Mapping India's Finances: 60 Years of Flow of Funds

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Abstract

We provide a broad brush précis of the evolution of the Indian financial system over the last 60 years. We describe financial flows between different sectors of the Indian economy from 1955 to 2015 using publicly available flow of funds data. This is a useful adjunct to other macroeconomic accounts. We find that throughout this period the consolidated government sector is the largest net deficit sector and households are the largest net surplus sector. However, the private corporate sector is now running larger deficits as a fraction of GDP than at any time in the past, implying a greater reliance on external credit from other sectors than in the past. Despite the development of capital markets, private corporate businesses rely on loans and advances more extensively than on debt instruments, and the reverse is true for the government sector. Households have maintained roughly the same portfolio composition throughout the period. The liberalisation and globalisation of finance in India that began in the 1990s has led to a substantively different picture than in the past. The Rest of the World sector, for example, is now the second largest net surplus sector in the economy. We describe some implications of these findings.

[1]We thank Perry Mehrling and Vineet K Srivastava for useful comments and insights. All errors are our own.

1 Flow of Funds

Capitalism is a financial system. Every entity in the economy, whether an individual, a household, a business, or a state institution, faces monetary constraints in its operations in the sense that cash-inflow and cash-outflow operations form a key set of conditioning factors on behaviour. Depending on the extent to which an entity effectively manages these flows, it faces greater or fewer liquidity and solvency constraints. In periods of generalised crisis, it is the network of these constraints that first become legible as being under threat[1]. There is now an increasing recognition that financial operations and money flows, rather than being just a 'veil' reflecting 'real' flows, have an independent existence that determine economic outcomes (see Mehrling [2012] for a particularly clear modern treatment). Money flows from this view point are autonomous but shape real outcomes. Put another way, money flows may or may not correspond tightly with 'real' flows of expenditure but may have significant importance for understanding the macroeconomy (for example, households may borrow in order to accumulate assets, but this does not result in increased consumption or investment, but does have significant effects on the overall fragility of the financial system).

From such a perspective, an effective accounting structure for the evolution of an economy needs to capture the pattern, duration and timing of money flows within the economy. This was the insight of Morris Copeland [Copeland, 1952] and his inspiration for the creation of the 'Flow of Funds' accounts in the United States. The flow of funds accounts measure financial flows and commitments across sectors of the economy, tracking funds as they move from net surplus sectors which have surplus funds to net deficit sectors that use these funds to undertake current expenditure or to acquire physical and financial assets. Examining these flows of funds provides a simple but effective portrait of the nature of financial claims in an economy, and acts as a very useful adjunct to the national income accounts in understanding the current and likely future trajectories of an economy.

In this paper, we provide such a portrait for the Indian economy from 1955 to 2015 using the country's surprisingly underused flow of funds accounts data. We undertake a (very) broad brush portrait of the sources and uses of funds and the evolution of the financial instruments issued over the period. To foreground our results, a few key features appear.

- The consolidated government sector is the largest net deficit sector and households are the largest net surplus sector.
- Since the onset of liberalisation, while the financial deficits of the government exceed the deficits of the private corporate sector in most years, the private corporate sector is running larger deficits as a fraction of GDP than any time in the past.

[1] This in fact was a key insight of Hyman Minsky [Minsky, 1964] that became a cornerstone of his understanding of capitalist crisis

- The rest of the world has moved to becoming the second largest net surplus sector in the economy.
- The pattern of financing for the large deficit sectors varies substantially with the private corporate sector still relying on bank-based loans and advances rather than market-based security issuances in order to undertake expenditure.
- Sectoral transfers have changed over time. For example, the private corporate sector relies much more heavily on households and the rest of the world for their financing now than in the past.

The rest of this paper is divided as follows. In section 2 we provide a brief background review on the Flow of Funds and the way in which the Flow of Funds is constructed in India. The following section (section 3) provides an overview of the net surplus and deficit sectors from 1955-2015 and the evolution of patterns of funding. The final section uses these findings to provide pathways for further research and understanding.

2 Background

The Flow of Funds (henceforth, FoF) approach traces its roots back to the work of Morris Copeland in the late 1940s. His paper "*Tracing Money Flows Through the United States Economy*" [Copeland, 1947], laid the foundation for this method of analysis which he further developed in his book some years later [Copeland, 1952]. Since microdata on every transaction is not available, Copeland suggested that we divide the economy into several key institutional sectors and account for aggregate money flows between each sector. The resultant FoF model consists of a set of interrelated sectoral balance sheets, each containing the credits and debits to the particular sector with its counterparts. Typically, FoF data contain two sets of balance sheets: Aggregate flows of assets ("Uses") and liabilities ("Sources") for all sector and the composition of assets issued and held by each sector, listed by financial instrument.

The first principle of financial accounting is that, for any economic unit, total sources of funds must equal total uses of funds and that these must also tally across sectors. While there are many ways of organising accounts, this equality must always hold. Organising accounts with this principle in mind allows for a deeper understanding of the overall level of financial activity and the extent to which surplus units are experiencing a net accumulation of assets while correspondingly net deficit units are experiencing a net accumulation of liabilities and these can serve to provide some indication of the financial fragility of any sector or unit. Macroeconomic analyses based on understanding 'sectoral balances' have

been used to assess the structure, potential evolution of, and propensity for, fragility (see, among others, Godley and Cripps [1983], Godley [1999]).

