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IS PUBLIC DEBT AFFECT THE INDIAN ECONOMY

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Abstract: Public debt is one of the most important crises in recent decades not only in India but also World. The role of public debt in the government's financial position in India and different state governments are a challenging factor. It has a crucial role in the process of economic development. There is a functional relationship between public debt and economic development in positive and negative aspects existence of empirical results indicated. The level of public debt is issued at international, national, and state levels in different countries after the financial crisis in 2008. Whenever increasing public debt is retard investment and economic growth. Repayment of interest rates to public debt is the biggest problem in India. The Union Government has spent one-third of its total revenue on interest payments meant to external and internal sources may be increased. It is the biggest problem for the Government of India and various state governments.

Public debt is divided into internal and external debt. Both influence economic growth in different ways. Borrowing from domestic sources are create problems for domestic economic conditions changed. Borrowing from external sources, may influence in different ways, affect the balance of payments and affect international trade among different countries and international fluctuations.

A lot of problems may be created by increasing public debt in this world. As a result, the deficit of the government budget and balance of payment problems. It may cause political and economic issues in developing countries. The huge size of public debt is an impact on increasing inflation, interest rate, anda budget deficit of a country. The amount of public debt has been a serious crisisfor the Indian economy. It leads to the socio-economic and political conditions that may be changed.

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The management of public debt is one of the biggest challenges faced by many governments in the World. The Government of India has faced a high-level public debt-to-GDP ratio during the past three decades. The increased public debt-GDP ratio is higher than the different Finance Commission's long-term debt-to-GDP ratios. This rising growth trendhas been caused by the expansion in the size of government activities in India. The high debt-to-GDP ratio influences domestic public debt from various financial resources like RBI, LIC, Other Public Sector Companies, and other State Governments.

Domestic borrowing has been meeting public expenditure for various sectors in India. Domestic debt is a major share of 95 percent of the Indian public debt and the remaining 5 percent is from external sources like World Bank, IMF, and Asian Development Bank. This borrowing of public debt from various financial institutions has increased uncertainties. It is affecting macroeconomic variables like interest rate, inflation, andinvestment. The Government of India has adopted a fiscal consolidated policy. The implementation of the Fiscal Responsibility and Budget Management Act, 2003 enacted and the recommendation of the FRBM Review Committee in 2017 (Ranjan Kumar Mohanty and Sidheswar Panda, 2019).

The percentage of total public debt to GDP of the Central Government went up from 45 percent in 1980-81 to 53 percent in 2017-18. It reached a maximum of 72.34 percent in 2002-03 and recorded a minimum of 45.26 percent in 1980-81. The domestic debt to GDP ratio for the Central Government increased from 35 percent in 1980-81 to 50 percent in 2017-18. It records a maximumof 65.07 percent in 2004-05 and a minimum of 34.86 percent in 1981-82. It is found that the external debt to GDP was decreasing from 10 percent in 1980-81 to 3 percent in recent years. After the new economic policy was in 1991 introduced, external debt has shown consistently a declining trend. The combined total public debt has shown an increasing trend from 1980-81 to 1991-92 due to fiscal stress and high primary deficits. The debt position was slightly improved during 1992-93 to 1996-97,because the major structural reforms were undertaken in 1991-92 to tackle the balance of payment crisis faced (RBI, Status Paper of Public Debt, 2015).

The debt liabilities accumulated sharply up to 2003-04 due to an increase in expenditure linked to the fifth pay commission award and sluggish revenue growth during that period. The public debt has shown a declining trend since 2003-04 due to the adoption of a fiscal consolidation path by the enactment of the Fiscal Responsibility and Budget Management (FRBM) Act, 2003 as well as a high rate of nominal economic growth. The public debt to GDP ratio has stabilized in recent years. The slightly increasing trend might be due to various domestic and global factors after 2012-13. The combined domestic debt has a similar pattern as the combined total public debt during the same period (RBI, Status Paper of Public Debt, 2022).

According to Economic Survey (2023) pointed out the public debt-to-GDP ratio had modest rise in the past years. The public debt is stableand has low currency and interest rate risks. The total net liabilities of the union government have reached 95.1 percent due to domestic currency by End-March 2021. But external debt accounted for 5.0 percent which, implies the low currency risk and volatility in the international capital markets. Public debt in India is primarily contracted at fixed interest rates, with floating internal debt constituting only 1.7 percent of GDP in by end-March 2021. The debt portfolio is insulated from interest rate volatility (Economic Survey 2023).

OBJECTIVES OF THE STUDY

The objective of this study is to investigate the linkages between public debt and economic growth in India during 2014-15 to 2021-22.

RESEARCH METHODOLOGY AND DATABASE

This study is based on secondary data. It is collected from various published and unpublished sources of central and state government documents. The government documents were collected from the Reserve Bank of India, the Status Paper of Public Debt from 2015 to 2022, RBI State Budgets and India Economy Datasetand Data from the Ministry of Finance, Government of India. The study periods covered from 2014-15 to 2021-22. The simple percentage and average were used to calculate the public debt and economic growth in India.

The first section deals with the introduction. The second section presents a brief review of the theoretical perspective of public debt and economic growth in India. The third section examines the trends and growth rates of public debt and economic growth in India. The fourth section gives a summary of the findings and conclusions.

REVIEW OF LITERATURE

Public debt is a crucial problem in the majority of the industrialized countries in the world after the Second World War. In 2008, the ratio of average public debt to GDP amounted to 73 percent in terms of Euro Dollars. It amounted to about 71 percent in the United States and was still higher in Japan, it reached more than 170 percent. Public debt has an important influence over the economy both in the shortrun and the long run. Various research studies have been distressed about the relationship between public debt and economic growth at the international and national state levels.

Ushanthiny, S. Sivarajasingham and T. Vinayagathasan (2020) analyzed the impact of the public on economic growth. They revealed that public debt and internal debt had an impact on economic growth in the long run, while external debt does not. There was a positive correlation between capital and economic growth. Public and internal debt has a negative significant impact on economic growth. But external debt and investment do not have a significant effect on growth in the shortrun. The result indicated a causal relationship between debt and economic growth in the longrun, there was no linkage in the shortrun.

Rangarajan and Srivastava (2005) studied public debt and economic growth in India. They indicated that large structural primary deficits and higher interest payments adversely affect growth. They suggested that the adverse effects of public debt on growth needed to be brought down from a higher level. Another study conducted by Singh (1999) explored the relationship between domestic debt and economic growth in India during 1959-95. He applied co-integration technique and the Granger causality test. The study supported the Ricardian Equivalence Hypothesis (REH) between domestic debt and growth in India.

