil Nadu	19.4	21.8	22.3	24.6	26.5	31.8	32.2	31.7	31.1	30.3
Gujarat	22.5	20.9	20.2	20	20.4	22.5	20.2	19.2	18.2	17.3
Karnataka	17.8	17.5	18.4	19.4	21	25.5	25.5	25.1	25.4	26.5
Maharashtra	17.9	18	18.4	17.4	18.1	21	19.3	18.1	18.3	19

RBI State Finances-A study of Budgets 2024-25

The primary source of funding for this growing tendency of revenue-deficit-driven fiscal deficits is borrowing. Since 2020, Tamil Nadu's debt has exceeded the 25% recommended by the 14th Finance Commission, making it unsustainable. The COVID pandemic, however, has caused the 15th Finance Commission to loosen the upper limit, which is still high. Compared to other comparable states, the total debt stock is larger. Tamil Nadu's outstanding liabilities as a proportion of GSDP are substantially greater than those of the comparator states of Maharashtra, Gujarat, and Karnataka, as showed in Table 7.

EMPIRICAL TESTS FOR DEBT SUSTAINABILITY IN TAMIL NADU

Generally speaking, public debt refers to all of the government's obligations or borrowing. A nation's public debt is deemed sustainable if its government can fulfill its present and future commitments without the need for outside funding or default. Hamilton and Flavin (1986) examined contemporary empirical research on debt sustainability and introduced unit root to assess sustainability. Data on debt, GSDP, government revenue, and total expenditures from 1980–1981 to 2022–2023 were gathered from EPWRF.

Unit Root Test: According to the unit root approach (Trehan and Walsh 1991; Uctum et al. 2006; Shanmugam and Shanmugam 2022), debt is sustainable if it is a stationary series. The most straightforward statistical test for debt sustainability in the modern era is to determine whether or not the debt-GSDP series is stationary. (Shanmugam and Shanmugam, 2022)The debt-to-GDP ratio series from 1980–1981 to 2022–2023 (RE) was used for the Unit Root Test.

It is an indication that the debt is unsustainable if it is not stationary.

Table 8 reports the Augmented Dicky-Fuller (ADF) test results at level

ADF test	**t-statistics**	**Prob.***
statistic	-2.955381	0.1568
Test Critical Values	1 % Level	-4.1985
	5% Level	-3.5236
	10% Level	-3.1929

*Mackinnon(1996) one –sided P-values

ADF test shows the debt –GSDP series is not stationary. Hence Tamil Nadu debt is not sustainable

ii) Cointegration test: The cointegration of government revenue and total expenditures is examined in this study. Pedroni (1999) has been used to examine whether government spending and state revenues in India have a cointegrating relationship. Public debt and primary surplus variables, or public revenue and expenditure variables, must cointegrate according to the cointegration approach. (Jha and Sharma 2004; Hakkio and Rush 1991)

Table 9: Test for Unit root using Augmented Dickey fuller Test

Variables	**LEVEL**		**Stationary/Non-Stationary**
	t-statistic	**P-value**	
Government Revenue	-0.2402	0.5937	non-stationary
Total Expenditure	-0.1233	0.6351	non-stationary
variables	**FIRST DIFFERENCE**		**Stationary/Non-Stationary**
	t-statistic	P-value	
Government Revenue	-7.4473	0.0000*	stationary
Total Expenditure	-8.5842	0.0000*	stationary

Note: *significant at 1 % ** significant at 5 %

It is assumed in this case that the variables are I(1) series, or stationary in first difference. To determine a long-term relationship, a cointegration test must be conducted. To determine the number of cointegrating vectors, the Johansen cointegration approach employs two likelihood ratio statistics: the max eigenvalue test statistic and the trace test.

The Johansen's Cointegration test determines whether or not total expenditure and revenue in relation to GSDP are co-integrated.

Table 10: Results of Johansen's Cointegration Trace test

Trace test				
Null Hypothesis	**Alternative Hypothesis**	**Test Statistic**	**0.05 Critical Value**	**P-value**
R=0	R=1	25.9018	15.4947	0.0010
R≤1	R=2	11.1283	3.8414	0.0008

Max eigenvalue test				
Null Hypothesis	**Alternative Hypothesis**	**Test Statistic**	**0.05 Critical Value**	**P-value**
R=0	R=1	14.7735	14.2646	0.0415
R≤1	R=2	11.1283	3.8414	0.0008

Note: R denotes the number of cointegrating relations

The presence of two cointegrating vectors is shown by both the trace statistic and the max eigen value test. These two series are co-integrated at the five percent significance level, according to the findings. This indicates that Tamil Nadu's public

debt is manageable.

These two series are not co-integrated at the five percent significance level, according to the findings. This indicates that Tamil Nadu's public debt is manageable.

CONCLUSION

Tamil Nadu's fiscal stress and mounting debt load are still evident. Even though Tamil Nadu's own sources of revenue are stagnant, the centre's share in taxes is declining. Debt stock is quite high, above 25%, which is stressful for the states. Compared to similar states like Maharashtra, Gujarat, and Karnataka, Tamil Nadu has a far larger debt stock. Our empirical investigation into debt sustainability presents a nuanced, yet contradictory, picture.

While a cointegration test between government revenue and total expenditures suggests sustainability, a unit root test on t he debt-to-GDP ratio indicates unsustainability. However, despite some manageable aspects like the interest rate to GSDP ratio, etc., the overall evidence shows the possible risky and unstable debt path. There should be a focus on increasing the state's own tax revenues and also reining in non-developmental expenditure and addressing the structural issues contributing to losses in state-owned enterprises. Policy makers should take necessary policy measures to achieve and sustain the debt so that state finance improves.