As noted, the relevance of this type of analysis is arguably higher in a liberalized or 'de-repressed' financial system where balance sheets can evolve more freely (in a system of financial controls and repression, financial balances are constrained to follow real activity in predictable ways). Financial deregulation, the opening of national economies to global capital flows along with increasingly fluid and diverse forms of financial capital since the late 20th century imply that many critical dimensions of economic activity embodied and reflected in financial markets are not adequately captured by traditional measures such as GDP.

2.1 India

Somewhat surprisingly given the complex nature of data collection, amongst developing countries, India has one of the most extensive and up-to-date sets of data on money flows. We owe this to a suggestion from the then Union Finance Minister in 1955, C.D. Deshmukh, who supported the idea of having a money flows account. The RBI has been publishing FoF data since 1967, with the data stretching back to 1951-52 and the most recent release covering the year 2014-15. To the best of our knowledge, very few have attempted to use the RBI's data in recent years, with only a small handful of researchers actually publishing papers or articles on the subject. Earlier work using Indian FoF data can be found in Bhatt [1971], Sen et al. [1996] and Sen and Vaidya [1997], Green et al. [2000], Green et al. [2002], as well as in Moore [2007], among others.

To the best of our knowledge, despite the availability of the data, there have been no descriptive accounts of the evolution of the FoF in the last two decades besides the periodic reports of the Reserve Bank of India. Given the substantial changes experienced by the Indian economy during the last two decades as a result of the extensive financial deregulation over the period along with the consequent financial development in the economy, as well as global dislocations such as the financial crisis and its aftermath, (∼2007-present), such an exercise may be particularly useful now. In particular, since the early 1990s there has been a sea-change in the functioning of Indian financial markets with a host of new institutions and regulations, including the revolution in capital markets, the entry of private banks, changed RBI regulatory norms, increased capital inflows from abroad as a result of capital account liberalisation, and so on[2]. As such, for our basic analysis we compare the pre-liberalisation and post-liberalisation financial accounts in greater detail.

[2]For a good review of these, see Shah and Patnaik [2011] and Allen et al. [2007]

2.2 Data

Flow of Funds data are provided online[3] in matrix form, with columns representing sectors, and rows representing either a sector, or an instrument. Sample tables of both sector-wise and instrument-wise FoF data are included in figure 1 on page 7.

Each column (sector) is further subdivided into two subcolumns: "Sources", and "Uses". As per RBI definitions, "the sources column provides data on funds available to the specific sector, raised from other sectors", while the uses column "represents the sector's investment in financial assets and net increases in financial assets over the period covered in the accounts". Theoretically, in the aggregate, total sources and total uses should balance, however in practice this is rarely achieved, partly due to "lags in the availability of information and partly due to inadequate quality of data" [RBI, 2000].

The economy is divided into the following sectors, based on institutional structure and activity status:

1. Banking
2. Other Financial Institutions (OFI)
3. Private Corporate Sector (PCS)
4. Government
5. Rest of the World (RotW)
6. Households

The banking sector includes the RBI, commercial banks, cooperative banks, and credit societies. The OFI sector contains financial corporations and companies, and insurance, while the PCS sector includes non-credit societies and non-government non-financial companies. The government sector includes central and state governments, as well as their departmental commercial undertakings, local authorities, and "non-departmental non-financial commercial undertakings" (e.g. state electricity boards). The RotW sector contains all international institutions, including the IMF, WTO, and ADB, among others. The household sector is a residual sector, comprising "the individuals, non-government non-corporate enterprises of farm/firm business and non-farm/firm business, like sole proprietorships and partnerships, trusts and non-profit institutions" [RBI, 2000]. Having noted this, communication with the RBI suggested that while the household sector is "technically" a residual sector, balances are calculated from CSO estimates of household saving. As a result, the sectoral balances do not add up completely, and there is need for a 'not elsewhere classified' sector.

[3] See https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/15426.pdf

For the instrument-wise data, financial instruments are grouped into the following categories:

1. Currency & deposits
2. Investment, which includes:
   (a) Government securities
   (b) Corporate securities
   (c) Bank securities
   (d) OFI securities
   (e) Foreign securities
   (f) Other securities
3. Loans & advances
4. Small savings
5. Life fund
6. Provident fund
7. Compulsory deposits
8. Trade debt
9. Foreign claims not elsewhere classified

The RBI sources most data from official publications such as the 'RBI Bulletin', government reports, company annual reports, etc. to construct the FoF tables on an annual basis. Detailed sources for all data are provided in RBI [2000]. A comprehensive account on the methodology of data compilation for every sector can also be found in the same document.

Apart from the existence of some discrepancies at the aggregate level, the FoF data are subject to certain other limitations; data are collected using samples and then scaled up to generate aggregate figures for each sector, due to the unavailability of sufficiently detailed micro-level data. Flows for most sectors are obtained as the difference between outstanding positions at the end of each financial year as opposed to "actual" flows (apart from the household sector which is a residual sector). These flows are not bifurcated into transactions, revaluations (capital gains/losses, changes owing to movements in the exchange rate, etc.) and other changes in volume account (e.g. write-offs) due to non-availability of data. Finally, because of the fact that these flows are estimated, they may not tally with other published data to which they are expected to correspond.

Puzzlingly and frustratingly, official data on levels are not published along with flows. While data on levels must exist in order to compute differences between outstanding positions, we have been unable to access such data despite repeated requests to the RBI[4].

