Who lends to the Indian state?

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Abstract

Much of Indian public finance research has focused on the level of debt and deficits. In this paper, we examine the structure of lenders to the Indian state. To what extent is this lending coerced? Is the present debt management strategy consistent with the objectives of low cost borrowing for the government in the long run, while preserving efficiency in the economy, and retaining the optionality of surging borrowing when faced with rare events? We find 5% of the lending to the Indian state comes from voluntary sources. While financial repression for banks eased *de jure* with a decline in the SLR from 33% in 1988 to 18% in 2021, lending to the state beyond regulatory requirements was Rs.30 trillion in 2021. Alongside this, the growth of the pension and insurance industries created new pools of assets where financial repression generated bountiful lending to the government. These facts help re-examine debt management strategy in India.

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Contents

1 Introduction

In the class of emerging markets, India is unusual in that it has near zero overseas borrowing from commercial sources. While there is a great deal of public finance research in India, it has emphasised the analysis of the levels of debt and deficit, questions of debt sustainability and the rules that would yield prudence. In this paper, we shift the perspective away from the magnitudes of deficit or debt, to analyse from whom the Indian state borrows. This falls within the field of debt management strategy.

Debt management strategy has three objectives:

1. The mechanism for borrowing must not induce economic distortions upon the domestic economy.
2. It must create strategic depth of being able to borrow on a very large scale when faced with grand challenges once every few decades.
3. It must induce sustainable mechanisms for reasonably low cost borrowing, at reasonably predictable rates, for the long term.

The ability to surge the borrowing is connected with financial repression. Borrowing can be surged when there is a sufficiently diversified pool of voluntary lenders, who have a long experience of having been treated fairly, who will respond with high elasticity to small changes in the price. This is not the supply response that is forthcoming when the state borrows from coerced lenders, which include regulated financial firms that are mandated to invest a fraction of their assets under management through instruments of micro-prudential regulation. As an example, economies such as the US and the UK were able to surge their debt/GDP ratio during the pandemic crisis, from 85.5 and 108.8 per cent to GDP in 2019, to 105.6 and 133.5 per cent of GDP in 2020. In India, the comparable values were 76 and 88.8 per cent of GDP.

Financial repression imposes distortions upon the economy as it is an implicit tax and an inefficient one at that. In a sound public finance system, tax revenues should emanate from efficient taxes such as the personal income tax, the value added tax and the property tax, and not narrow taxes upon any one sector.

In order to obtain insights on the prevailing debt management strategy in India, we examine the composition of lenders to the Indian government over the recent decade. We explore the role of coercion in obtaining the observed

resources. There was a significant expansion of government borrowing from 2011 to 2021. We ask what classes of lenders delivered these enhanced resources. In the conventional discourse, it is felt that financial repression in India has been receding, particularly with the 'statutory liquidity ratio' for banks having declined from 33% in 1988 to 18% in 2021. We examine how the increased borrowing was achieved alongside declining financial repression.

The first finding is that there has been a significant rise in lending to the government from insurance firms, pension funds and provident funds. This is unlike the past, when the banking system was the dominant source of lending to the government. For these newly important categories of firms, there was a pre-existing structure of financial repression rules that demanded a high fraction of these assets to go into government bonds. Over the decade from 2011 to 2021, the assets under management in these groups expanded enormously, thus providing fresh resources to the state under the old regulatory requirements. We find that insurance, pensions and provident funds added up to around 25 percent of total lending to the Indian state in 2011, which rose to 38 percent in 2021. In comparison, we find that scheduled commercial banks were at 54 percent in 2011, and dropped to 36 percent in 2021.

Our analysis shows that many financial firms (most notably banks) lent to the government over and beyond the minimum required levels. We estimate that such 'excessive' investments went up from about Rs.1 trillion in 2011 to about Rs.30 trillion in 2021. Just 5% of the lending to the Indian state came from voluntary persons.

Improvements in debt management constitute an important frontier in the maturation of Indian economic institutions. This debate has been dominated so far by the question of the establishment of an independent debt management organisation (the proposed 'public debt management agency') and obtaining a separation for monetary policy (which should pursue an inflation target) from debt management (which must pursue low cost borrowing in the long run, while achieving economic efficiency for the economy and achieving strategic depth for the government). This paper diverges from this main institutional research tradition and embarks on the facts and reasoning that would help in the normative economics of establishing the debt management strategy.

The remainder of this paper is structured as follows. Section 2 introduces the need for developing strategic depth in government borrowing for India. Section 3 lays out the basic facts about borrowings by the Indian state, including the size, maturity and price of borrowings. In Section 4, we lay out the profile of lenders and changes in their lending pattern. We highlight the

nature of this lending whether mandatory or voluntary by the main lenders in Section 5. Section 6 presents a discussion of how the findings in the paper helps to develop a strategic perspective for government borrowing. Section 7 concludes.

2 How governments borrow

All governments require a strategy for borrowing. In this section, we summarise the possibilities, and help pose questions for the field of Indian debt management.

2.1 Monetising the deficit

One extreme strategy that a government can use is to monetise the deficit. When the government needs to sell bonds, the central bank creates money, uses it to buy the freshly issued bonds (which can be done at low interest rates as such a central bank is deferential to the government), and places these on the asset side of the monetary balance sheet.

This leads to increased inflation (Sargent and Wallace, 1981) and reduction in the real value of currency paving the way for currency crisis (Krugman, 1979). Monetisation of deficits tends to go with low central bank independence, 'fiscal dominance' in macroeconomic policy, and ultimately macroeconomic instability (English et al., 2017; Agur et al., 2022; Ramachandran, 2000). In the short term, policy makers feel such borrowing is a "free lunch", which encourages deprioritising structural, monetary and fiscal reforms (Dowd and Hutchinson, 2017).

In advanced economies, monetisation of deficits retreated after the second world war (Lawson and Felderg, 2020; Garbade, 2014). It is seen more in developing economies (Celasun, 1999; Akat, 2000; Koech, 2011). A recent extreme case is Zimbabwe's experience of 2018-19 (IMF, 2022). In India, direct monetisation of deficits subsided after the 'Ways and Means Agreement', a contract signed between the Ministry of Finance and the RBI in 1993.

The massive expansion of the central bank balance sheet in the post-2008 period, which coincided in some countries and years with large fiscal deficits, created conditions that were analogous to monetisation of deficits (Lucas and Gürkaynak, 2020; Baldwin and di Mauro, 2020). However, in these countries there was always clarity on the role of the central bank with an inflation target and substantial central bank independence. Inflation control

was not lost in the advanced economies, even though there were periods that resembled deficit monetisation.

2.2 Borrowing through a financial repression system

Once monetisation is out of the picture, governments borrow by selling bonds. There is an interplay between the governments desire to borrow and the financial regulators desire to make financial firms safe. Financial regulators can write rules that force financial firms to buy government bonds. In advanced economies, such rules generally demand less than a tenth of the balance sheet of financial firms that are forced to buy government bonds. When these ratios attain higher values, they are termed a 'financial repression' system (Fry, 1997). This strategy for debt management has five problems:

- It is an implicit tax which is placed upon one sector, which is a 'bad tax'.
- It reduces the efficiency of financial intermediation, which is one of the most important sectors in any economy, and hampers the efficiency which with the economy converts savings into GDP growth. Private persons tend to divert their activities away from the domestic financial system, including overseas activities or physical assets.
- The prices at which coerced lenders buy government bonds are distorted. Financial repression systems thus hamper the emergence of a market based yield curve, which is the foundation of the Bond-Currency-Derivatives Nexus.
- A pool of captive lenders creates diminished market discipline for fiscal policy makers.
- It reduces the extent to which the government can surge borrowing when faced with a crisis.

The best mechanism that can be adopted is for governments to sell bonds to voluntary lenders, both domestic and overseas.

2.3 Borrowing from abroad

When a crisis strikes, domestic lenders and the government are likely to both be adversely affected. Overseas lenders are more able to support the borrowing of a government when times are tough.

When foreign borrowing is done using foreign currency denominated bonds, it induces difficulties with currency mismatch which is termed 'original sin'. When bad times come, the government faces difficulties in debt servicing,

and at that time, the currency is likely to depreciate, which exacerbates the difficulty (Andritzky, 2012; Ebeke and Lu, 2014; Arslanalp and Tsuda, 2014; Adrian et al., 2021; Kletzer, 2004). Borrowing from foreign investors in local currency denominated bonds is free of these difficulties.