Similarly, Kannan and Singh (2007) find that public debt and fiscal deficit are negatively influencing the interest rate, output, inflation, and trade balance in the long run. Goyal (2013) finds a positive relationship between public debt and economic growth. Kaur and Mukherjee (2012) examined the impact of debt on economic growth along with debt sustainability in India. It found a statistically significant non-linear relationship between public debt and growth in India. Bal (2014) examined the impact of public debt on the interest rate, output, and gross fixed capital formation in India during 1998-2012. This study revealed public debt has a positive influence on output and gross fixed capital formation.

Asit Ranjan Mohanty and Bibhuti Ranjan Mishra (2015) examine the impact of public debt on economic growth among 14 major states of India during 1980-81 to 2013-14. They used panel data to test causal relationships, Dumitrescu-Hurlin pairwise causality test is employed. The results indicated that the positive and statistically significant impact of all the variables on economic growth. The results indicated the existence of bi-directional causality between public debt and economic growth.

Sudhir Thakur (2022) examined public debt and economic growth. Debt can be productive provided nation-states utilize for rapid growth and servicing the cost of loans. It can be unproductive if spent on wasteful expenditures. Reinhart and Rogof's (American Economic Review (2010) observed that the non-linear relationship between debt and growth in developed countries. Kaur and Mukherjee (2014) examined the relationship between public debt and economic growth at the state level in India. The study indicated a statistically significant non-linear relationship during 1980-81 to 2012-13. It observed a negative impact of public debt on economic growth. Another study conducted by Kaur *et al.* (2018) study utilized the inter-temporal budget constraint and fiscal response function 1980-81 to 2015-16 with used panel data. The study concluded debt levels were sustainable in the long term.

Kaur and Mukherjee (2012) explored a statistically significant non-linear relationship between public debt and growth in India. The evidence is a negative relationship between debt and growth at higher levels. The threshold level of debt to GDP ratio is 61 percent beyond which a negative relationship is observed between debt and growth. This implies debt unsustainability and calls for fiscal consolidation in the wake of potentially adverse debt dynamics. Further, Kaur *et al.* (2014, 2018) studied 20 states for the period 1980-81 to 2012-13 and noticed that the debt level of Indian states is sustainable in the long run. However, a disaggregated analysis suggests an overall improvement in the performance of the Indian states, although few states showed a disconcerting sign of fiscal stress and heightened debt burden.

Thakur (2020) examined the public debt and growth relationship in India from 1991 to 2015. His analysis validated a negative relation between the average debt ratio and the annual rate of growth. The regression coefficient suggests a 1-percent increase in the AROG of GDP leads the average debt ratio to decrease by 3 percent.

Another study conducted by Bajpai and Sach's (1999) analysis of the state government finances in India. They argued that the expenditure- to-GDP ratio had reduced. The ratio of internal public debt to GDP has constantly increased. The debt service burden has persistently increased since interest rates have risen. The composition of government spending has shown a lop-sided pattern towards the unproductive current expenditure, moving away from basic infrastructure provision and human resource development.

Bhanu Pratap Singh (2022), examined the effects of public debt on economic growth in India from 1980 to 2019. After the COVID-19 pandemic, there is a substantial rise in public debt, reaching 90 percent of the GDP in April 2021. The study impact of different public debts on the Indian economy to help policymakers frame informed debt management policies. The long-run equilibrium relationship and counteracting coefficients are calculated using Johansen cointegration and fully modified ordinary least square techniques development in the long run.

Ranjan Kumar Mohanty and Sidheswar Panda (2019) investigate the macroeconomic effects of public debt in India from 19080 to 2017. They used Structural Vector Autoregression (SVAR). It is found that domestic debt has a more adverse impact on the economy than external debt in India. The estimated variance decomposition analysis shows that much of the variations among selected macro variables are explained by public debt and growth in India.

Manoj Kumar Agarwal SamiaAnsari (2022) examined the impact of public debt on the economic growth in Utter Pradesh during the post-reform period of 30 years. They employed the vector error correction model. The study revealed that the increase in public debt-to-GSDP ratio and interest payments burden would harm long-run economic growth. But there is no significant impact on the short-run growth. It is noted that the effective interest rate has negatively correlated with the gross capital formation in the state. To attract investments and economic growth, the state Government of Utter Pradesh should continue a countercyclical fiscal stance that would help in adhering to fiscal sustainability rules by smoothing out the repercussions of the COVID-19 pandemic.

Debai Prasad Bal (2014) examines the effect of public debt on economic growth in India between 1980 and 2011. They use the autoregressive distributed lag ARDL model. There is long-run equilibrium relationship between public debt and economic growth. The error correction model (ECM) results show that central government debt, total factor productivity (TFP) growth, and debt-services are affecting economic growth in the shortrun.

Kannan and Singh, (2007), Ghosh, (2006), Rangarajan and Srivastava, (2005), Singh, (1999), examined the internal and external debt and debt service payment in India. This study uses a more sophisticated statistical methodology to explore both the short-run and long-run effects of public debt on economic growth using the autoregressive distributed lag (ARDL) model. The relationship between debt and economic growth in an extended growth in India.

PUBLIC DEBT AND ECONOMIC GROWTH IN INDIA

The functional relationship between public debt and economic growth is one of the measures of the economic system. Public debt is a serious crisis in recent decades in India and among states. The debt-to-GDP ratio by the Central Governments has been rising trends from the 1970s. It has been marked during the 1980s. The magnitude of the debt-to- GDP ratio has increased over the periods (Lahiri and Kanan, 2002). The percentage share of total outstanding liabilities to GDP increased from 55.22 percent in 1990-91 to 63.33 percent in 2004-05. The majority of borrowing funds are from internal sources. But the external fund is meagre in nature. The internal liabilities increased the trend during 1990-91 to 2004-05. The external liabilities showed a declining trend. There was an accumulation of a huge stock of debt. The growing size of liabilities eventually generated a considerable debt-service burden and rising interest payments. The outstanding liabilities to GDP by the central government increased to 63.33 percent in 2004-05, and started declining consistently. It causes the growth of nominal GDP to remain higher than the interest rate, it is not reflected in the fiscal deficit.

In 2004, the Government of India and RBI introduced the Market Stabilization Scheme. The Government has raised money through the issue of dated securities/treasury bills in the open market under the scheme. The amount raised was deposited in a separate account with the RBI. The expenditure was not spent the meet the expenditure of the government. During 2008-09 and 2009-10, a sharp increase in the fiscal deficit in the country. There is a marginal decline in the ratio of outstanding debt to GDP is in these years. Among the components of outstanding debt, there is an increase in the share of internal debt.

During 2008, there was a global financial crisis. The union government has increased net market borrowings sharply from Rs. 1, 31,768 crores in 2007-08 to Rs. 2, 61,972 crores in 2008-09 In addition Rs. 3, 97,957 crores in 2009-10. In February 2009, the Memorandum of Understanding signed with the RBI was amended. The MSS account to be transferred to the Consolidated Fund of India. The amount of Rs. 12,000 crores weretransferred from the MSS account to the Consolidated Fund of the centre in March 2009 (Status Paper of Public Debt, 2015).