[4]Furthermore, instrument-wise data was aligned with SNA, 2008, starting from 2011-12. Although six years have since passed, data from 1955-2010 have not yet been rebased to conform with the new standards, and hence cannot be used in conjunction with newer data.

Statement 2.44 : Financial Flows - Sector-Wise - 1994-95

(Rupees crore)

	Banking		Other Financial Institutions		Private Corpo-rate Business		Government		Rest of the World		Households		**Total**	
	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1. Banking	-	-	3,295	-2,704	32,889	4,188	22,008	908	13,700	-5,506	21,618	71,524	**93,510**	**68,410**
2. Other Financial Institutions	13,293	-331	-	-	30,876	7,772	17,917	1,598	-23	7,920	2,409	38,426	**64,472**	**55,385**
3. Private Corporate Sector	2,650	35,423	22,287	30,080	-	-	-7	2,208	-	16,842	326	10,639	**25,256**	**95,192**
4. Government	11,237	16,016	1,569	43,021	2,390	4,285	-	-	-5,957	-533	417	24,792	**9,656**	**87,626**
5. Rest of the World	3,609	19,677	828	-183	13,491	197	5,475	345	-	-	-	-	**23,403**	**20,036**
6. Households	71,524	21,618	38,426	2,409	10,639	326	24,792	417	-	-	-	-	**-1,45,381**	**24,770**
7. Sector n.e. classified	10,827	5,388	10,451	13,287	19,899	24,116	1,622	1,601	-6,299	1,947	-	-	**36,500**	**46,339**
8. Total	**1,13,140**	**97,836**	**76,856**	**85,910**	**110,184**	**40,884**	**71,807**	**7,077**	**1,421**	**20,670**	**24,770**	**145,381**	**398,178**	**397,758**
(SOURCES - USES)	15,304		-9,054		69,300		64,730		-19,249		- 120,611		420	

Source: Report on Currency & Finance, Volume II, 1997-98.

Statement 1.44 : Financial Flows - Instrument-Wise - 1994-95

(Rupees crore)

Instrument / Sector	Banking		Other Financial Institutions		Private Corpo-rate Business		Government		Rest of the World		Households		**Total**		Discrepancy
	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses	Sources	Uses	**Sources**	**Uses**	(Sources - Uses)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	**(14)**	**(15)**	(16)
1. Currency and Deposits	96408	1530	9045	1269	2696	7705	11372	1629	-5970	-1921	-	83297	**113551**	**93509**	20042
2. Investments	4899	14120	26593	46774	41831	8833	27063	2453	13700	15420	-	17474	**114086**	**105074**	9012
a. Central & State Govt. Securities	-	19518	-	20835	-	529	25186	-	-	-29	-	23	**25186**	**40876**	-15690
b. Other Govt. Securities	-	-2146	-	-644	-	-	1877	-	-	-	-	175	**1877**	**-2615**	4492
c. Corporate Securities	-	2787	-	18875	41831	-	-	588	-	15449	-	8538	**41831**	**46237**	-4406
d. Bank Securities	4899	-	-	-5019	-	239	-	-469	-	-	-	140	**4899**	**-5109**	10008
e. OFI Securities	-	-1343	26593	-	-	7772	-	877	-	-	-	8598	**26593**	**15904**	10689
f. Foreign Securities	-	-4643	-	61	-	197	-	-	13700	-	-	-	**13700**	**-4385**	18085
g. Others	-	-53	-	12666	-	96	-	1457	-	-	-	-	-	**14166**	-14166
3. Loans & Advances	9394	57010	11523	34997	50742	23856	9808	4455	-	5196	24770	-	**106237**	**125514**	-19277
4. Small Savings	-	-	-	165	-	-	13269	-	-	-	-	13140	**13269**	**13269**	-
5. Life Fund	-	-	10298	-	-	-	1125	-	-	53	-	11370	**11423**	**11423**	-
6. Provident Fund	-	-	-	-	-	-	8856	-	-	-	-	21295	**21295**	**21295**	-
7. Compulsory Deposits	-10	-	-	-	-	-	-	-	-	-	-	-10	**-10**	**-10**	-
8. Trade Debt	-	-	534	-	-1682	-	435	-1068	-	-	-	-1149	**-713**	**-2217**	1504
9. Foreign claims n.e. classified	-	24320	-	-	-	-	-	46	-6309	1922	-	-	**-6309**	**26288**	-32597
10. Other items n.e. classified	2449	856	6424	2705	16597	490	-121	-438	-	-	-	-	**25349**	**3613**	21736
Total	**113140**	**97836**	**76856**	**85910**	**110184**	**40884**	**71807**	**7077**	**1421**	**20670**	**24770**	**145381**	**398178**	**397758**	**420**

Source: Report on Currency & Finance, Volume II, 1997-98.

Figure 1: Sample FoF Tables

3 The Evolution of Indian Sectoral Balances

3.1 The Overall Story

The basic story of the Indian FoF is told in figure 2a and figure 2b. The lines show the net deficit position of each sector as the difference between sources of funds and uses of funds. If inflows exceed outflows the sector has added more to the claims on itself for that year than it has added to the claims it has on other sectors. Figure 2a provides these positions in nominal terms and figure 2b depicts the same graph normalized by Gross Domestic Income. Furthermore, the figures show that there has been increasing use of financial markets, since net positions are larger as a fraction of GDP. This is seen more easily in figure 3a which provides the finance ratio (total sources/GDP) for the period. Clearly, this measure has increased over time. At the current juncture, it stands at around 60 % of GDP.