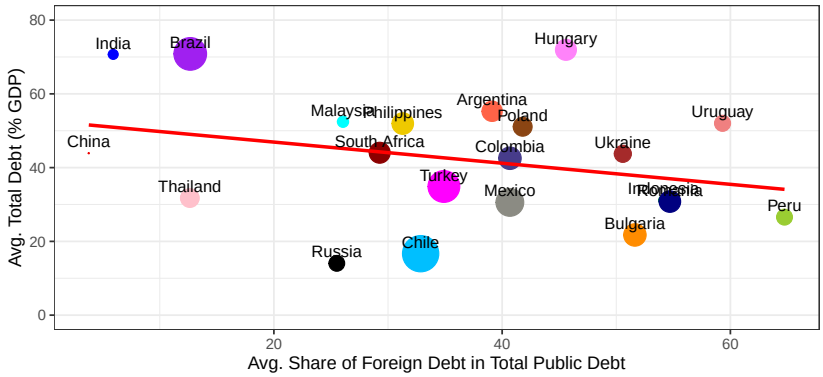
2.4 A strategic view of debt management

Establishing a debt management strategy involves choosing some combination of the following components:

- Borrowing done through bond purchases by the central bank with monetisation of deficits.
- Borrowing from domestic financial firms who are coerced using the tools of financial regulation.
- Borrowing from voluntary participants (domestic or foreign) through local currency bonds issued domestically.
- Borrowing abroad using foreign currency denominated bonds.

Figure 1 Average share of foreign debt in total public debt in 12 emerging market economies, 2004-2021

The graph presents facts about the size of total debt (measured as the debt/GDP ratio) and the presence of foreign debt (measured as a share in total debt). Each point is the average value over the 2004-2021 period. The size of the point is proportional to the standard deviation seen within the values over this period.



Source: Author calculations using the dataset in Arslanalp and Tsuda (2023) and IMF (2023).

Countries have chosen different paths at different times on these questions. Financial repression systems are prominent in developing countries (Árvai and Heenan, 2008). In mature economies, foreign lenders and voluntary private lenders tend to dominate the borrowing by governments. While 30% of government securities are held by foreign investors for U.S., U.K. and Japan (Andritzky, 2012), foreign investors are increasingly important in long term domestic government bonds markets of Brazil, Malaysia and Russia (Lu and Yakovlev, 2018, 2017).

Figure 1 shows facts for the presence of foreign debt in total public debt in important emerging markets. The graph in this figure presents the striking feature that two of the largest countries (China and India) have the least presence of foreign debt. Foreign borrowing in Indian government debt is just official borrowing: concessional aid from bilateral and multilateral organisations. This fact helps motivate this paper, which establishes foundational facts and arguments about the debt management strategy employed by the Indian state.

The choice of monetisation vs. issuing securities in the public debt markets depends upon the size and the depth of the government securities market (Kumhof and Tanner, 2005). Across geographical regions, banks have held the highest share of central government securities when compared to financial and institutional investors including foreign residents. Asian banks held the maximum share of debt securities issued by central banks at 75% followed by Latin American countries at 68% and Central Europe at 46% (Mihaljek et al., 2002). Countries such as Mexico and Indonesia have over 50% of their banking assets in government debt (Kumhof and Tanner, 2005). As economies grow, the composition shifts with additions of pension and provident funds together with insurance funds (Mihaljek et al., 2002; Andritzky, 2012).

2.5 Questions about Indian debt management strategy

In this paper, we establish facts about who lends to the Indian state, and trace the size of the financial repression system. The institutional foundations are as follows:

Mandatory lending This comes from financial firms that are regulated, such as commercial banks, pension and insurance fund management firms, which are required to hold a certain fraction of their assets in government securities.

With commercial banks, these are termed as statutory liquidity ratio (SLR) and cash reserve ratio (CRR) and are based in the core legislation governing

banks in India.[1] For other financial institutions, mandated investment in government securities is specified in their pattern of investments. For example, the investment pattern of funds in the Employees' Provident Fund Organisation (EPFO) is notified by Ministry of Labour and Employment, Government of India.[2] As of 2021, the EPFO was notified to invest 45% of the incremental pension and provident fund assets in government securities (see Table 5). There are similar limits on pension funds which manage pension funds under the National Pension Scheme (NPS). Similarly, the insurance regulator specifies micro-prudential limits on holdings of the insurance firms. A remarkable fact, that we will explore, concerns the extent to which regulated financial firms are seen to buy government bonds in excess of the regulatory requirement.

Voluntary lending Government securities held by institutions that are not forced by any regulation or law constitutes voluntary lending to the government. This includes asset fund management firms (mutual funds, venture and private equity, private debt), foreign institutional investors, and private individuals.

3 Levels and trends of Indian government borrowings

Borrowing by the Indian state takes place at the union government and at each state government. The two kinds of borrowing are summed up for the purpose of this paper, as our interest lies in understanding the nature of lenders to the Indian state. We have not considered borrowing by cities, which involves small magnitudes.

Figure 2 shows the time-series of the stock of debt securities issued[3] by the Indian state over the recent 22 years, in nominal rupees. The average compound growth in Figure 2 has been 15.8% in nominal terms and 9.45% in

[1]Banking Regulation Act, 1949 and the Reserve Bank of India Act, 1934 governs the required SLR and CRR to be maintained by commercial banks in India. As of 31st March 2021, the SLR was fixed at 18% by the RBI. Section 42(1) of the RBI Act, 1934 and sections 18, 24(1) and 24(2A)(a) of Banking and Regulation Act, 1949 govern the maintenance of CRR and SLR for both scheduled and non scheduled banks.

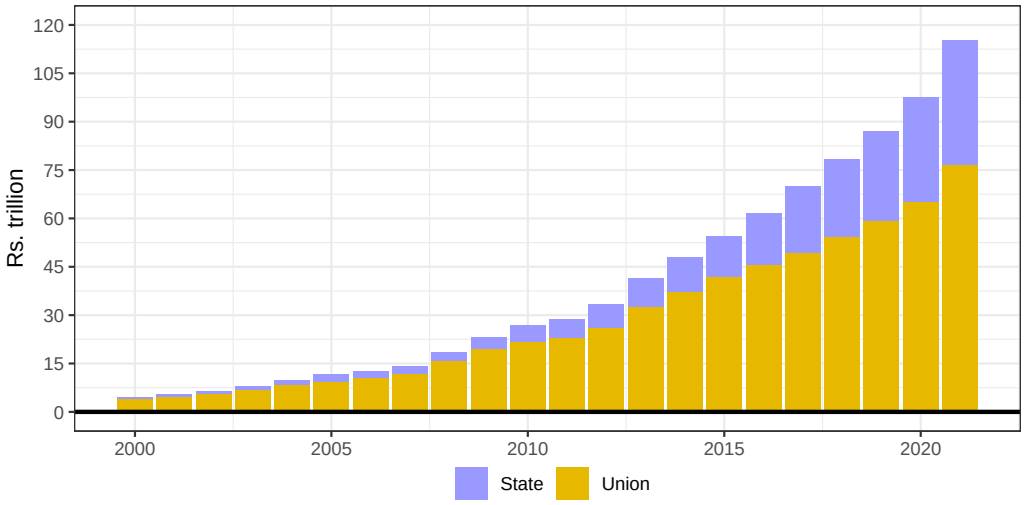
[2]The notifications are periodically released mentioning the changes in investment pattern of the funds governed as per para 52 of the Employees' Provident Fund Scheme, 1952.

[3]In Indian public finance, there has traditionally been a focus on the consolidated debt of the Union and the states, which is smaller than the sum of the two owing to lending by the Union to the states. This problem does not arise as the Union does not buy state government securities, which permits the consolidation of Union and state securities.

real terms between 2000 to 2021, both of which exceeded the GDP growth rates in the corresponding period which were 10.9% in the case of nominal and 4.9% in the case of real GDP respectively. The questions of this paper are in the nature of understanding the debt management strategy behind this escalating borrowing problem, through which debt-to-GDP grew over this period.

Figure 2 Stock of bonds issued by the Union and state governments: 2000–2021 (in nominal rupees)

The figure presents the time-series of the stock of debt, in nominal rupees, of the Union government and the state governments, from 2000 to 2021.



The bar chart in Figure 2 presents the stock of government borrowings through the sale of government securities by Union and the state governments from 2000 to 2021. The combined government debt increased from Rs.4.5 trillion in 2000 to Rs.115.2 trillion in 2021. Total state government debt rose from Rs.0.7 trillion in 2000 to Rs.38.8 trillion by 2021 (55×), while for Union government, the increase was Rs.3.8 trillion during 2000 to Rs.76.4 trillion by 2021 (20×).

Tables 1 and 2 present the maturity structure of Union and state government securities and their interest rates between 2000 and 2021, respectively. There is an increase in borrowings under the longer maturity bracket for both Union and state governments. There has been a shift towards the longer term with more securities issued with *10 years and above* maturity. This has increased for both Union (25% to 41.7%) and state government securities (0%

Table 1 Maturity structure of securities outstanding, 2000 to 2021

The values in the table present the fraction of government debt stock, in defined maturity classifications, over a period from 2000 to 2021. These are shown separately for securities issued by the Union government, and by state governments.
These values show that there has been a shift in favour of longer maturity debt securities over the period from 2000 to 2021.