Table 1: Percentage of Currency Composition of External Debt to Total Debt

Currency	*2013-14*	*2014-15*	*2015-16*	*2016-17*	*2017-18*	*2018-19*	*2019-20*	*2020-21*
SDR	39.2	37.8	37.1	34.8	33.7	30.4	27.1	23.2
Us dollar	34.3	37.4	36.7	37.2	36.1	38.8	41.2	46.9
Yen	21.3	20.5	22.2	23.9	25.3	25.8	26.5	24
Euro	5.0	4.0	3.9	4.0	4.8	4.8	5.1	5.9
others	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1

Source: Aid, Accounts and Audit Division, Ministry of Finance, Government of India, New Delhi.

The percentage of currency composition of external debt in the world was presented in Table 1. Out of various currencies, special drawing rights (SDR) have been decided from 39.2 percent in 2013-14 to 23.2 percent in 2020-21. The second highest external debt is US Dollar uses of that. The composition of external debt has increased from 34.3 percent in 2013-14 to 47 percent in

Table 2: Central Government Major Debt Indicators (Percent of GDP)

Year	*Public debt*	*Internal debt*	*External Debt*	*Other Liabilities*	*Total Liabilities*
1990-91	32.57	27.04	5.53	22.65	55.22
1995-96	30.13	25.83	4.30	20.73	50.87
2000-01	41.37	38.23	3.14	14.22	55.58
2005-06	41.37	38.75	2.63	21.64	63.01
2006-07	39.90	37.42	2.49	21.58	61.48
2007-08	40.66	38.29	2.37	19.41	60.07
2008-09	40.14	37.85	2.29	18.79	58.93
2014-15	87.00	80.80	6.20	13.00	47.10
2015-16	87.50	81.30	6.20	12.50	47.40
2016-17	87.60	81.80	5.80	12.20	45.60
2017-18	87.90	82.20	5.70	11.70	45.60
2018-19	87.40	81.90	5.50	11.50	45.70
2019-20	85.70	80.30	5.40	13.70	49.10
2020-21	90.90	84.70	5.30	10.90	59.20

Source: RBI Hand Book of Statistics on Indian Economy (2022) GDP means GDP at market price.

Total liabilities comprise (i) public debt (ii) other liabilities, Public debt comprising External debt and internal liabilities debt, other liabilities include (i) National Small Saving Funds (ii) State Provident Fund (iii) Other accounts such as special deposits (iv) Reserve funds.

2021-21. The percentage share of external debt to total debt in the world has been measured at 1 percent. Out of various external debt shame in the world, half-portion of external debt is dominatedby the US Dollar. The majority of the world trade conversion of money in terms of dollars are predominately used by different developed and developing countries.

The percentage share of debt to GDP ratio by the central government from 1990 to 2022 has presented in Table. 2. Out theof various debts of the central government in India, public debt is one of the topborrowings from various resources. The public debt to GDP ratio has increased from 32.57 percent in 1990-91 to 91.10 percent in 202-21. It noted that the three times increase during three decades. The internal debt to GDP ratio is the second highest borrowed from internal sources of the country. The internal debt to GDP ratio has increased from 27 percent to 85 percent in the same period. It implies that the majority of internal borrowers are LIC, SBI, Other nationalized banks, NABARD, RBI, and other state governments in India. The external debt to GDP ratio is a meagre percentage in three decades. It is more or less stagnant in the economic system. The total liabilities to GDP ratio have increased a little from 55.22 percent to 59.20 percent during the same period. It is increased to 7 percent.

Table 3: Debt on the Indian Government during 2011-12 to 2020-21

Year	*Amount (in crore)*	*As a percentage of GDP*
2011-12	5917279	67.7
2012-13	6655685	66.9
2013-14	7566773	67.4
2014-15	8334826	66.8
2015-16	9475272	68.8
2016-17	10524777	68.4
2017-18	11702891	68.5
2018-19	12982467	68.7
2019-20	14992765	73.7
2020-21(RE)	17346517	87.8

Source: RBI Hand Book of Statistics on Indian Economy (2022)

The total public debt to GDP ratio in India during 2011-12 to 2021-21 is given in Table 3. The amount of public debt has increased from Rs. 59,17,279 crores in 2011-12 to Rs. 173,46,517 crores in 2020-21. The percentage share of public debt to GDP in India has increased from 68 percent in 2011-12 to 88 percent in 2020-21. Nearly 20 percent of debt has increased over 10 years.

Table 4: Debt Position of the Central Government during 2011-22 to 2020-21 (Rs. in Crore)

Particulars	*2011-12*	*2012-13*	*2013-14*	*2014-15*	*2015-16*	*2016-17*	*2017-18*	*2018-19*	*2019-20*	*2020-21*
A. Public Debt (B+C)	3400710	3941855	4425348	4935805	5515097	5969968	6651365	7344902	8319740	10296852
B. Internal Debt (i+ii+iii)	3230622	3764566	4240767	4738291	5304835	5741710	6401275	7074941	8020490	9908380
(ii) Market Loans										
(a) Dated Securities	2593770	3061127	3514459	3959552	4363602	4714305	5124562	5547299	6021815	7168555
(b) Treasury Bills	364835	418185	425950	435129	485822	491372	536321	543218	458410	896526
Total (a+b)	2958605	3479312	3940409	4394681	4849424	5205677	5660883	6090517	6480225	8065081
(iii) Non-Marketable Loans										
(a) Compensation/ Other Bonds	20208	15326	15117	14930	13935	25108	51209	67285	67285	104267
(b) Sec. issued to Intl. Fin. Inst.	29626	32226	35181	46395	106726	108740	104370	106523	101909	99138
(c) Sec. against small savings	208183	216808	229165	261391	313856	381291	483919	608919	848919	1332652
(d) Special Sec. against POLIF	14000	20894	20894	20894	20894	20894	20894	20894	20894	20894
Total (a+b+c+d)	272017	285254	300358	343610	455411	536033	660391	803620	1039007	1558114
C. External Debt (at Historical rates)	170088	177289	184581	197514	210262	228259	250090	269961	299250	388472
D. Other Liabilities										
(i) National Small Savings Fund	582011	597737	629184	646895	701369	751199	805685	892689	932964	754795.4
(ii) State Provident Fund	122751	133672	143425	155334	167193	184938	200736	216795	228430	246944
(iii) Other Account	277904	257424	315421	315630	319800	321857	324632	326619	433790	446479
(iv) Reserve funds & Deposit (a+b)	133877	139904	156051	188857	198512	208099	252758	302510	304444	333948
(a) Bearing Interest	74413	83871	95479	108767	124240	128981	143908	211436	160862	215480
(b) Not bearing interest	59464	56033	60572	80090	74273	79118	108850	91074	143582	118469
Total (i+ii+iii+iv)	1116542	1128737	1244081	1306716	1386874	1466093	1583811	1738613	1899627	1782167
E. Total Liabilities (A+D)	4517252	5070592	5669428	6242521	6901971	7436061	8235176	9083515	10219367	12079018

Source: RBI Status of Paper Public Debt 2022.