From 1955 through the late 1980s, the direction and use of funds was quite straightforward. The government sector ran net deficits throughout the period with an acceleration from about 5% of GDP to about 10% of GDP from the 1980s to the mid-1990s. Subsequent to the period of liberalisation, its net deficit was more volatile, decreasing substantially before it increased again in the early 2000s with another cycle to follow in the succeeding decade. The private corporate sector was the other major net deficit sector, running deficits of around 2-5 % of GDP starting in the 1970s. While always a deficit sector, it was decidedly a smaller net deficit sector than the government till the period of liberalisation. Following the onset of liberalisation, the private corporate sector began to run much higher and more volatile deficits, regularly of the order of 8% of GDP. Moreover, in the period following liberalisation, it appears that the private corporate sector's deficit mirrors that of the government.

Banking and other financial institutions have, as may be expected, not taken very sharp net positions. This was especially true of the period before liberalisation. Following the 1990s and the deepening of financial markets, they have been more willing to take larger net deficit or surplus positions, but almost never of very significant magnitudes (in the order of 2-3% of GDP on average).

The household sector is the largest net surplus sector. It should be remembered that household balances are counted as a residual and that the figures are not derived from any underlying balance sheets. With this caveat, the household sector ran increasing surpluses in the period from 1950 to 1990. Since then, it has maintained a relatively steady yearly net surplus of about 10% of GDP. Most interestingly, the rest of the world has moved in the last few years to being the second largest net surplus sector (substantially higher than both banking and other financial institutions) at nearly 4% of GDP.[5].

[5]This is of course something that has been more systematically occurring around the world. Some have