	2000	2005	2010	2015	2020	2021
Union government						
0-1 year	7.5	6.2	6.2	3.6	3.9	3.7
1-5 years	28.3	20.5	22.7	24.6	25.6	25.1
5-10 years	39.1	30.5	38.0	30.4	30.0	29.0
10 years and above	25.0	42.8	33.1	41.4	41.0	41.7
Total	100	100	100	100	100	100
State governments						
0-1 year			3.0	2.8	4.5	5.3
1-5 years		25.3	22.9	28.6	28.7	30.6
5-10 years		74.7	74.1	68.5	55.3	49.3
10 years and above		0	0	0	11.5	14.8
Total	100	100	100	100	100	100

Note: For the year 2005, state government 1-5 years row includes all securities under 5 years maturity period.
Source: (RBI, 2023c, Various issues)

to 14.8%) between 2000 and 2021 (Table 1). There has been a concentrated policy effort to consolidate debt, improve liquidity in the secondary debt market and mitigate rollover risks in this period (RBI, 2014, 2015). For state governments, securities across all maturities have increased, except in the *5-10 years* maturity bracket. Thus, there has been a systematic effort to extend the maturity of government debt securities in the recent period.

Table 2 shows the changes in the interest rates of securities issued in the same period. The increase in the supply of debt securities has not translated into a rise in the interest rates. There has been a significant drop in the rates during this period. This better reflects the shift in the maturity towards higher tenors.[4] Interest rates for securities issued by the Union government have decreased from 11.75% to 5.8%, while it has decreased from 11.89% to 6.55% for state government securities in the same period (Table 2). This could reflect investors confidence in the credit quality of the debt issued.

[4]There exists an inter-temporal trade-off between short-term cheap credit and long-term expensive credit. In emerging market economies where bond markets are illiquid and shallow, a higher proportion of short-term credit could lead to inability to roll over debt, when there are increasing yields on new issues, which in turn can lead to a fiscal crisis (Claessens et al., 2003).

Table 2 Interest rates of securities, across time

The table presents the average interest rates of the government debt securities, both freshly issued and outstanding, in a given year. These are shown separately for securities issued by the Union government and the state governments. There is a paucity of data on the rates for state government bonds, partly because these do not trade after issue.
For new issues, we observe that state governments typically pay a higher rate of between 34 to 88 basis points, on average, compared to the Union government.

	2000	2005	2010	2015	2020	2021
Union government						
New issue	11.75	6.11	7.23	8.51	6.85	5.80
Outstanding		8.79	7.89	8.09	7.71	7.27
State governments						
New issue	11.89	6.45	8.11	8.58	7.24	6.55
Outstanding						

Source: (RBI, 2023a; Ministry of Finance, 2022)

Additionally, when secondary markets are illiquid and price transparency is low, long-term savings institutions may consider long maturity government securities as good investments to hold until maturity, with no intention of secondary market participation (Jonasson et al., 2018).

Bond markets lend more readily into the short end of the yield curve. The privilege of long-dated borrowing is reserved for the most trusted lenders. Few emerging markets are able to have just four or five per cent of their debt with a maturity of below a year, or obtain a longer maturity structure over a 20-year period. The pattern of rising maturity and dropping interest rate leads to the question of what is the profile of lenders that has induced such an outcome. Given the significant public sector nature of the Indian financial system, particularly among banks, insurance and pension firms, we ask if captive lenders have a role in explaining these unexpected patterns of size, maturity and price of government debt borrowing of the last two decades. In the next section, we analyse the trends and patterns of lenders to the Indian State.

4 Past and present lenders to the Indian state

Table 3 presents the share in the lending of the various classes of financial firms in 2020-21. We present the share of lenders separately for the Union government, the state governments combined and a category called 'general government' which includes both the Union and the states.

Table 3 Lenders to the Indian state, 2020-21

In this table, each row corresponds to a class of financial firms who lend to the government. The columns cover lending (in Rupees and as a fraction of total lending) to the consolidated Indian state (columns 2-3), the Union government alone (columns 4-5) and the state governments alone (columns 6-7).

Category	Gen. govt.		Union govt.		State govts.	
	(Rs.Tln.)	(%)	(Rs.Tln.)	(%)	(Rs.Tln.)	(%)
Scheduled Commercial Banks	41.7	36.2	28.7	37.5	13.0	33.6
Insurance Companies	31.0	26.9	19.3	25.3	11.7	30.0
Provident/Pension Funds	11.9	10.4	3.4	4.4	8.5	22.0
Reserve Bank of India	12.7	11.0	12.4	16.2	0.3	0.8
Primary Dealers	0.4	0.3	0.2	0.3	0.2	0.5
Co-operative Banks	3.0	2.6	1.4	1.8	1.6	4.0
Financial Institutions	1.5	1.3	0.8	1.0	0.7	1.9
Mutual Funds	3.0	2.6	2.2	2.9	0.7	1.8
FIIs	1.4	1.3	1.4	1.9	0.0	0.0
Private Firms	1.0	0.9	0.8	1.1	0.2	0.5
Others	7.7	6.7	5.8	7.6	1.9	4.9
Total	115.2	100.0	76.4	100.0	38.8	100.0

The lender category "Others" covers " State Governments, Deposit Insurance and Credit Guarantee Corporation, Public Sector Units, Trusts, Foreign Central Banks, Hindu Undivided Family/ Individuals, etc. (sic).".

Source: RBI (2023b)

Scheduled commercial banks (SCBs) lend around one-third towards government borrowing, followed by insurance companies and provident/pension funds. These firms are the dominant source of lending to the government, as they have regulatory mandates to invest in government debt. These 'captive lenders' account for up to 73.5% of the public debt issued (Table 3). An additional 11% is attributed to the RBI which buys government bonds in the process of money creation and open market operations. These four investors add up to 84.5% of the share of Indian state debt securities.

Other financial firms with investible funds are mutual funds and foreign institutional investors. Private persons, either individuals and firms, can also invest in government bonds. None of these have externally imposed investment mandates. These investors are fully 'voluntary lenders' to government adding up to a share of 4.8% (Table 3).

'Others' in Table 3 covers State Governments, the Deposit Insurance and Credit Guarantee Corporation (DICGC), Public Sector Units, Trusts, Foreign Central Banks and Hindu Undivided Family/ Individuals. Some part of

'Others' are also voluntary participants. Table 3 shows us that about 85% of the lending come from regulated ('coerced') participants, and about 5% comes from purely voluntary participants. The remaining 10% cannot be classified as voluntary or coerced, and we do not count these.

Table 4 Lenders to the Indian state, 2011-12

In this table, each row corresponds to a class of financial firms who lend to the government. The columns cover three cases: the consolidated Indian state, the Union government and the state governments.

Category	Gen. govt.		Union govt.		State govts.	
	(Rs.Tln.)	(%)	(Rs.Tln.)	(%)	(Rs.Tln.)	(%)
Scheduled Commercial Banks	18.0	53.8	14.2	54.6	3.8	51.2
Insurance Companies	6.8	20.3	4.9	18.7	1.9	25.8
Provident Funds	1.6	4.8	1.0	3.8	0.6	8.0
Reserve Bank of India	3.5	10.4	3.5	13.3	0.0	0.0
Primary Dealers	0.9	2.8	0.6	2.5	0.3	4.1
Co-operative Banks	1.1	3.2	0.8	3.2	0.2	3.3
Financial Institutions	0.1	0.2	0.1	0.2	0.0	0.0
Mutual Funds	0.2	0.5	0.2	0.6	0.0	0.0
FIIs	0.4	1.3	0.4	1.6	0.0	0.0
Private Firms	0.4	1.1	0.3	1.1	0.1	1.1
Others	0.6	1.7	0.1	0.4	0.5	6.6
Total	33.4	100.0	25.9	100.0	7.4	100.0

The lender category "Others" covers " State Governments, Deposit Insurance and Credit Guarantee Corporation, Public Sector Units, Trusts, Foreign Central Banks, Hindu Undivided Family/ Individuals, etc. (sic).".

Source: RBI (2023b)

Table 4 describes who were lenders in 2011-12 and shows us that voluntary lenders had a share of only 2.9% of government borrowing. This has increased to 4.8% in 2020-21 (Table 3). While the share is small in absolute terms, there has been a 1.6× gain in voluntary lenders in the latest decade.