Table 5: Public Account Liabilities of Central Government: 2014-15 to 2020-21 (Rs. in Crore)

Particulars	*2014-15*	*2015-16*	*2016-17*	*2017-18*	*2018-19*	*2019-20*	*2020-21*
A. Public Debt	5104675	5711424	6149818	6846557	7549380	8564884	10523209
% of Net Total Liabilities	87	87.5	87.6	87.9	87.4	85.7	90
B. Public Account - Other Liabilities (a toe)	761717	815825	857442	914568	995771	1370243	1274024
% of Net Total Liabilities	13	12.5	12.2	11.7	11.5	13.7	10.9
(a) National Small Savings Fund	101896	130320	142548	136440	149847	125980	213653
% of Net Total Liabilities	1.7	2	2	1.8	1.7	1.3	1.8
(b) State Provident Fund	155334	167193	184938	200737	216795	228430	246944
% of Net Total Liabilities	2.6	2.6	2.6	2.6	2.5	2.3	2.1
(c) Other Account	315630	319800	321857	324633	326619	433790	446479
% of Net Total Liabilities	5.4	4.9	4.6	4.2	3.8	4.3	3.8
(d) Reserve Funds and Deposit (i+ii)	188857	198512	208099	252758	302510	304444	333948
% of Net Total Liabilities	3.2	3	3	3.2	3.5	3	2.9
(i) Bearing Interest	108767	124240	128981	143908	211436	160862	215480
% of Net Total Liabilities	1.9	1.9	1.8	1.8	2.4	1.6	1.8
(ii) Not bearing interest	80090	74273	79118	108850	91074	143582	118469
% of Net Total Liabilities	1.4	1.1	1.1	1.4	1.1	1.4	1
(e) NSSF Loans Fully serviced by GOI	-	-	-	-	-	277600	3300
% of Net Total Liabilities	-	-	-	-	-	2.8	0.3
C. Extra-Budgetary Resources (EBRs)	-	-	9167	24262	89864	111870	138536
% of Net Total Liabilities	-	-	0.1	0.3	1	1.1	1.2
D. Total Liabilities (A+B+C)	5866392	6527249	7016426	7785387	8635015	10046997	11935768
E. Pakistan Pre-partition debt	0	0	0	0	0	300	300
F. Cash Balance	0	0	0	0	0	55573	237572
Total Net Liabilities (D-E-F)	5866392	6527249	7016426	7785387	8635015	9991124	11697896

Source: RBI Hand Book of Statistics on Indian Economy (2022) *GDP means GDP at market price.

There is an increase in public spending and expanding economic activities in India. On the other hand, tax revenue has been reduced over the years.

The debt position of the central government during 2014-15 to 2020-21 is detailed in Table 4. The total liabilities of the central government have increased from Rs. 62, 42,520 crores in 2014-15 to Rs. 1, 20, 78,718 crores in 2020-21. Public debt has increased from Rs. 5104675 crores in 2014-15 to Rs. 10523209 crores in 2020-21. In terms of percentage, it has increased from 82 percent to 87.12 percent in the same period. The percentage of internal debt has increased from Rs. 4738291 crores in 2014-15 to Rs. 9908380 crores in 2020-21. In terms of percentage, it has increased from 76 percent to 82 percent in the same period.

The amount of external debt has increased from Rs. 366384 crores in 2014-15 to Rs. 614829 crores in 2020-21. In terms of percentage, it has declined from 5.87 percent to 5.01 percent in the same period. In India, the majority of public debt has been borrowed which internal sources from India, particularly from the internal debt like RBI, LIC, NABARD, state governments, public-sector banks, private-sector banks, marketable securities, national small savings, state-provided funds, deposits from the public.

The public accounts liabilities of the union government in India during 2014-15 to 2020-21 are presented in Table 5. The percentage share of public debt to total liabilities has increased from Rs. 51,04,675 croresin 2014-15 to Rs. 105,23,209 crores in 2020-21. In terms of percentage, public debt has increased from 87 percent to 90 percent in the same period. The public account and other liabilities have increased from Rs. 7,61,717 crores to Rs. 12,74,024 crores in the same period, in terms of percentage, it has declined from 13 percent to 11percent in the same period.

The percentage share of general government debt by the union government in India during 2014-15 to 2020-21 is explored in Table 6.The percentage share of general public debt has increased from 87 percent in 2014-15 to 91 percent in 2020-21. Of which, percentage the share of internal debt has declined from 87 percent in 2014-15 to 85 percent in 2020-21. Out of that, marketable securities have declined from 73.5 percent to 67.2 percent in the same period. The percentage share of non-marketable securities has increased from 7.3 percent to 17.5 percent in the same period. The percentage share of external debt has declined from 6.2 percent in 2014-15 to 5.3 percent in 2020-21.

Table 6: General Government Debt in India from 2014-15 to 2020-21 (in Percent)

Components	*2014-15*	*2015-16*	*2016-17*	*2017-18*	*2018-19*	*2019-20*	*2020-21*
A. Public Debt (A1+A2)	87	87.5	87.6	87.9	87.4	85.7	90.9
A1. Internal Debt (a+b)	80.8	81.3	81.8	82.2	81.9	80.3	84.7
a. Marketable Securities (i+ii+iii)	73.5	72.4	72	70.8	69.1	65.7	67.2
(i) Dated Securities	67.5	66.9	67.2	65.8	64.2	60.3	61.3
(ii) Treasury Bills	6	5.6	4.8	4.9	4.9	4.6	5.9
(iii) Cash Management Bills	-	-	-	-	-	0.8	0
b. Non-marketable Securities (i to vi)	7.3	8.8	9.9	11.5	12.8	14.6	17.5
(i) 14 Day Intermediate T-Bills	1.5	1.9	2.2	1.9	1.4	1.6	1.8
(ii) Compensation & Other Bonds	0.3	0.2	0.4	0.7	0.7	0.7	0.9
(iii) Securities issued to Intl. Fin. Institutions	0.8	1.6	1.5	1.3	1.2	1	0.8
(iv) Securities against small savings	4.5	4.8	5.4	6.2	7.1	8.5	11.4
(v) Special Sec. against POLIF	0.4	0.3	0.3	0.3	0.2	0.2	0.2
(vi) Special Securities issued to PSB/ EXIM Bank/ IDBI Bank/	0	0	0	1	2.2	2.7	2.4
A2. External Debt	6.2	6.2	5.8	5.7	5.5	5.4	5.3
B. Public Account - Other Liabilities	13	12.5	12.2	11.7	11.5	13.7	10.9
C. Extra-Budgetary Resources (EBRs)	-	-	0.1	0.3	1	1.1	1.2
D. Total Liabilities (A+B+C)	100	100	100	100	100	100.6	102
E. Pakistan Pre-partition debt#	0	0	0	0	0	0	0
F. Cash Balance#	0	0	0	0	0	0.6	2
Total Net Liabilities (D-E-F)#	100	100	100	100	100	100	100
E. Total Net Liabilities as % of GDP	47.1	47.4	45.6	45.6	45.7	49.1	59.2