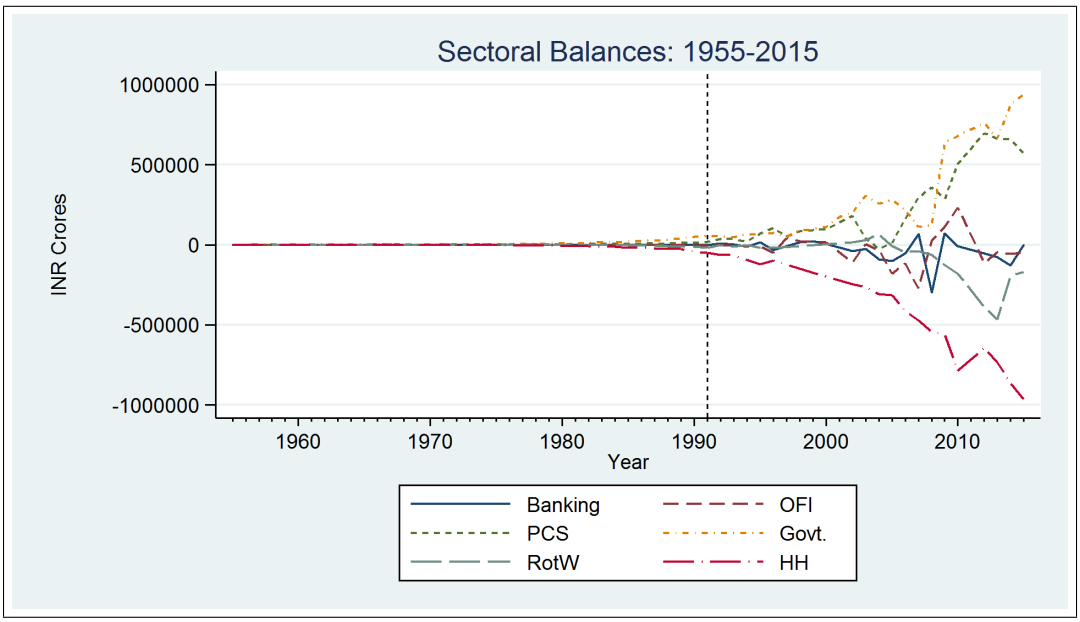

Figure 2a: Sectoral Balances for All Sectors

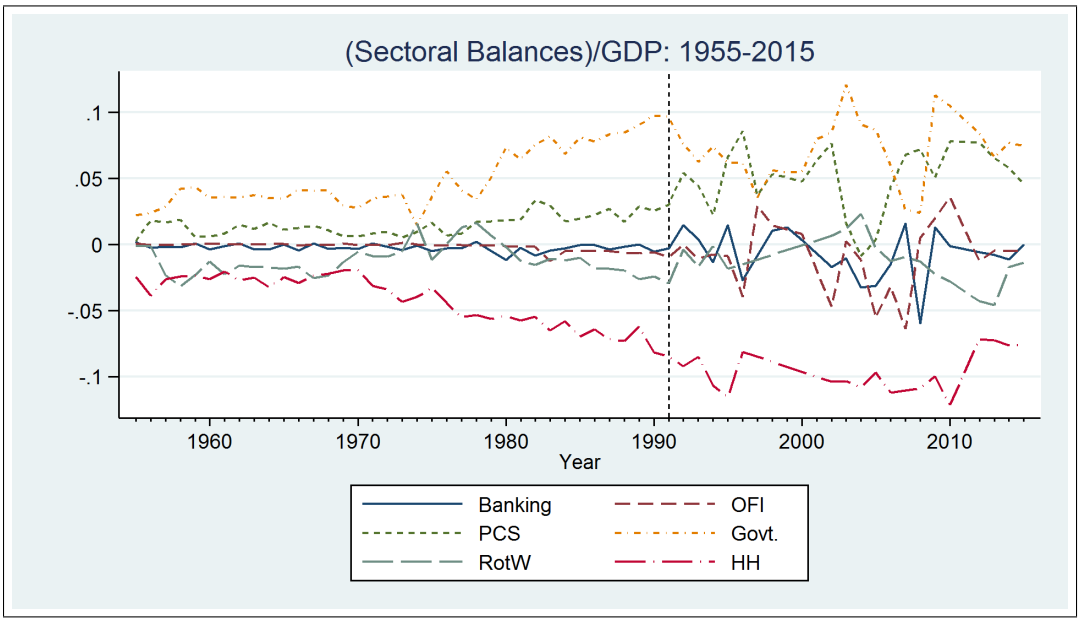

Figure 2b: Sectoral Balances for All Sectors: Normalised by GDP

3.1.1 Caveats and Checks

While the figures tell a story that is consistent with broad expectations, it should be noted that there may be considerable noise due to statistical discrepancies. While aggregate sources should be equal to aggregate uses, in practice this is not the case. As figure 3b shows, the difference between sources and uses can be substantial,especially after 2000 when these figures reach 10% of GDP in one year. Nevertheless, we can only go with the published data from the RBI which suggests these levels of uncertainty.

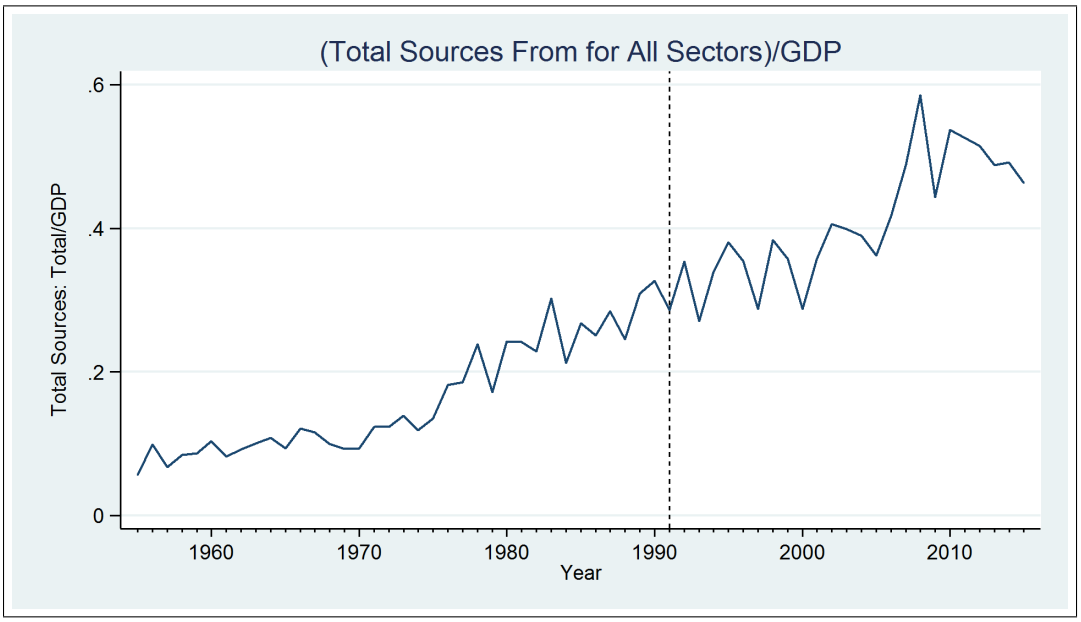

Figure 3a: Total Sources: Normalised by GDP

The Flow of Funds makes little to no attempt to reconcile its implied flows with national accounts statistics . In theory, one should expect a rough correspondence between the deficit of a sector, as measured by the difference in flows in national accounts and the net flows into the sector as measured by the Flow of Funds, since the deficit of that sector will need to be financed. In other words, if there is a current account deficit, say, we should expect to see a net surplus accruing to the rest of the world. Similarly, in order to run a government deficit, we should expect to see a corresponding net surplus of other agents to the government of the same magnitude. In order to examine this, in figure 4b we plot the the current account balance (from national accounts statistics) and compare it with the rest of the world sectoral balance from the Flow of Funds. As is evident, there is very close correspondence. In figure 4a we undertake the same exercise with the gross fiscal deficit (as

expressed the concern that those focusing on Balance of Payment crises are fighting the last war by focusing on sovereign foreign-currency borrowing, rather than private borrowing (see for e.g. Rey [2015])