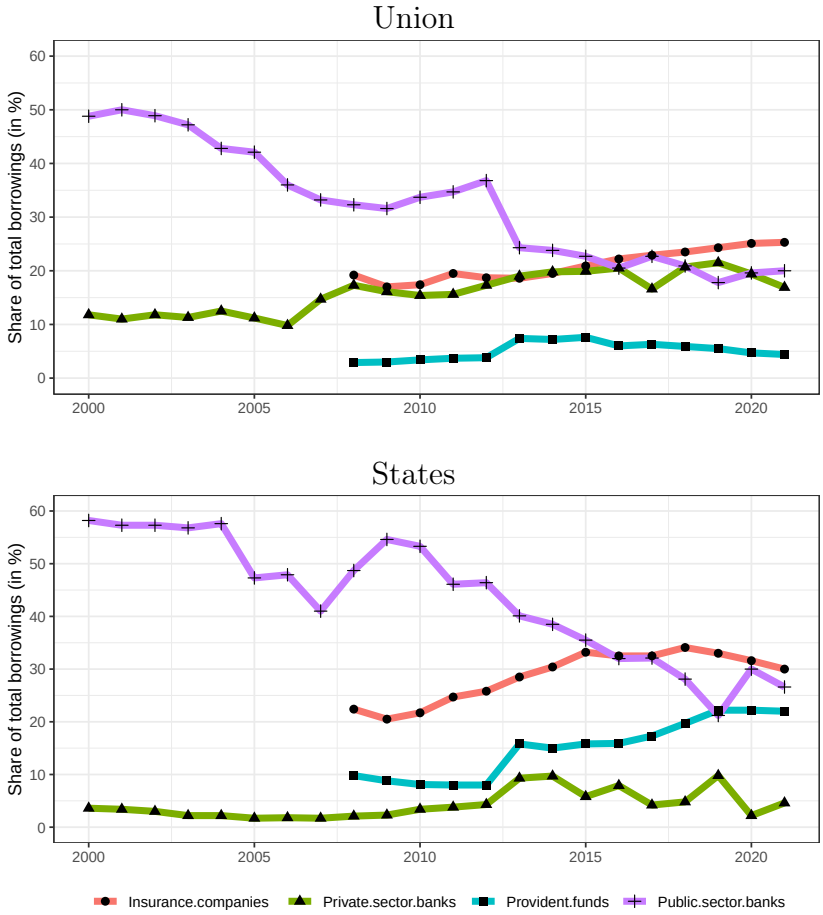
A feature in the trend of the share of various captive lenders is the decrease in the importance of banks. In 2011-12, SCBs accounted for 53.8% of lending (Table 4). This has dropped sharply to 36.3% (Table 3). In it's place, insurance firms have seen an an increase in the share of lending from 20.3% to 26.9%, while provident funds grew from 4.8% (Table 4) to provident and pension funds with a share of 10.4% of lending to government (Table 3).

This indicates a structural change has taken place in who lends to the government in India. An understanding of the motivation and incentives of

these different sets of financial firms, will be useful in better understanding Indian public finance and the financial system, and potential debt management strategies for the future.

Figure 3 Share of various classes of lenders to the Union and state governments

The graphs below presents the time-series of the share of banks, insurance and pension firms in lending to the Union government and state governments. Within banks, the graphs also present the time-series separately for public sector and private sector banks.



Source: RBI (2023b)

Figure 4 presents a visual representation of trends in lending by the financial firms. Here, SCBs are presented as two separate groups: banks which are public sector units (PSU), and private sector banks.[5] Figure shows that is a

[5]It is useful to consider the investment pattern of these category of banks separately,

significant decline in the role of PSU Banks. Their share in government debt has declined from about 50% to 20% for the Union government, and from 60% to 27% for state governments securities. This observation runs counter to a simple story that the Ministry of Finance and RBI come together to elicit lending by PSU banks when faced with stress in debt management. If low cost government borrowing was once a factor shaping the desire to have a PSU bank dominated financial system, this appears to be not an important consideration for the government debt management strategy today.

Private banks, on the other hand, have marginally increased their share of ownership in government securities. This is more pronounced for Union government securities, where the participation of private banks increased from 12% in 2000 to 17% in 2021 and 3.6% to 4.6% for state government securities (Figure 4).

In the following section, we estimate the extent of mandatory and voluntary lending by various lenders to the government.

5 Estimating mandatory and voluntary lending to the Indian state

The extent of borrowing from captive lenders is an important part of the debt management strategy for any government because these are a stable source of borrowings from a 'captive' base of lenders. It is perhaps as a consequence of the regulations that govern them, that banks, insurance and pension firms tend to dominate government securities markets in emerging economies (Reddy, 2002; Kumhof and Tanner, 2005; Tombini, 2023). This also suggests that there is an opportunity cost in the form of lower access to debt financing for other potential borrowers in the economy, which is the basis of the phrase 'financial repression'. In a simple notion of captive lending, we would expect the investment by such firms to stay at the threshold. What do we observe in the Indian economy?

In order to understand this, we need to calculate both the actual investment and mandated investment in government securities by any regulated finan-

because each are likely to have different incentives when making credit decisions for their debt investment portfolio. The difference in incentives stems from the potential ability of the government to influence decisions of a PSU bank as their largest shareholder. A more intangible influence is based on the joint role of the RBI as both the banking sector regulator (which sets micro-prudential norms on the level of credit risk) as well as being the investment manager to the government. These aspects can impact both sets of banks, albeit in different measure.

Table 5 Mandatory levels of government bond ownership for various classes of financial firms

Financial regulators in India use powers of prudential regulation to coerce different classes of financial firms to invest a fraction of their assets in government bonds. This table presents the mandatory values across time for the important classes of financial firms. In all cases, the ownership of government bonds is expressed as a share of the *level* of the assets under management, except in the case of EPFO, where the rule is applied on the *incremental* assets obtained the year. In the case of the NPS, the rules do not require a minimum amount of ownership of government bonds but instead place an upper limit on it.

Class	2008	2015	2021
Scheduled Commercial Banks (level)	25	21.5	18
Pension and provident funds			
EPFO (incremental)	40	45	45
NPS (level, **upper limit**)	55	50	55
Insurance companies (level)			
Life	50	50	50
Pension & general annuity	40	40	40
General & re-insurance	30	30	30

cial firm, which can then be 'coerced'. We analyse and compile regulations governing mandatory investments for the categories of firms listed in Tables 3 and 4 in the previous section. Table 5 summarises the mandatory rates for these firms. We find that for all the firms, the numerical values tend to be high by world standards (OECD, 2000, 2021). Further, these tend to vary, causing disruptions in maintaining portfolio weights. For example, the RBI updates the calculation for the SLR, from time to time.[6] Similarly, the IRDAI communicates changes in investment pattern through Master Circulars.[7] while the EPFO issues notifications released by the Ministry of Labour and Employment and PFRDA changes investment guidelines through circulars..[8]

We collated such sources for the various regulatory agencies for the time period of our analysis, to track changes in the mandatory requirements to invest in government securities at the various captive lenders. We then compile the actual investments for all the financial firms and organisations identified in

[6]NDTL is calculated using the RBI master direction on CRR and SLR 20 July 2021, updated on on 6 April 2022.

[7]These circulars are based on IRDAI (Investment) Regulations, 2016 updated on 27 October 2022.

[8]The investment guidelines followed for calculation of mandatory and voluntary investments in government securities across various NPS schemes are mentioned in PFRDA Circular dated 15 February 2021.

the previous section. We describe the approach that we used below.

5.1 Banks

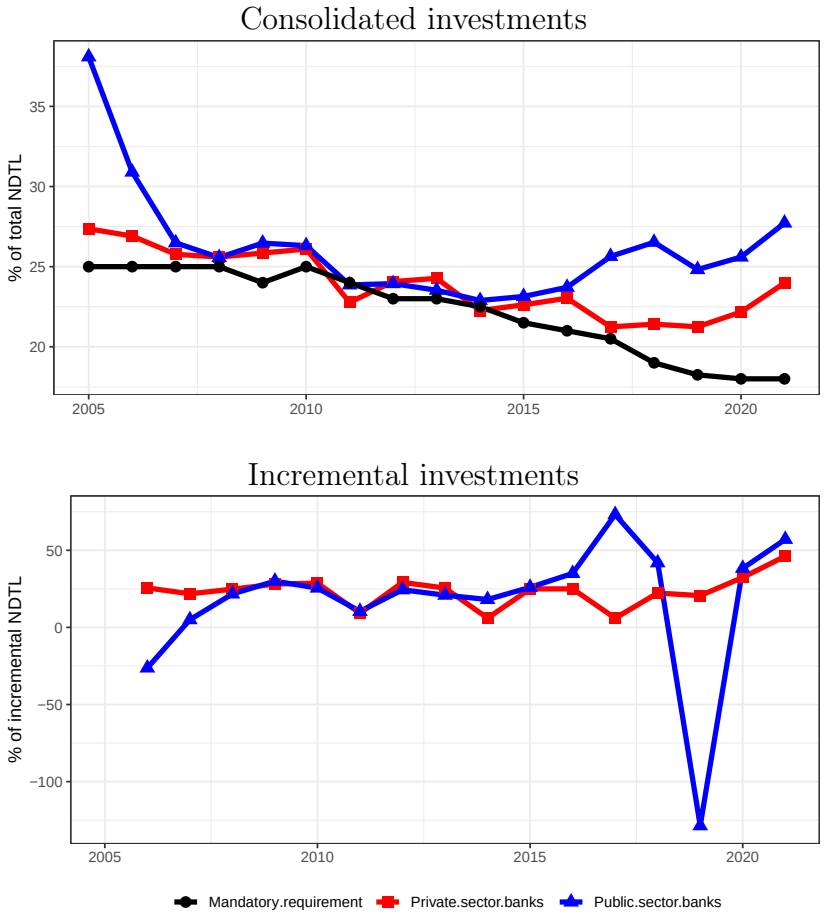
Mandated lending by banks to the government is measured by the Statutory Liquidity Ratio. SLR is set by RBI in it's role as the banking regulator, as a percentage of *Net Demand and Time Liabilities* (NDTL).[9] Information on assets and liabilities of SCBs is available in RBI (2023b,e) from 2005 onward. We use SLR rates specified at the end of the given financial year from RBI (2023d), and compute the mandatory requirement as:

$$\text{Mandated investment in G-secs}_{i,t} = \text{SLR}/100_t * \text{NDTL}_{i,t} \tag{1}$$

[9]NDTL is calculated using *Demand and Time Liabilities* (DTL) and subtracting assets within the banking system. DTL is calculated by subtracting "Capital" and "Reserves and Surplus" from "Total Liabilities"for a given financial year. *Demand liabilities* include demand deposits, saving bank deposits, demand drafts, etc. that are payable on demand. *Time liabilities*, which are payable after a fixed time period, include term deposits such as fixed deposits, cash certificates, cumulative and recurring deposits. Assets within the banking system include inter-bank balances, and balances in current account, and loans or deposits in banks. Assets within the banking system is calculated by adding "Balances with RBI", "Balances with banks in India", "Money at call and short notice", "Balances with banks outside India"and "Advances"to Indian banks.