Source: Status Paper of Public Debt, RBI, Various Years Publication, 2022, Mumbai and Union Budget and Finance Accounts (Various Issues)

Table 7: Outstanding Marketable Dated Securities in India: 2014-15 to 2020-21 (in Crore)

Components	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
(i) Issued through Borrowings	3870925	4277975	4628678	5049935	5479332	5965318	7114335
(ii) Conversion of Special Securities issued in lieu of ad-hoc T-Bills into marketablesecurities	67818	64818	64818	53818	47688	35688	33411
(iii) Conversion of recapitalization bonds issued to Nationalized Banks intomarketable securities	20809	20809	20809	20809	20809	20809	20809
Total Dated Securities(i to iii)	3959552	4363602	4714305	5124562	5547829	6021815	7168555
Percentage of Public Debt	77.6	76.4	76.7	74.8	73.5	70.3	68.1
Percentage of Net Total Liabilities	67.5	66.9	67.2	65.8	64.2	60.3	61.3
Percentage of GDP	31.8	31.7	30.6	30	29.4	29.6	36.3

Source: Status Paper of Public Debt, RBI, Various Years Publication, 2022, Mumbai and Union Budget and Finance Accounts (Various Issues)

The outstanding marketable dated securities in India during 2014-15 to 2021-22 are presented in Table7. Various outstanding marketable dated securities issued through borrowings are the top borrowing in India. The amount increased from Rs. 870925 crores in 2014-15 to Rs. 7114335 crores in 2020-21. In percentages, the debt to GDP ratio declined from 77.6m77.6 percent in 2014-15 to 68.1 percent in 2020-21. The second highest outstanding marketable securities T-bills into marketable securities. In terms of amount, has declined from Rs. 67818 crores in 2014-15 to Rs.33411 crores in 2020-21.

Table 8: Short-term Debt of Central Government in India: 2010-11 to 2020-21

Year	*Amount (₹ crore)*	*Percent of General Government Public Debt*	*Percent of GDP*
2010-11	278401	6.8	3.6
2011-12	428562	8.9	4.9
2012-13	462165	8.5	4.6
2013-14	542301	8.8	4.8
2014-15	575018	8.3	4.6
2015-16	628899	8.0	4.6
2016-17	627249	7.1	4.1
2017-18	729453	7.5	4.3
2018-19	860401	8.0	4.6
2019-20	941855	7.7	4.6
2020-21	1259881	8.5	6.4

Source: Status Paper of Public Debt, RBI, Various Years Publication, 2022, Mumbai and Union Budget and Finance Accounts (Various Issues)

The short-term debt of the union government during 2010-11 to 2020-21 is given in Table 8. The amount of short-term debt by the union government has increased from Rs. 278,401 crores in 2011-12 to Rs. 1,259,881 crores in 2020-21. It is increased to six times sometimes. In terms of percent, the general government public debt has increased from 6.8 percent to 8.5 percent in the same period. The short-term debt to GDP ratio of the union government has been 3.6 percent to 6.4 percent during 10 years. Nearly, it is increased to 2.8 percent. It implies that the short-term bills, treasurer bills, 184 days' bills and 364 days' bills are incurred in the short-term debt. Short-term cash requirements of the central government are met through the issuance of T-bill. The net short-term market borrowings of the government through T-bill (91, 182 and 364 days).

The floating rate debt of central government during 2010-11 to 2020-21 is given in Table 9. The percentage share of total floating rate; percentage of public debt has increased from 3.8 percent in 2010-11 to 5.6 percent in 2020-21. The percentage in the internal floating rate of public debt has increased from 1.5 percent to 3.2 percent in the same period. The percentage of external floating rates of public debt has stagnant at 2.4 percent during 10 years' periods.

Table 9: Floating Rate Debt of Central Government in India: 2010-11 to 2020-21 (in Percent)

Year	*Internal Floating Rate Debt*		*External Floating Rate Debt*		*Total Floating Rate Debt*	
	Percent of Public Debt	*Percent of GDP*	*Percent of Public Debt*	*Percent of GDP*	*Percent of Public Debt*	*Percent of GDP*
2010-11	1.5	0.6	2.4	0.9	3.8	1.5
2011-12	1.4	0.6	2.4	1.0	3.7	1.5
2012-13	1.1	0.4	2.3	0.9	3.3	1.4
2013-14	1.0	0.4	2.3	0.9	3.3	1.3
2014-15	0.8	0.3	2.3	0.9	3.1	1.3
2015-16	0.4	0.2	2.2	0.9	2.6	1.1
2016-17	1.0	0.4	2.1	0.9	3.1	1.3
2017-18	1.8	0.7	2	0.8	3.8	1.5
2018-19	2.3	0.9	2.1	0.8	4.4	1.8
2019-20	2.8	1.2	1.2	0.5	4	1.7
2020-21	3.2	1.7	2.4	1.3	5.6	3.0

Source: Reserve Bank of India and Aid Accounts and Audit Division, DEA, Ministry of Finance

The financing of the gross fiscal deficit in India during 2015-16 to 2021-22 is given in Table 10. Out of that, market borrowing dated securities has increased from Rs. 404,050 crores in 2015-16 to Rs. 775,772 crores in 2021-22. In terms of percentage, the share has declined from 76 percent to 49 percent in the same period. The second highest financing small savings. Itincreased ten told size from Rs. 52,465 crores in 2015-16 to Rs. 591,524 crores in 2021-22. In terms of percentage, theshare has increased from 10 percent to 37.2 percent in the same period. The third highest borrowing short-term borrowing, it increased from Rs. 50,693 crores to Rs: 100,000 crores in the same period. In terms of percentage, the share has increased from 9.5 percent in 2015-16 to 11.2 percent in 2021-22. It declined to 6.3 percent in 2021-22. The total fiscal deficit of the central government has increased from Rs. 532,792 crores in 2015-16 to Rs. 1,591,089 crores in 2021-21. The percentage share of fiscal