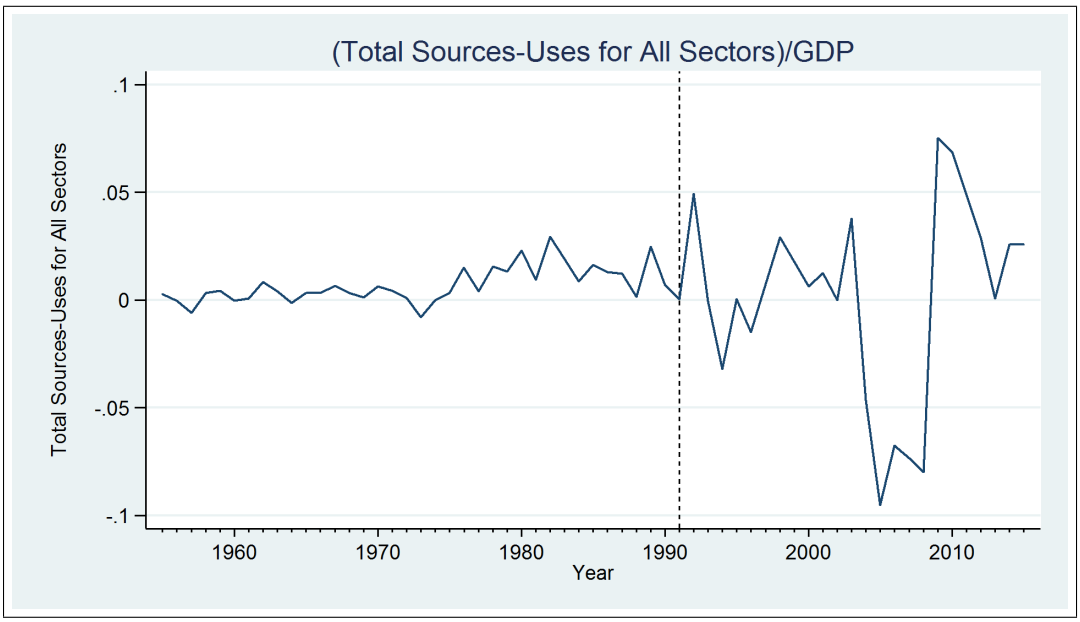

Figure 3b: Total Sources-Uses: Normalised by GDP

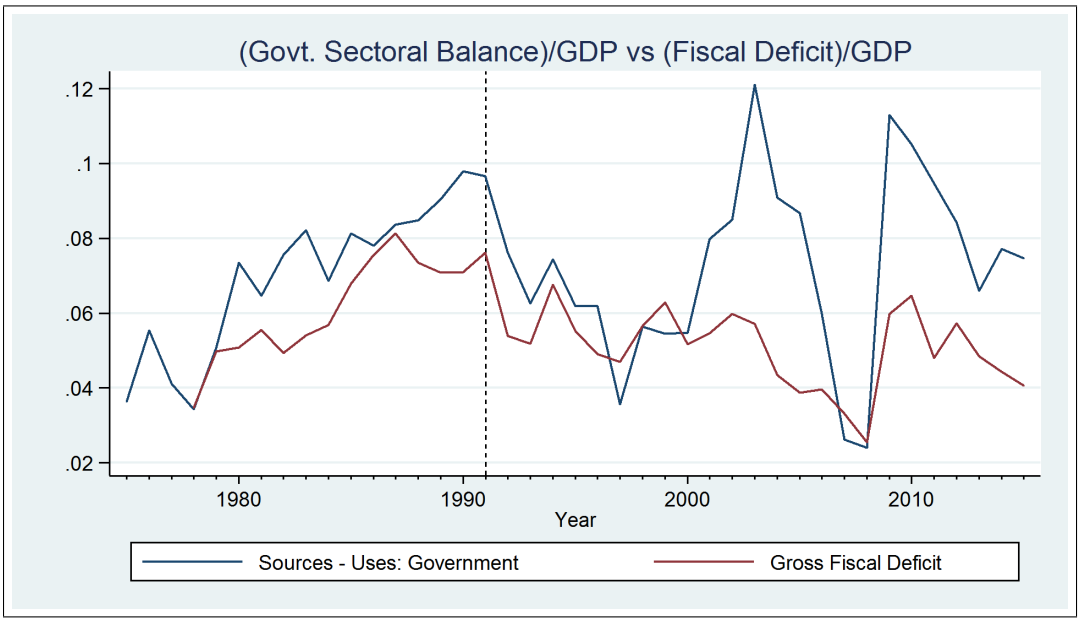

Figure 4a: Government Sectoral Balance vs Gross Fiscal Deficit: Normalised by GDP