Figure 4 Actual and mandated investment as a fraction of the PSU and private banking sector, 2005 to 2021

The graphs show the fraction of the banking sector NDTL which is invested in government securities for the period from 2005 to 2021. The blue line shows this fraction for PSU banks, while the red line shows this for private sector banks. The mandatory requirement is shown as the black line in the graph. This is calculated by applying the SLR to the total banking sector NDTL at the end of a financial year.
The upper graph shows the stock investments, while the lower graph shows the change in investments from one year to the next.



We calculate the fraction of actual investment in government securities separately for both PSU and private banks as percentage of NDTL, from 2005 to 2021.[10] The time series of these investments for each class of banks is pre-

[10]Until 2017, individual banks have been classified under "State bank and its associates", "Nationalised", "Private", and "Foreign". In 2017, "Small finance" was added as a new category. In 2020, "Payments banks" was added under SCBs. In 2018, "State bank and its

sented in the upper panel in Figure 4, against the mandatory requirement (seen as the black line). The lower panel presents the incremental investment in government for these two sets of banks.

These graphs dispel the notion that captive lenders only invest up to what is the mandatory requirement. This has not been the case with either PSU or private banks. While PSU banks have invested more than mandated more often that private sector banks, this was not the case in the period from 2007 to 2015, when both PSU and private sector banks tended to invest similarly in government securities. For several points in this period, the banks invested amounts that were also close to what was mandated. But since 2017, banks have become a mechanism for channeling household savings to the government, in magnitude significantly above what they are regulated through SLR to hold.

There has been an increase in actual investment, beyond the mandated investments after 2015. While there was a sharp increase in actual investment by the PSU banks from 2017 onward, even private banks have also undertaken investments significantly beyond the mandated amount from 2018 onward. This magnitude of the excess lending has gone up from about 0 in 2014, to 6 percentage points in 2021 (Figure 4). This is evidence that banks in India are increasingly going beyond 'captive lenders' to become significant 'voluntary captive lenders' to the government.

5.2 Provident and pension funds

Pension fund management in India is driven by two types of old age income support systems that India runs. The first and the older is the set of funds managed by Employees' Provident Fund Organisation (EPFO), governed by the Employees' Provident fund and Miscellaneous Act, 1952, which regulates the retirement benefits for employees in the organised sector in India. The funds include the *Employees' Provident Fund* (EPF), *Employees' Pension Fund* (EPS) and *Employees' Deposit linked Insurance Fund* (EDLI). The entire corpus or the total assets under management (AUM) for all three schemes was Rs.14.3 trillion in March 2021, covering 6.9 million pensioners (EPFO Annual report, 2021)

The second and recent are the defined contribution pension funds, managed under the National Pension Scheme (NPS). This covers all new government

associates"and "Nationalised" were consolidated to form a new category - "Public sector" banks. Throughout our analysis, we use "Public sector" banks which includes "State bank and its associates" and "Nationalised" banks together.

recruits of the government, from April 2004. These NPS funds are regulated by the Pension Fund Regulatory Development Authority (PFRDA), and has since expanded to cover employees in both organised as well as the unorganised sector. This includes *Government Sector (Central Government/ State Government including Autonomous Bodies)* (GS), *NPS Lite* (NPSL) for the unorganised sector, *Atal Pension Yojna* for low income individuals (APY). These are voluntary funds which is open for all citizens and employees at all firms. The total assets under management (AUM) was Rs.5.8 trillion in March 2021, with 4.24 million subscribers.

We examine lending to government securities by EPFO and NPS funds, and the extent of their mandatory and voluntary lending for two reasons. First, since these fund managers are regulated which gives us access to published annual reports about their investments. Second, these are the largest formal pension fund management firms in the country.

The employees' provident fund organisation (EPFO) Information about actual and mandated level of investments in government securities are available in the annual reports of employees' provident fund organisation (EPFO).[11]. The Union government prescribes the investment pattern for all incremental accretions belonging to the Fund.[12] The mandatory requirement of investment in government securities are the same for all the three EPFO schemes, and are presented in Table 5.[13] We report the investment pattern for the additional or incremental investments, and not the consolidated fund.

The EPFO annual reports provide consolidated values of investment in seven instruments: Central Govt. Securities (CTG), State development loans (SDL), State government securities (STG)/Government guaranteed securities (GGS), Special deposit schemes (SDS), Public Sector Financial Institutions/Undertakings (PSU), Public account, CBLO in hand. These are available separately for all three schemes. We add investments in CTG, SDL and STG/GGS across all three schemes to arrive at total investment in government securities by provident funds, from 2006-07 to 2020-21.[14]

Before 2014, the mandatory requirement for union government securities

[11]These reports can be accessed from the EPFO website and are available from 1952-54 onward.

[12]The pattern of investment of funds in the schemes (EPF, EPS, EDLI) is governed by paragraph 52(1) of the Employees' Provident Funds Scheme Act (1952), and in supersession of the periodic notifications of the Government of India in the Ministry of Labour. The Central Government directs all incremental accretions belonging to the Fund to be invested in accordance in the prescribed pattern.

[13]While there is information in the annual reports provide data on "Exempt funds"as well, these have not been included in our analysis.

[14]The data presented in the EPFO annual reports is comparable only for these years.

was 25%, while it was 15% for state government debt. The annual reports for 2015 and 2016 do not prescribe mandatory limits, and instead report upper limits of permissible investments of incremental funds. After 2016, the annual reports report only a single rate across all securities, at 45% mandatory investment of incremental additions to the fund. In addition, both the mandatory limits as well as permissible limits are indicated in the annual reports from 2016. For the purpose of our calculation we continue with the mandatory limits prescribed in 2013 for 2014 and 2015.

The fraction of total EPFO fund investment in government bonds (GBs) which includes CTG, SDL and STG/GGS is calculated as:

$$\text{Investment in GBs}_t = 100 \times \frac{\text{Investment in GBs}_t}{\text{Total investments by EPFO}_t} \tag{2}$$

This is graphed against the mandatory rates in the upper panel of Figure 5. The lower panel of Figure 5 presents the mandatory investments, the actual incremental investments and the upper permitted limit of investments in GBs. Mandatory investments and upper permitted limit on investments are on incremental/net investments and not the total AUM for EFPO funds. These limits are mentioned in their annual reports. The upper permitted limit on GBs are included in reports from 2014 onward only. The incremental/net investment in GBs includes all three schemes of EPFO and is calculated by subtracting the total investment in GBs in time period *(t-1)* from *t*.

The percentage of net investments in GBs plotted are calculated as:

$$\text{Net investment in GBs}_t = 100 \times \frac{\text{Net investment in G-Bs}_t}{\text{Total net investments by EPFO}_t} \tag{3}$$

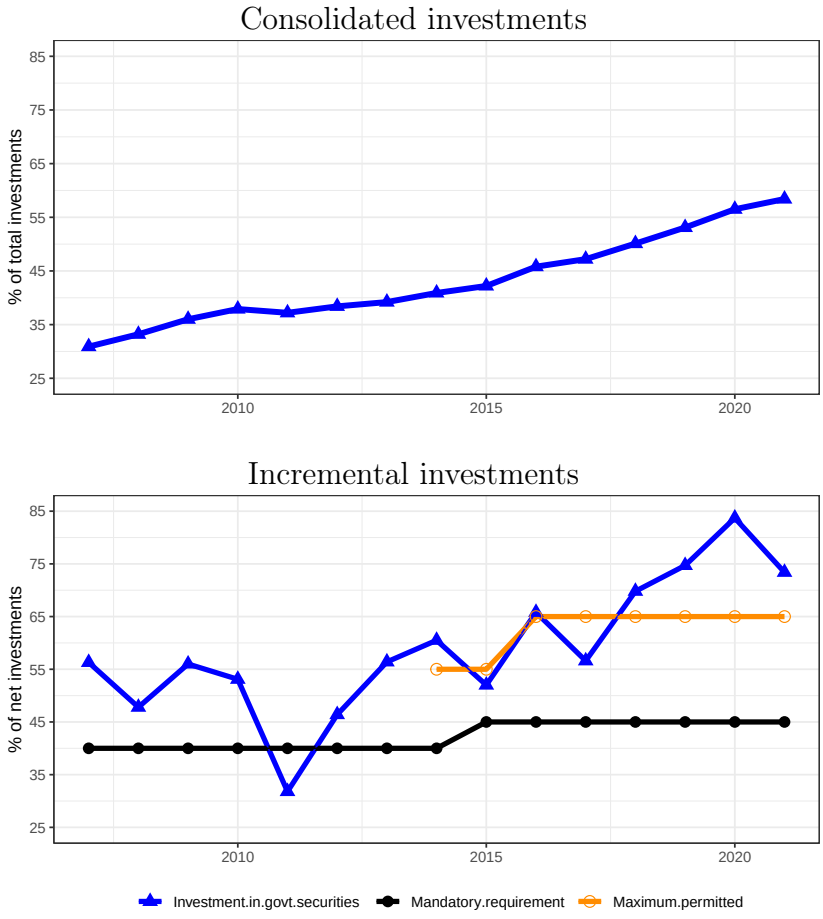
While the Mandatory net investments in GBs are calculated as:

$$\text{Mandatory investment in GBs}_t = \frac{\begin{array}{c}\text{(Mandatory rate)}\times \\ \text{(Incremental investments by EPFO)}\end{array}}{100} \tag{4}$$