Table 10: Financing of Gross Fiscal Deficit in India: 2015-16to 2021-22

Components	*2015-16*	*2016-17*	*2017-18*	*2018-19*	*2019-20*	*2020-21*	*2021-22 RE*
1. Market Borrowings (Net)/	404050	349657	410256	423266	473986	1036532	775772
2. External Assistance (Net)	12748	17996	7931	5519	8682	70180	19746
3. Small Savings (Net)	52465	67435	102628	125000	240000	483733	591524
4. Short Term Borrowings	50693	5550	44949	6897	150103	203205	100000
5. State Provident Funds (Net)	11858	17745	15799	16059	11635	18514	20000
Draw down (+)/to Cash Balance (-)	13170	-8895	4092	1321	4970	-7188	174187
7. Other Receipts	-12202	86130	5407	73997	44273	13315	-90140
8. Fiscal Deficit	532792	535618	591064	649418	933651	1818291	1591089
9. Fiscal Deficit as % age of GDP	3.9	3.5	3.5	3.4	4.6	9.2	6.9
Per Cent of GFD							
1. Market Borrowings (Net)/ Dated Securities	75.8	65.3	69.4	65.2	50.8	57	48.8
2. External Assistance (Net)	2.4	3.4	1.3	0.8	0.9	3.9	1.2
3. Small Savings (Net)	9.8	12.6	17.4	19.2	25.7	26.6	37.2
4. Short Term Borrowings	9.5	1	7.6	1.1	16.1	11.2	6.3
5. State Provident Funds (Net)	2.2	3.3	2.7	2.5	1.2	1	1.3
6. Draw down (+)/ Additionto Cash Balance (-)	2.5	-1.7	0.7	0.2	0.5	-0.4	10.9
7. Other Receipts	-2.3	16.1	0.9	11.4	4.7	0.7	-5.7
8. Fiscal Deficit	100	100	100	100	100	100	100

Source: Status Paper of Public Debt, RBI, Various Years Publication, 2022, Mumbai and Union Budget and Finance Accounts (Various Issues)

deficit to GDP has increased from 3.9 percent in 2015-16 to 6.9 percent in 2021-22. The fiscal deficit has increased to 3 percent over the six years, Union government has implemented FRBM Act 2003, for the reduction of the fiscal deficit in India.

The financing needs of governments have been rising as countries strive to bring COVID-19 under control leading to governments' debt reaching record-high levels, globally. Larger recourse to market borrowing was the common trend across countries. While the cost of borrowings declined in general, reflecting the impact of the quantitative easing stance of the central banks and the low policy interest rates, a significant increase in risk aversion and resultant preference for government securities (G-sec) led to a larger demand for these securities since 2020-21. In line with the global trend, the Government of India (GOI) also responded to the pandemic challenges and increased government expenditure on the health and social sector. At the same time, revenue receipts declined due to the cliff effects of the pandemic on economic activity. Consequently, THE fiscal deficit widened necessitating an increase in the size of the borrow program significantly during 2020-21 and 2021-22 to render countercyclical fiscal policy support and provide targeted support to segments deeply hit by the pandemic.

Although government borrowings contracted during 2021-22 as compared to the previous year, they remained high as compared to the pre-COVID year, i.e., 2019-20. Unwinding of accommodative monetary policy by major central banks, rise in crude oil prices and inflationary expectations led to some pressure on medium to long-term yield during 2021-22. The Reserve Bank had to continuously review and adapt its debt management strategy, in view of the pressure on yield from elevated inflation and expectations of gradual withdrawal of excess liquidity, while striving to ensure that the higher market borrowing by government is conducted in a non-disruptive manner.

Budgeted and actual market borrowing by the central government during 2000-01 to 2020-21 is given in Table 11. The actual gross market borrowing has increased from Rs. 100,206 crores in 2000-01 to Rs. 1,360,116 crores in 2020-21. The actual gross market borrowing has increased 12 times over a 20-year period. The main reason public spending on different sectors has increased. The union government has borrowed funds from the market like open, market, securities, 182 days'insurance bills, market loans, and others. The budget market net borrowing has increased from Rs. 81,268 crores in 2000-01 to Rs. 510,870 crores in 2020-21 but the actual net market borrowing

Table11: Budgeted & Actual Market Borrowings by Central Government (Amount in Crore)

Year	*Gross Market borrowings*		*Net Market borrowings*	
	Budgeted	*Actual*	*Budgeted*	*Actual*
2000-01	108746	100206	81268	72931
2001-02	99352	114213	72853	87724
2002-03	123279	125000	95859	97588
2003-04	139887	135934	107194	88860
2004-05	149817	80350	115501	46031
2005-06	156467	131000	100836	75374
2006-07	152857	146000	113778	110446
2007-08	155455	168101	109579	122768
2008-09	145146	273000	100571	229130
2009-10	451093	451000	397957	398424
2010-11	457143	437000	345010	325414
2011-12	417128	509796	343000	436211
2012-13	569616	558000	479000	467356
2013-14	579009	557000	484000	453550
2014-15	600000	592000	461205	445138
2015-16	600000	585000	456405	404050
2016-17	600000	582000	425181	349657
2017-18	580000	588000	423226	410256
2018-19	605000	571000	462021	423266
2019-20	710000	710000	473122	473986
2020-21	780000	1260116	510870	1146740

Source: Status Paper of Public Debt, RBI, Various Years Publication, 2022, Mumbai and Union Budget and Finance Accounts (Various Issues)

has increased from Rs. 72,931 crores to Rs. 1,146,740 crores to 15 times due to borrowing from the open market in India.

Notwithstanding the impact of the second wave of the COVID-19 pandemic on the state government finances, the gross and net market borrowings of states were lower than the previous year. The gross market borrowings of states in 2021-22 stood at 78 percent of the amount indicated in the quarterly indicative calendar for market borrowings by the state governments.

Table 12: Outstanding Central Government Debt - Other Liabilities (Amount in Crore)

Years	*Small Savings/ National Small Savings Fund*	*State Provident Funds*	*Special Sec. Issued to OMCs, FCI*	*Special deposits of Non-Govt. Provident Fund*	*Other Items*	*Total (4+5+6*	*Bearing interest*
1990-91	52899	8871	0	33588	11749	45336	1887
1995-96	103611	17786	0	65712	26297	92009	4452
2000-01	66633	41721	385	103866	39769	144020	1756
2005-06	414552	66262	26611	118257	60609	205477	12649
2010-11	568614	111947	182123	108260	58778	349161	473
2011-12	582011	122751	172091	102636	58877	333604	2392
2012-13	597737	133672	166329	102171	58400	326901	5283
2013-14	629184	143425	166328	102662	46431	315421	8226
2014-15	646895	155334	162828	103597	49205	315630	9872
2015-16	701369	167193	162828	103597	53375	319800	13842
2016-17	751199	184938	162828	102928	56101	321857	6668
2017-18	805685	200737	162828	102671	59134	324633	8328
2018-19	892689	216795	162828	102014	61777	326619	13006
2019-20	932964	228430	162828	101466	169496	433790	-13792
2020-21	754795	246944	162828	100702	182950	446479	17004

Source: Status Paper of Public Debt, RBI, Various Years Publication, 2022, Mumbai and Union Budget and Finance Accounts (Various Issues)

The outstanding central government-debt- other liabilities during 1990-91 to 2020-21 are presented in Table 12. The total outstanding liabilities of the central government has been increased from Rs. 45,336 crores in 1990 - 91 to Rs. 444,479 crores in 2020-21. The total outstanding liabilities are increased to 10 times over 30 years. It is a burden to the central government. It would repay within a certain period.