APPENDIX

Table 1 Major Fiscal Indicators for Tamil in crores

Year	GSDP	Outstanding liabilities	Primary Deficit	Interest Payment	Revenue Expenditure	Revenue Receipts	Debt to GDP ratio
1990-1991	45032.5	7044 (15.64)	670 (1.48)	460 (1.02)	5641 (12.52)	5088 (11.29	15.64
1991-1992	53104.3	8341 (15.70)	740 (1.39)	560 (1.05)	8680 (16.34)	6776 (12.75)	15.71
1992-1993	61802.2	10206 (16.51)	1060 (1.71)	690 (1.11)	8543 (13.82)	7016 (11.35)	16.51
1993-1994	74516.9	11616 (15.58)	400 (0.53)	960 (1.28)	8758 (11.75)	8066 (10.82)	15.59
1994-1995	88911.4	13541 (15.22)	410 (0.46)	1090 (1.22)	9635 (10.83)	9219 (10.36)	15.23
1995-1996	101264	15134 (14.94)	-40 (-0.03)	1290 (1.27)	10911 (10.77)	10599 (10.46)	14.95
1996-1997	115548	17257 (14.93)	970 (0.83)	1480 (1.28)	13065 (11.30)	11961 (10.35)	14.93
1997-1998	134081	19512 (14.55)	360 (0.26)	1760 (1.31)	14951 (11.15)	13587 (10.13)	14.55
1998-1999	153062	23189 (15.15)	2660 (1.73)	2120 (1.38)	17697 (11.56)	14261 (9.31)	15.15
1999-2000	163555	29568 (18.07)	2670 (1.63)	2710 (1.65)	20727.8 (12.67)	16327.5 (9.98)	18.08
2000-2001	178926	34541 (19.30)	1950 (1.08)	3120 (1.74)	21752.4 (12.15)	18316.7 (10.23)	19.3
2001-2002	181444	39069 (21.53)	1230 (0.67)	3510 (1.93)	21557 (11.88)	18818 (10.37)	21.53

2002-2003	192772	44471 (23.06)	2610 (1.35)	4130 (2.14)	25687.7 (13.32)	20836.7 (10.80)	23.07
2003-2004	213756	51759 (24.21)	890 (0.41)	4700 (2.19)	25271 (11.82)	23706 (11.09)	24.21
2004-2005	246669	55968 (22.68)	814 (0.32)	4755 (1.92)	29155 (11.81)	28452 (11.53)	22.69
2005-2006	290404	63848 (21.98)	-2306 (-0.79)	4559 (1.56)	32009 (11.02)	33960 (11.69)	21.99
2006-2007	349753	68561 (19.60)	-1550 (-0.44)	5506 (1.57)	38265 (10.94)	40913 (11.69)	19.6
2007-2008	395136	73887 (18.69)	-2400 (-0.60)	6086 (1.54)	42975 (10.87)	47521 (12.02)	18.7
2008-2009	452035	86154 (19.05)	2585 (0.57)	5963 (1.31)	53590 (11.85)	55043 (12.17)	19.06
2009-2010	540336	101709 (18.82)	5140 (0.95)	6667 (1.23)	59380 (10.98)	55840 (10.33)	18.82
2010-2011	658783	114468 (17.37)	8707 (1.32)	7940 (1.20)	72920 (11.06)	70190 (10.65)	17.38
2011-2012	751486	130627 (17.38)	8403 (1.11)	8871 (1.18)	83840 (11.15)	85200 (11.33)	17.38
2012-2013	854825	152805 (17.87)	6314 (0.73)	10205 (1.19)	97070 (11.35)	98830 (11.56)	17.88
2013-2014	968530	179569 (18.54)	8179 (0.84)	12405 (1.28)	109820 (11.33)	108040 (11.15)	18.54
2014-2015	1072678	185611 (17.30)	12613 (1.17)	14550 (1.35)	128830 (12.01)	122420 (11.41)	17.3
2015-2016	1176500	228516 (19.42)	15237 (1.29)	17391 (1.47)	140990 (11.98)	129010 (10.96)	19.42
2016-2017	1302639	283620 (21.77)	35638 (2.73)	20533 (1.57)	153200 (11.76)	140230 (10.76)	21.77
2017-2018	1465051	326636 (22.29)	13828 (0.94)	26012 (1.77)	167873.6 (11.45)	146279.7 (9.98)	22.3
2018-2019	1630209	401504 (24.62)	18578 (1.13)	28757 (1.76)	197200.6 (12.09)	173741.2 (10.65)	24.63
2019-2020	1743144	462202 (26.51)	28198 (1.61)	31980 (1.83)	210434.7 (12.07)	174525.9 (10.01)	26.52
2020-2021	1788074	568893 (31.81)	57486 (3.21)	36497 (2.04)	236402.2 (13.22)	174076.3 (9.73)	31.82

2021-2022	2072496	667975 (32.33)	40270 (1.94)	41564 (2.00)	254030.4 (12.25)	207492.4 (10.01)	32.23
2022-2023(RE)	2393364	741498 (30.98)	27629 (1.15)	46896(1.95)	279964.5 (11.69)	243749.3 (10.18)	30.98

Source: EPWRF Note : In bracket as percentage of GSDP ,GSDP in current prices 2011-12 ,Debt to GDP ratio author's own calculation

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