The graph of consolidated investments are presented in Figure 5. This shows a steady increase in the share of total assets invested in government bonds from 27.3% in 2007 to 58.4% in 2021. The second graph shows the incremental annual investments.

Figure 5 Provident and pension funds: mandatory and voluntary investments in government securities

Employees' provident fund organisation (EPFO) comprises of three schemes; employees' provident fund (EPF), employees' pension fund (EPS) and employees' deposit linked insurance fund (EDLI). In this figure, we present the consolidated investments in government bonds across these three schemes.
In the upper panel, total investments in government bonds are expressed as a fraction of total assets under management (AUM) across the three schemes, whereas in the lower panel, incremental investments in government bonds are presented as a fraction of consolidated net investments for EPF, EPS and EDLI.



The graph shows that, except for 2010-11, net investments have always exceeded the mandatory requirements. The period between 2006-07 and 2009-10 witnessed a growth rate of 21% in the combined outstanding government securities of both the Union and state governments. In 2010-11, this dropped to 7.5%, the lowest in the period of analysis. At the same time, there was

an increase in investments in PSU bonds, which rose by 107% in 2010-11, which was the highest increase for PSU investment in the sample period of analysis.

Whether viewed through incremental investments (where the financial repression rules apply) or through the levels, EPFO fund purchases of government securities have grown significantly in the period of our analysis from nearly 30% to about 60% (Figure 5). The challenge when considering the strategic choices of surge borrowing for the government is what drove this growth, and whether it is likely to repeat in the future.

The National Pension Scheme (NPS) Information about investments by the National Pension Scheme (NPS) is found in the annual reports of the Pension Fund Regulatory and Development Authority (PFRDA) for 2013-14 to 2020-21.[15] The PFRDA does not prescribe mandatory limits and mentions only the upper limit permissible on investments in government bonds.[16] Another difference when compared to reporting by the EPFO is that these limits which are calculated on the AUM of the fund, and not on incremental/net values. These limits are recorded in Table 5.

PFRDA reports consolidated values of investment separately for each five schemes into five investment categories: Central Govt. Securities (G-sec), Corporate bonds, Equity shares, Money market instruments, and Cash and net current assets. In the period 2013-2015, SDL were reported separately, but was consolidated with G-sec from 2017 onward.

We calculate the investments in GBs (G-sec plus SDL) as follows:

$$\text{Investment in GBs}_t = 100 \times \frac{\text{Investment in GBs}_t}{\text{Total investments by NPS}_t} \tag{5}$$

Incremental investments in GBs are calculated for the each year t by subtracting the previous year's $(t-1)$ investment. The fraction of GB investment in total net investments is aggregated across all five NPS schemes using the following:

$$\text{Net investment in GBs}_t = 100 \times \frac{\text{Net investment in GBs}_t}{\text{Total net investments under NPS}_t} \tag{6}$$

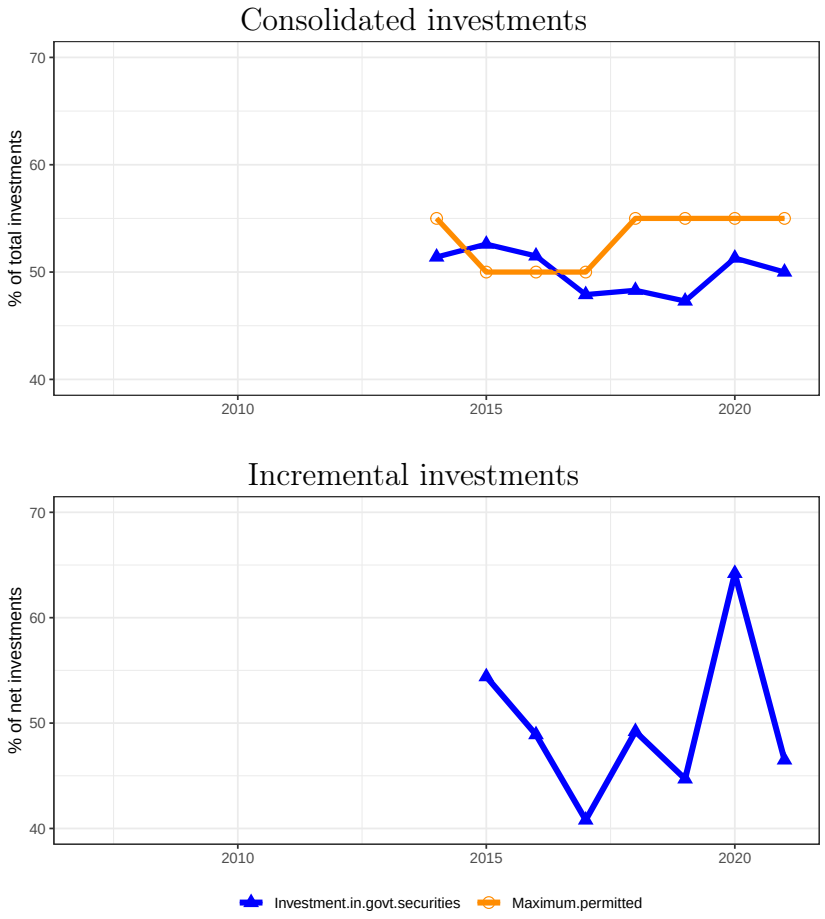
The upper panel in Figure 6 reports the fraction of investment in government bonds. The lower panel of Figure 6 reports the fraction of net investments in government bonds. The sample period is from 2014 to 2021.

[15] These reports can be accessed from PFRDA website.

[16] The national pension scheme (NPS) is regulated under the pension fund regulatory and development authority (PFRDA) Act, 2013. Chapter 5, section 14, subsection (2)(b) of the Act states that the PFRDA has the power to set investment guidelines for management of the corpus of pension funds.

Figure 6 National pension scheme: investments in government securities, 2014-2021

The figure presents the investment in government bonds as a fraction of AUM (upper panel) and incremental investments (lower panel). Unlike other classes for financial firms, the National Pension Scheme (NPS) does not have a mandatory requirement of investment in government bonds. Instead, there is only a upper permitted limit for investment in government bonds.



The PFRDA prescribes an upper limit for government debt investment. In the upper panel of Figure 6, the orange line denotes the upper limit permitted for investments in government bonds. This limit was 55% of total AUM during 2014, decreased to 50% from 2015 to 2017, and has been at 55% since then. Except for 2015 and 2016, the actual investment in government bonds has been within the upper limit. The largest difference between the upper limit and actual investment in government bonds was seen in 2019, with an

8 percentage point difference. This decreased to to 5 percentage points in 2021 (Figure 6).

While the rationale for a defined contribution (DC) pension system is to obtain higher rates of return by investing in public market securities, about half of NPS assets go into government bonds. Since there is no explicit micro-prudential requirement by the NPS to invest in government securities, as there is with the provident funds or the banking sector, we treat all NPS purchases of government bonds as *voluntary* when examining the amount of mandatory and voluntary lending to government.

5.3 Insurance firms

The Indian insurance sector has General and re-insurance and Life insurance firms. In addition, there are also insurance firms that offer pension and general annuity products. These firms can be either public or private organisations. While Unit linked funds (ULIP funds) form a part of the Life insurance AUM, we do not include it in our analysis, as there is no mandatory requirements associated with it, and the amount invested in government bonds from ULIP funds are not specifically provided for.

Different insurance firms are mandated to follow a different investment pattern in government bonds.[17] The Insurance Regulatory and Development Authority of India (IRDAI) prescribes the pattern of investment in various securities, which has remained the same since 2001. Insurance companies can invest in Central government securities, State government and other guaranteed securities, Housing and infrastructure securities,[18] Ad-hoc approved investments, and Other investments. Information on government bond investments are obtained from annual reports published by the IRDAI.[19] Mandated investment requirements have remained constant in the period of our study period. They are 30% of total AUM for general and re-insurance firms, 50% for life insurance firms, and 40% for firms offering pension and general annuity products.