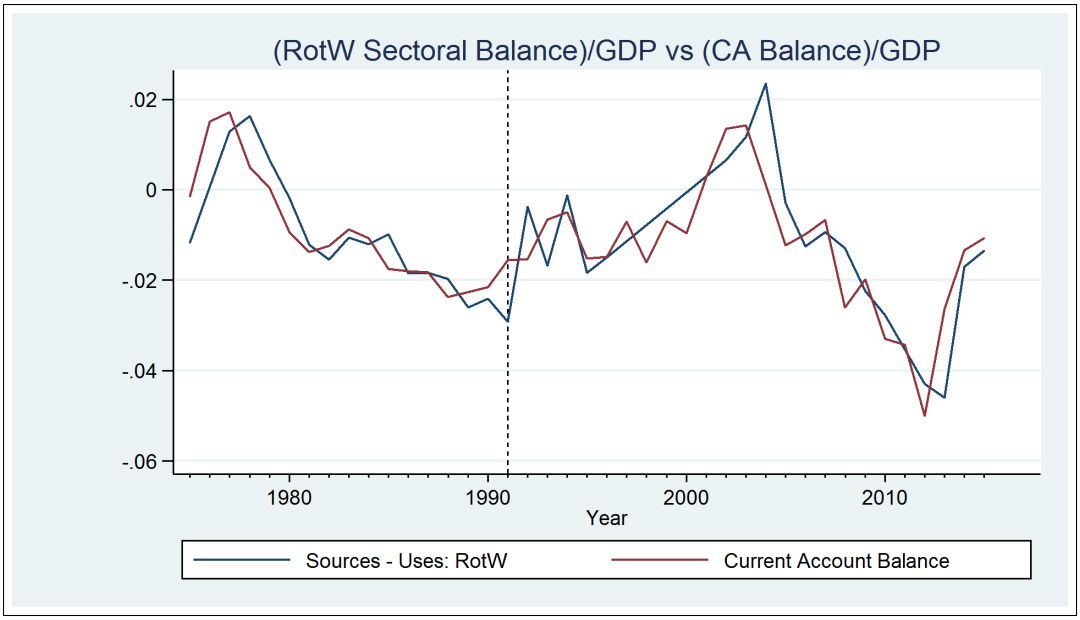

Figure 4b: RotW Sectoral Balance vs Current Account Balance: Normalised by GDP

measured by national accounts) and the government sectoral balance. Here, while there is a rough correspondence between the series , there is one period in particular, the middle 2000s in which this correspondence breaks down. Assessing the reasons for this would be an important task for government statisticians. Taken together however, these figures suggest some reasonable confidence that there is some broad correspondence between Flow of Funds and other measures of the evolution of economic activity.

3.2 Deficit Sectors

Figure 5a provides an indication of the major sources of funding of the government's net deficit position. In the pre-liberalisation period, banking was by far the largest source of funding for the government, with annual transfers of about 4-6% of GDP. This is in keeping with the fact of captive banking in the period of nationalisation. Since the onset of liberalisation, however, the government has started to rely on other financial institutions and households' direct purchase of government claims as well. Thus for example, through the late 1990s and early 2000s, households and other financial institutions contributed between 3-7 % of GDP in terms of annual sources of funds for the government. With the deepening of financial markets, and the development of capital markets, other financial institutions now rival banking as the main source of funding for the state.

The rest of the world accounts for as much as 2% of GDP in sources of funding to the

government. Figure 5b provides an indication of the breakup of instruments used by the government in order to borrow. Government securities were the most common instrument throughout the period, certainly from the late 1970s, accounting for 20% to 80% of all sources. Again, this is broadly in keeping with the idea that several sectors including OFIs and banks possess government securities to a larger amount than may have been expected, primarily because of regulations coercing them to do so [Shah and Patnaik, 2011]. The 'other' category includes currency and deposits, small savings, life funds, provident funds, trade debt and other items not elsewhere classified. Loans and advances (i.e. direct borrowing from banks, has fallen significantly from the mid 1970s when they accounted for nearly 50% of all sources.)

The private corporate sector's net deficit position is substantially differently constructed. First, as noted, the net deficits run are about half the size of the government sector till the period of liberalisation. As figure 6a shows, the sector has relied significantly on both banking and other financial institutions to finance itself since the 1990s. Perhaps most interestingly, between 2005 and 2008, the sector began to issue claims which were financed by banks at an unprecedented level (at its highest, 8% of GDP in one year). This is the same period which was described as a debt-led cyclical bubble by Nagaraj [2013]. Since the peak of 2008, the private corporate sector has reduced its reliance on banking. By contrast, it is in this period that we see the first sign of the rest of the world becoming an important source of funds (in the order of 3-4% of GDP for the sector as a whole). After 2010, we observe that the private corporate sector's funding came primarily from households. While this spike may indeed be the case, it is also possible that since the household sector is treated as a residual sector, we may be observing flows that have not been accurately captured elsewhere. In either case, the private corporate sector became much less reliant on the traditional sources of banking and other financial institutions since 2010. Finally, figure 6b depicts the instruments used by the private corporate sector for its funding. Unlike the government sector, loans and advances constitute the largest source of funds for the private corporate sector, roughly half of all instruments. Despite market deepening, corporate securities account for about 10% to 20% of sources before liberalisation and roughly the same since that period (with an occasional spike).