Out of that, small savings, national small savings found has increased from Rs. 52,895 crores in 1990-91 to Rs. 754,795 crores in 2020-21. The small saving is increased to 14 times. Saving habits have increased among the public in India. The majority in India have saving habits increased.

The second highest component is state provided found. The actual state provided found has increased from Rs. 8,871 crores in 1990-91 to RS 2,46,944 crore in 2020-21. The SPFhas increased to 28 times the different state government have collated found in terms of SPF during 30 years. The provident fund would be repayable after certain periods, this burden also increased among different states in India.

The recommendation of the 14th Finance Commission (FC) to exclude states from the National Small Savings Fund (NSSF) financing facility (barring Delhi, Madhya Pradesh, Kerala and Arunachal Pradesh), market borrowings of states have been increasing over the last few years. The share of market borrowings in financing GFD of states consequently rose to 85.1 percent in 2021- 22 (BE) from 77.8 percent in 2020-21 (RE).

The outstanding central government debt during 2000-01 to 2020-21 is presented in Table 13. Out of various outstanding central government debts, the securities small saving fund is the top debt in India. The amount has increased from Rs. 193,516 crores in 2000-01 to Rs. 1,332,652 crores in 2020-21. The securities small saving fund is increased to six times during 20 years. The second highest outstanding is market loans; the total market loans have increased from Rs. 466,562 crores in 2000-01 to Rs. 7,859,505 crores in 20200-21. The total market loan is increased 17 times. The market loans are increased due to open market operation, primary to the secondary market, T-bill in India. The market loans have been increased due to economic activities. Of that market loans the dated securities are the highest outstanding in India. The dated securities have increased from Rs. 4, 48,390 crores in 2000-01 to Rs. 71, 68,555 crores in 2020-21. It is increased to 16 times bold. This security has outstanding in the primary and secondary markets in India.

Table 13: Outstanding Central Government Debt - Public Debt (Amount in Crore)

Year	*Dated Securities*	*91-Day Treasury Bills*	*182-Day Treasury Bills*	*364-Day Treasury Bills*	*Market Loans (2+3+4+5)*	*14 Days Treasury Bills*	*Compensation and Other Bonds*	*Other Special Securities to International Financial Institutions*	*Securities Small Savings Fund*
2000-01	448390	1876	2800	13496	466562	4048	7278	22598	193516
2005-06	976717	16364	9689	44159	1046929	39340	72761	25152	203618
2010-11	2156915	70391	22001	42478	2291783	103100	31005	29315	218485
2014-15	3959552	128961	77337	143152	4309003	85678	13440	46395	261391
2015-16	4363602	132855	77807	154033	4728297	121127	12446	106726	313856
2016-17	4714305	106840	85436	142526	5049107	156570	25108	108740	381291
2017-18	5124562	138726	86872	159685	5509845	151038	51209	104370	483919
2018-19	5547811	92183	119802	208896	5968692	122336	57059	106523	608919
2019-20	6021815	82583	158157	217670	6480225	154911	67285	101909	848919
2020-21	7168555	93297	139414	458240	7859505	205576	104267	99138	1332652

Source: Status Paper of Public Debt, RBI, Various Years Publication, 2022, Mumbai and Union Budget and Finance Accounts (Various Issues).

SUMMARY AND CONCLUSIONS

The public debt to GDP ratio has increased from 32.57 percent in 1990-91 to 91.10 percent in 202-21. It noted that the three times increase during three decades. The internal debt to GDP ratio is the second highest borrowed from internal sources of the country. The internal debt to GDP ratio has increased from 27 percent to 85 percent in the same period. It implies that the majority of internal borrowers are LIC, SBI, Other nationalized banks, NABARD, RBI and other state governments in India. The external debt to GDP ratio is meagre percentage in three decades. It is more or less stagnant in the economic system. The total liabilities to GDP ratio have been increased little from 55.22 percent to 59.20 percent during the same period. It is increased to 7 percent.

The amount of public debt has increased from Rs. 5,917,279 crores in 2011-12 to Rs. 17,346,517 crores in 2020-21. The percentage share of public debt to GDP in India has increased from 68 percent in 2011-12 to 88 percent in 2020-21. Nearly 20 percent of debt has increased over 10 years. There is an increase in public spending and expanding economic activities in India. On the other hand, tax revenue has been reduced over the years.

The total liabilities of central government have increased from Rs. 62, 42,520 crores in 2014-15 to Rs. 1, 20, 78,718 crores in 2020-21. Public debt has increased from 82 percent to 87.12 percent in the same period. The percentage of internal debt has increased from 76 percent to 82 percent in the same period. The amount of external debt has declined from 5.87 percent to 5.01 percent in the same period.

In India, the majority of public debt has borrowed which internal sources from India, particularly from the internal debt like RBI, LIC, NABARD, state governments, public-sector banks, private-sector banks, marketable securities, national small savings, state provided fund, deposits from public.

The internal debt has increased from Rs. 3,230,622 crores to Rs. 9,908,380 crores in the same period. The amount of external debt has increased from Rs. 170,088 crores in 2011-12 to Rs. 388,472 crores in 2020-21. The number of other liabilities have declined from Rs. 1,116,542 crores to Rs. 1,782,167 crores in the same period. It implies that the national small saving fund, state provident fund, other major used.

The percentage of public debt to GDP ratio are declined form 77.6 percent in 2014-15 to 68.1 percent in 2020-21. The second highest outstanding marketable securities T-bills into marketable securities. In terms of amount, it has declined from Rs. 67,818 crores in 2014-15 to Rs. 33,411 crores in 2020-21.

The percentage share of total floating rate; percentage of public debt has increased from 3.8 percent in 2010-11 to 5.6 percent in 2020-21. The percentage ofinternal floating rate of public debt has increased from 1.5 percent to 3.2 percent in the same period. The percentage of external floating rates of public debt has stagnant at 2.4 percent for 10 years' periods.

The short-term debt to GDP ratio of the union government has been 3.6 percent to 6.4 percent over 10 years. Nearly, it is increased to 2.8 percent. It implies that the short-term bills, treasurer bills, 184 days' bills and 364 days' bills are incurred in the short-term debt.

Market borrowing dated securities has declined from 76 percent to 49 percent during 2004-15 to 2020-21. The second highest financing small savings. In terms of percentage, the share has increased from 10 percent to 37.2 percent. The third highest borrowing short-term borrowing has increased from 9.5 percent in 2015-16 to 11.2 percent in 2021-22. The total fiscal deficit to GDP of the central government has increased from 3.9 percent in 2015-16 to 6.9 percent in 2021-22. The fiscal deficit has increased to 3 percent over the six years, Union government has been implemented FRBM Act 2003, for reduction of the fiscal deficit in India.