The fraction of total investment in government bonds to overall investments is calculated as:

[17]Under the Insurance Act of 1938, assets under management of insurance companies which includes life insurance, pension and general annuity, and general insurance and re-insurance have different investment patterns.

[18]Approved and other investments are debt instruments of Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs) of different ratings.

[19]These reports can be accessed from IRDAI website and available from 2000-01 onward

$$\text{Investment in GBs}_t = 100 \times \frac{\begin{array}{c}\text{Investment in GBs} \\ (\text{Life Ins. + Pension \& annuity + Gen. Ins.})_t\end{array}}{\text{Total investments in Insurance sector}_t} \tag{7}$$

Since each type of insurance firms have different mandatory limits, we calculate the mandatory level on investments separately as follows and sum these up:

$$\text{Mandatory investment in GBs}_t = \frac{\begin{array}{c}(\text{Mandatory rate})_t \times \\ (\text{Total investments by insurance class})_t\end{array}}{100} \tag{8}$$

Figure 7 Insurance sector: mandatory and voluntary investments in government securities

There are three main sources of investments under the insurance funds, (i) Life insurance, (ii) Pension & general annuity and (iii) General insurance & re-insurance. Each class has a different mandatory requirement.
The upper panel presents the consolidated investments in government bonds across these three sources of funds. The mandatory requirement is calculated as a fraction of *level* of assets under management at the end of the financial year.
The lower panel shows the incremental investments in government bonds across all the three sources.

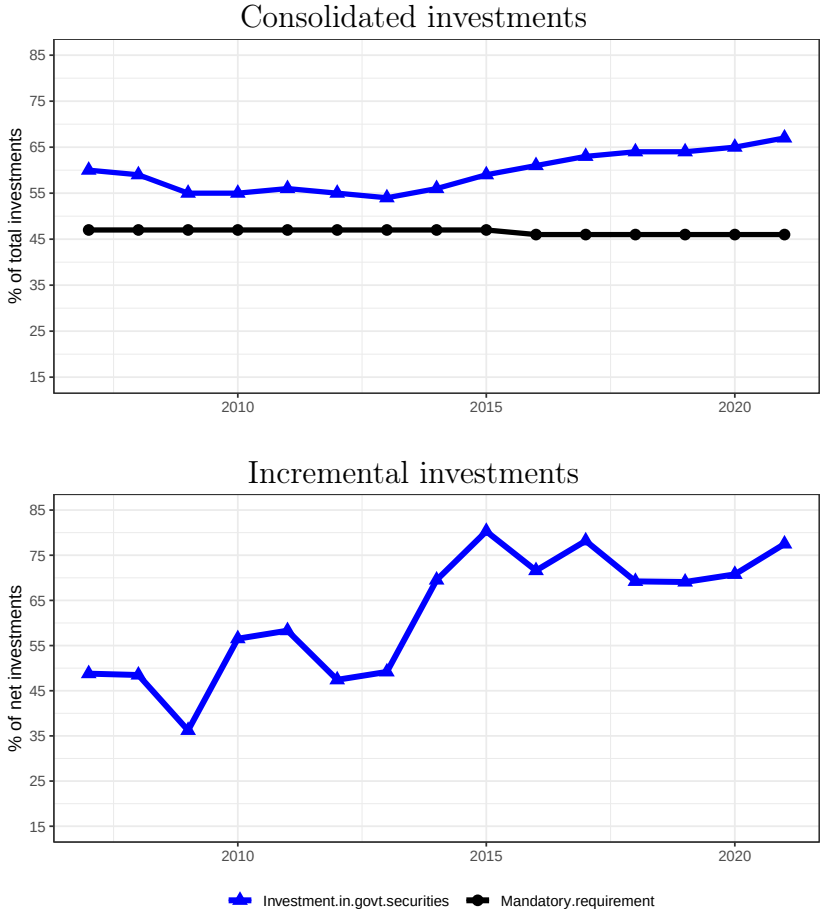


Figure 7 presents the voluntary versus mandatory investments in government bonds by insurance firms. The upper panel in Figure 7 presents the actual investment in government bonds according to Equation 7 against the mandatory limits prescribed by IRDAI. The lower panel shows the net investments made in government bonds across all the insurance firms combined. This is

calculated similar to Equation 6.

Figure 7 shows that that insurance sector has never breached the mandatory limits notified by the IRDAI. The consolidated investment in government bonds increased from 60% to 66.6% between 2007 to 2021. There has been a sharp increase in incremental investments from 48.8% to 77.5%.

From the perspective of mandatory and voluntary lending to the government, the insurance sector has been solely a 'captive lender' to the government.

5.4 Understanding mandatory and voluntary lending by captive lenders

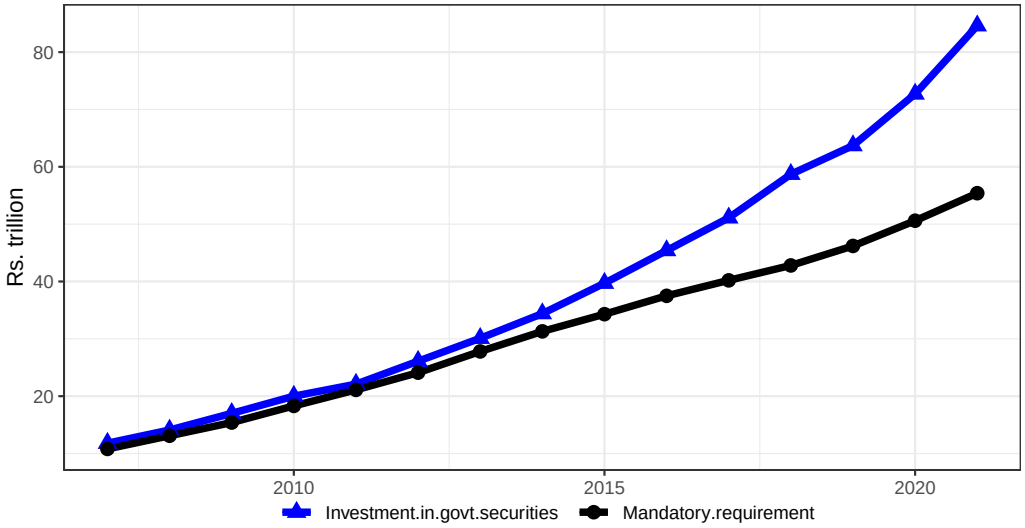
We summarise our analysis about the extent of voluntary and mandatory lending to the Indian government by 'captive lenders' in Figure 8. This graph presents the consolidated amount of government bonds purchased (blue line) by the three large captive lenders: banks, pension funds and insurance firms. The total investment is the overall investment made in securities issued by the Union and State governments, as well as state guaranteed securities. The total mandatory/coerced lending to the government in Rs. million is presented as the black line. This does not include the NPS pension funds managed since there are no mandatory requirements set by PFRDA for NPS pension funds.[20]

Figure 8 shows that from 2000 to 2014, the total amount investments by captive lenders to the government of India was just a little over mandated investment amount. From 2014 onward, the amount these lenders invested has been consistently higher than the amount that they were mandated to purchase. In 2021, the aggregate purchases by captive lenders was around Rs.85 trillion. The excess 'voluntary' investment was Rs.30 trillion, which is more than half of what they were mandated to purchase. The consolidated amount of Rs.85 trillion itself is around 75% of the stock of government debt in 2021 (Figure 2). In comparison, the total mandated amount would have been under 50% of the stock.

[20]The consolidated value for mandatory requirement is the sum of values derived from Equations 1, 4 and 8 for each year.

Figure 8 Total mandatory versus actual lending by captive lenders

The graph presents the consolidated amount that the 'captive lenders' of banks, insurance and pension firms were mandated to hold in a given year (black line) and the amount that they actual held (blue line). In the last 8 years between 2014 and 2021, captive lenders have voluntarily invested more than they are mandated.



From the two graphs of consolidated and incremental investments in Figure 8, we see that captive lenders have been a steady source, purchasing around 75% over the previous decade. If the government debt issue was Rs.145 trillion in 2023, around Rs.109 trillion is likely to be held by the captive lenders. Such a source of funds from captive lenders makes the government funding program tightly bound to the ability of these lenders to raise funds.

This analysis suggests the following picture of how the Indian state pulled off a massive expansion of government borrowing over the recent decade, and simultaneously pushed up the maturity of issuance:

1. The SLR went down in the last decade. This meant that the extent of bank funds mandated for the government decreased. However, we observe that the actual investments by banks in government debt securities was higher than what was mandated.

2. Simultaneously, there was major growth in the role of insurance and pension funds lending to the government.

   Given the longer-term horizons over which insurance and pension firms hold their investments, the increased presence of such investors enabled the elongation of the maturity pattern of government borrowing. Financial firms

were keen to buy government bonds, and the government had the choice of issuing long-range bonds and buyers went along with this.

3. While *de jure* financial repression of banks declined, there has been no such retreat with pensions and insurance.

4. All the three groups of financial firms bought a lot more government bonds as compared with the *de jure* requirements. Excess ownership went from $\approx$ 0 in 2011 to Rs.30 trillion in 2021 (Figure 8).

5. Thus, captive lenders of government debt has remained at around 75%, regardless of the *de jure* reduction in the financial repression of banks.

6. The truly voluntary lenders are the private firms, MFs and FIIs, who are 4.8% of investors in the government debt market for 2021.

This is, then, not a simple story of financial repression through rules about asset allocation. The puzzle lies in understanding (a) why *de jure* financial repression retreated for banks but not the other two, and (b) why all the three classes of financial firms chose to buy more government bonds than is required of them. These are important questions which need to be explored in the downstream literature. Some conjectures that may help in this exploration include (a) the problem of fear in the eyes of employees of financial firms who may face prosecution when private borrowers default, (b) the decline in investment in the economy in the 2009-2011 period, (c) the possibility of government or RBI requesting for special help in placing government debt through non-rule-of-law ways, particularly to public sector financial firms.

6 Developing a strategic perspective for government borrowing

We now know something about the mechanisms that have been used by the Indian state in order to borrow funds from the market. This illuminates the policy trade-offs in the formulation of debt management strategy.

Asset class rules in financial regulation Micro-prudential regulation requires capping the failure probability of a financial firm. As an example, banking regulators generally try to achieve a failure rate of 1.5% on a five-year horizon, which corresponds to an S&P rating of BBB. This implies an expectation that 15 of 1000 well-regulated banks will default over the coming five years.

Financial sector regulators use a variety of regulatory tools in order to force banks to stay below this desired maximal default rate. Rules about the

structure of asset ownership are a relatively crude way through which this is achieved.

In modern economies, safety in financial firms is generally not pursued by forcing them to hold low risk assets, such as government bonds. What is required is for risk managers and the board of the bank to assess the overall portfolio risk of the bank and predict the failure probability on a five year horizon. This would be optimal from the perspective of delivering a better return-to-risk ratio to shareholders, as well as potentially a better rate of return to depositors.

Thus, financial regulation will better obtain the desired failure rate through micro-prudential strategies that do not force a certain fraction of assets to be lent to the Indian state.

Financial repression as a tax on lenders The coercion of financial firms into buy government bonds can be viewed as a form of a tax. Consumers of the financial products and services made by asset-based financial firms are forced to pay higher prices (for example, depositors at financially repressed banks earn lower rates). These consumers are effectively paying a financial repression tax.

It is well acknowledged in public finance that such narrow commodity taxes are inefficient. They induce substantial distortions upon the economy, as users try to avoid taxed sectors in favour of un-taxed alternatives.

A rational public finance system is one which uses broad-based taxes, such as the GST and the personal income tax, since these impose low or no behavioural modifications upon economic agents. The use of financial repression as a shadow tax is a "bad tax", one that helps induce the high Indian value of the Marginal Cost of Public Funds (MCPF).

Fiscal prudence and the strategic depth of the state Sound public finance can support high *variability* of the deficit. Under normal circumstances, the sovereign must run small primary surpluses, so as to achieve a declining debt/GDP ratio in most years. This builds up credibility in the eyes of the lender. This, in turn, creates the possibility of being able to borrow very large amounts with faced with unanticipated situations, such as a pandemic or a war.

This ability to borrow on a very large scale creates strategic depth for the state. As an example, the UK government borrowed about 100 per cent of GDP in order to finance the 1st and 2nd world wars. Similarly, we have seen advanced economies engage in large scale borrowing, when faced with the 2008 crisis and the pandemic. This has allowed these governments to engage in expenditures which were beyond reach for the Indian state.

The ability to implement surge borrowing requires a deep and liquid bond market. In such a market, modest increases in interest rates elicit large

quantities of lending. The depth of this market ultimately depends upon the extent of information *symmetry* between the borrowers (State) and the lenders (market), and the trust of voluntary (rather than captive) lenders.

Debt management strategy is an important element of managing a country's fiscal deficit. For example, nearly 70 countries have adopted the *Medium Term Debt Strategy* toolkit that was developed in 2009 by the World Bank and the IMF to support developing and emerging economies in formulating and executing debt management strategies (The World Bank and IMF, 2009).[21]

The Indian state does not release a document with its debt management strategy. The Department of Economic Affairs publishes the annual Status Paper of Government Debt since 2015, which includes debt management strategy of the Central government presenting details about the magnitude of debt and deficit, its composition and lenders. Though informative, it largely remains an accounting exercise, and not a strategic document. In order to develop a robust strategy for debt management, we have to understand: who lends voluntarily to the Indian state? What impedes their engagement with the Indian public debt manager? What strategy must be adopted so that large increases of the quantities borrowed are feasible in a crisis, while only requiring small increases in the interest rate?

In this paper, we have tried to piece together the facts and some insights on the debt management strategy that may be in play in India. Our findings are only the beginning. There are other important questions that merit further research for a well-developed strategy.

1. *Why do financial institutions lend so much to the government?* The simple argument – that many categories of financial firms are just coerced into lending to the Indian state – is not correct as we see voluntary holdings that exceed the financial regulatory requirement. What might be at work here?

2. *Who will be the dominant lenders to the govt. in 2034?* In this paper, we have seen the dramatic emergence of insurance and pension funds as the important force in lending to the Indian state. How might the next ten years shape up? It is possible to make assumptions about (say) the future growth of bank deposits, and about the forecasted SLR, and make estimates for the purchase of bonds by banks. Such a calculation would have failed to foresee

[21]The World Bank and the IMF published, Developing a medium term debt management strategy (MTDS): The analytical tool, User guide in 2009 which included a systematic and comprehensive framework along with an analytical tool to assist nations to develop an effective debt management strategy.

the major changes of the last decade, and hence we should skeptically peer into the next decade with more than mere extrapolation.

3. *If a big surge in borrowing is required, where will it come from?* Suppose there is a scenario where a significant surge in borrowing is desirable. How might the Indian state achieve this? The conventional approach seen in advanced economies is to turn to the well established pool of voluntary lenders, and pay slightly higher interest rates, which makes possible much larger levels of borrowing. Of particular importance are foreign lenders as they are likely to be unaffected in a domestic crisis, while domestic persons will face difficulties alongside the Indian state when there are difficulties in India. However, the only three groups of voluntary lenders in the market today – individuals, MFs, foreigners – have a low engagement in this market today.

4. *What is the household response to the financial repression tax?* Households are expected to respond to the tax on formal finance by favouring gold, real estate and overseas assets (Sane and Singh, 2022). What changes are required before households can become a stable source of lending to the Indian state?

5. *What is the path to fiscal responsibility?* In advanced economies, the bond market acts as a powerful check-and-balance. As an example, in the brief prime minister ship of Liz Truss in the UK, the announcement of tax cuts and subsidies in the budget announcement of 23rd September 2022, increased the estimated budget deficit for the year 2021-22 from 3.8 per cent of GDP to 5.3 per cent (Office of Budget Responsibility, 2022a,b), the bond market responded with the 10-year rate going up from 3.47 per cent on 21st September 2022 to 4.47 per cent by 27th September , and ultimately triggered the resignation of the prime minister. In the Indian environment, when the bond market does not have a voice, what forces could induce fiscal responsibility?

7 Conclusion

A great deal of fiscal research in India today focuses on the government. There is much interest in how much the government borrows in a year, and in the stock of debt. In this paper, we have shifted the lens from the borrower to the lender. We obtain basic facts and insights on the question of who lends to the government and why.

In every country, there is the need for a government borrowing strategy, whereby institutional arrangements and a structure of trust are created in important investors, so that there is a high ability to surge borrowing in a crisis through modest increases in interest rates. Such flexibility in raising borrowing in a crisis can, of course, only be discussed in the context of

voluntary lenders to the government. In a crisis that afflicts the Indian economy, Indian persons are likely to face difficulties alongside the Indian state, therefore a structure of trust in the eyes of domestic voluntary lenders and foreign lenders is particularly important.

One main finding of this paper is that the bulk of lending to the government comes from financial firms who are forced to lend to the government. The true voluntary lenders – private firms, mutual funds and FIIs – make up about 5.1% of the lending to government. The institutional journey to engagement with voluntary lenders has, then, largely not commenced.

Government borrowing and debt expanded on a massive scale from 2000 to 2021. Over this period, the debt maturity went up. Alongside this, the scale of coerced lending by banks actually declined (from 38 per cent to 18 per cent). How was government borrowing achieved? The answer lies in two parts. First, there was a great growth in the insurance and pension sectors, and large scale forced mobilisation of resources from these sectors. Second, all three groups of financial firms purchased more government bonds than is required of them by regulations. Excess ownership went up from close to 0 in 2011 to about Rs.30 trillion in 2021. The conventional view – of government owning PSU banks and the PSU banks investing in government bonds – is not central to the methods through which debt capital is mobilised by the government in present times.

A substantial journey in financial and fiscal reform stands ahead for the Indian state to achieve greater strategic depth in a crisis, and to remove the inefficient taxation that is embedded in forcible mobilisation of borrowing. Sustained examination of this field – the methods through which the Indian state borrows – will be an important component of this journey.

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