The actual gross market borrowing has increased from Rs. 100,206 crores in 2000-01 to Rs. 1,360,116 crores in 2020-21. The actual gross market borrowing has increased 12 times over the 20-year. The main reason public spending on different sectors have been increased. The union government have borrowing funds from the market like open, market, securities, 182 days insure bills, market loans, others.

The total outstanding liabilities of the central government have increased from Rs. 45,336 crores in 1990 - 91 to Rs. 444,479 crores in 2020-21. The total outstanding liabilities are increased to 10 times over 30 years. It is burden to the central government. It would repay within certain period of time. Out of that, small savings, national small savings increased from Rs. 52,895 crores in 1990-91 to Rs. 754,795 crores in 2020-21. The small saving is increased to 14 times. The saving habits have increased among the public in India. The majority in India have saving habits increased. The securities small saving fund is the top most debt in India. The amount has increased from Rs. 193,516 crores in 2000-01 to Rs. 1,332,652 crores in 2020-21. The securities small saving fund is increased to six times during 20 years.

The second highest outstanding is market loans; the total market loans have been increased from Rs. 466,562 crores in 2000-01 to Rs. 7,859,505 crores in 20200-21. The total market loan is increased 17 times. The market loans are increased due to open market operation, primary to the secondary market, T-bills in India. The market loans have increased due to economic activities. The dated securities have increased from Rs. 4, 48,390 crores in 2000-01 to Rs. 71, 68,555 crores in 2020-21. It is increased to16 times bold. This security has outstanding in the primary and secondary markets in India.

References

Ahlborn, Markus; Schweickert, Rainer (2018). Public Debt and Economic Growth: Economic Systems Matter, *International Economics and Economic Policy*, ISSN 1612-4812, Springer, Heidelberg, Berlin, Vol. 15, Issue. 2.

Alfred Greiner Economic Growth (2022). Public Debt and Welfare: Comparing Three Budgetary Rules, *German Economic Review* 12(2): 205-222

Aylin Soydan and Serap Bedir (2015). External Debt and Economic Growth: New Evidence for an Old Debate,

Balazs Egert (2015). Public Debt, Economic Growth and Nonlinear Effects: Myth or Reality? J*ournal of Macroeconomics*, Volume 43, March, Pages 226-238

Bhanu Pratap Singh (2022). Public Debt and Economic Growth in India: The New Evidence,

Debai Prasad Bal (2014). Public Debt and Economic Growth in India: A Reassessment, *Economic Analysis and Policy,*Volume 44, Issue 3, August 2014, Pages 292-300

Gandhi R. (2015). Sovereign Debt Management in India: Interaction with Monetary Policy, *Reserve Bank of India BIS Papers No 67*

Grace Wanjiku Mwaniki (2016). Effect of Public Debt on the Gross Domestic Product in Kenya, *Journal of Economics and Finance (IOSR-JEF) e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 7, Issue 6 Ver. I (Nov. - Dec. 2016).*

Holtfrerich, Carl-Ludwig (2013). Government Debt in Economic Thought, Working Paper.

Jack Salmon (2021). The Impact of Public Debt on Economic Growth.

Jothi Sivagnanam. K and Murugan K. (2013). Government Spending and Agricultural Development in Indian Major States, *Agricultural Situation in India, No: 1, Volume: LXX,* April 2013.

Jothi Sivagnanam. K and Murugan K (2013). Public Expenditure and Economic Development in Indian States, *Ph. D Thesis, Dept. of Economics, University of Madras,* Chennai-05.

Jothi Sivagnanam. K and Murugan K (2016). Impact of Public Investment on Agriculture Sector in India, *Journal of Economic and Social Development, Volume: XII, No. 2,* December 2016.

Jothi Sivagnanam. K and Murugan K (2019). Public Expenditure and Economic Development of Indian States: A Panel Data Analysis, *Journal of Economic Policy & Research*, April-September 2019, Vol.14 No. 2.

Jothi Sivgnanam, K (2006). New Approach to Planning in Tamil Nadu: Targeting the Growth Process, *The Hindu, Business, Line*, December, 29, Chennai.

Kandela Ramesh (2019). Bad Loans of Public Sector Banks in India: A Panel Data Study, Macro-Economy? A Structural VAR Approach, *NFPFP, Working Paper No. 245*, New Delhi.

Manoj Kumar Agarwal and Samia Ansari (2022). Impact of Public Debt on the Economic Growth of Subnational Economies in India, A Case of Uttar Pradesh, *Economic and Political Weekly*, May 2022.

Mickael Melki (2012). The Direct and Indirect Interactions between Ideology and Economic Growth, *Five Essays Applied to the French Case, 1870-2011, Ph. D Thesis.*

Misztal, P (2010). Public Debt and Economic Growth in the European Union, *Journal of Applied Economic Sciences* 3(13).

Murugan, K. (2013). Public Expenditure and Economic Development inIndian States, Ph. D Thesis, *Department of Economics, University of Madras.*

Ministry of Finance, Government of India, (2010 to 2022). Status Paper of Government Public Debt, New Delhi.

Naeem Akram (2021). Impact of Public Debt on the Economic Growth of Pakistan.

Ranjan Kumar Mohanty and Sidheswar Panda (2019). How Does Public Debt Affect the Indian Macro-Economy? A Structural VAR Approach, *NFPFP, Working Paper No. 245*, New Delhi.

Reinhart, Carmen, and Rogoff, (2010). Debt and Growth Revisited,Department of EconomicsKenneth University of Maryland, Working Papers (2010).

RBI Budget Documents of the State Governments, Various Years 2010 to 2022, Mumbai.

Public Debt Management, Quarterly Report, Various Quarters, Ministry of Finance Budget Division Department of Economic Affairs, Government of India, December 2020.

Sam Kris Hilton (2021). Ghana Public Debt and Economic Growth: Contemporary Evidence from a Developing Economy.

Ugo Panizza Andrea F. Presbitero (2012). Public Debt and Economic Growth: Is There a Causal Effect.

Ushanthiny, S. Sivarajasingham and T. Vinayagathasan (2018). Dynamic Linkages between Public Debt and Economic Growth: An Empirical Analysis of Sri Lanka, *Department of Economics and Statistics, University of Peradeniya, Sri Lanka.*

Valickova, P., Havranek, T. and Horvath, R. (2015). Financial Development and Economic Growth: A Meta-Analysis, *Journal of Economic Surveys*, Vol. 29 No. 3.

Veronika Sulikova (2015). Impact of Public Debt on Economic Growth in Selected European Union Countries, Working Paper.

Victor Owusu-Nantwi and Christopher Erickson (2016). Public Debt and Economic Growth in Ghana, *Journal of Economics and Finance.*