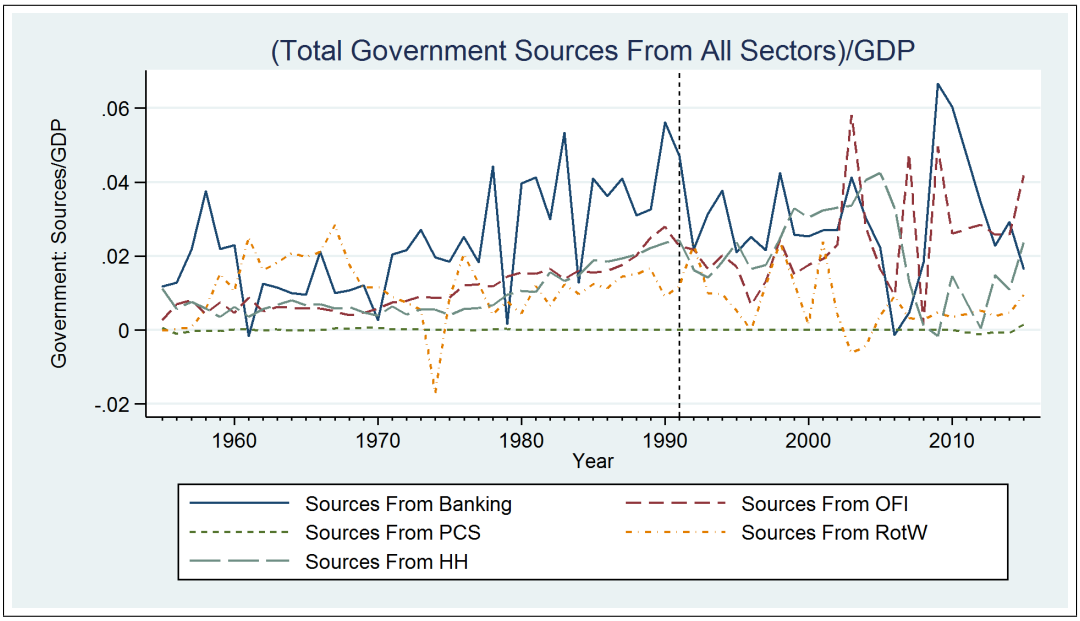

Figure 5a: Sources for the Government Sector: Normalised by GDP

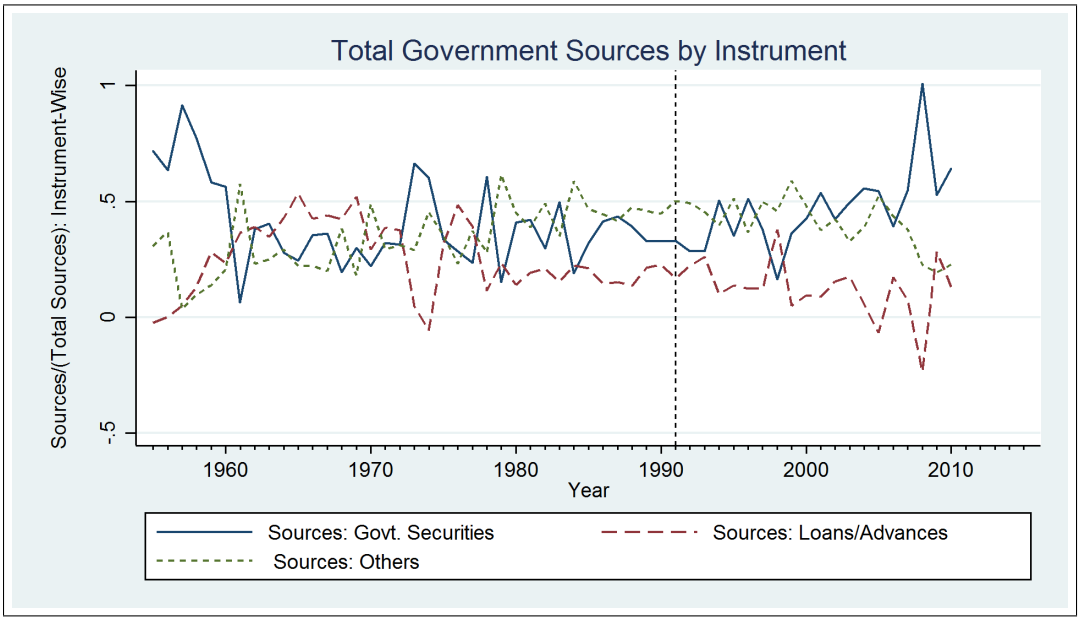

Figure 5b: Sources for the Government Sector - by Instrument

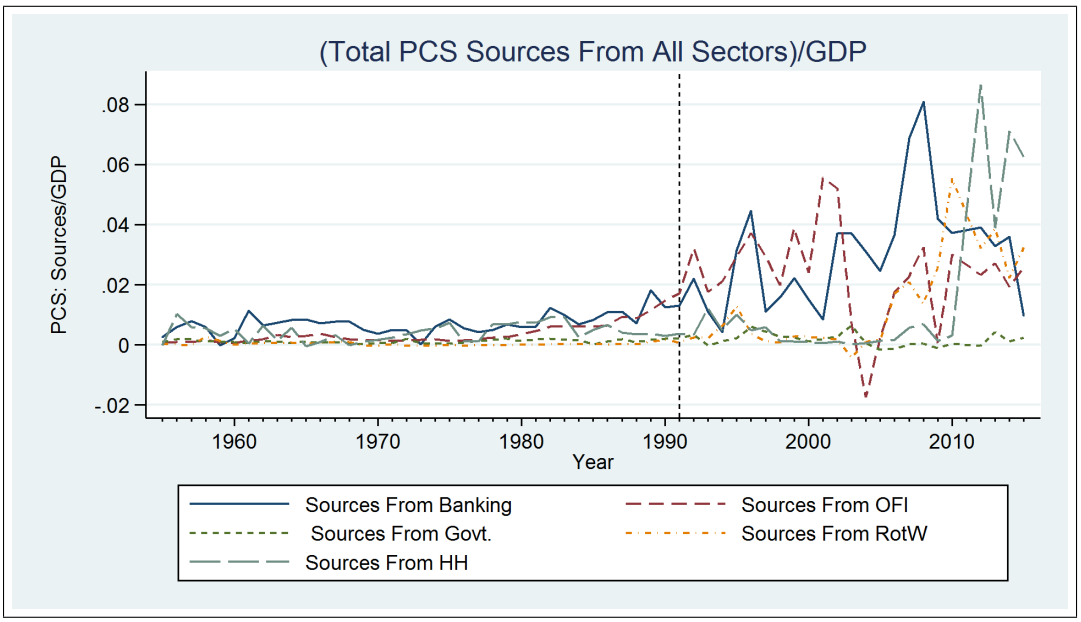

Figure 6a: Sources for the Corporate Sector: Normalised by GDP

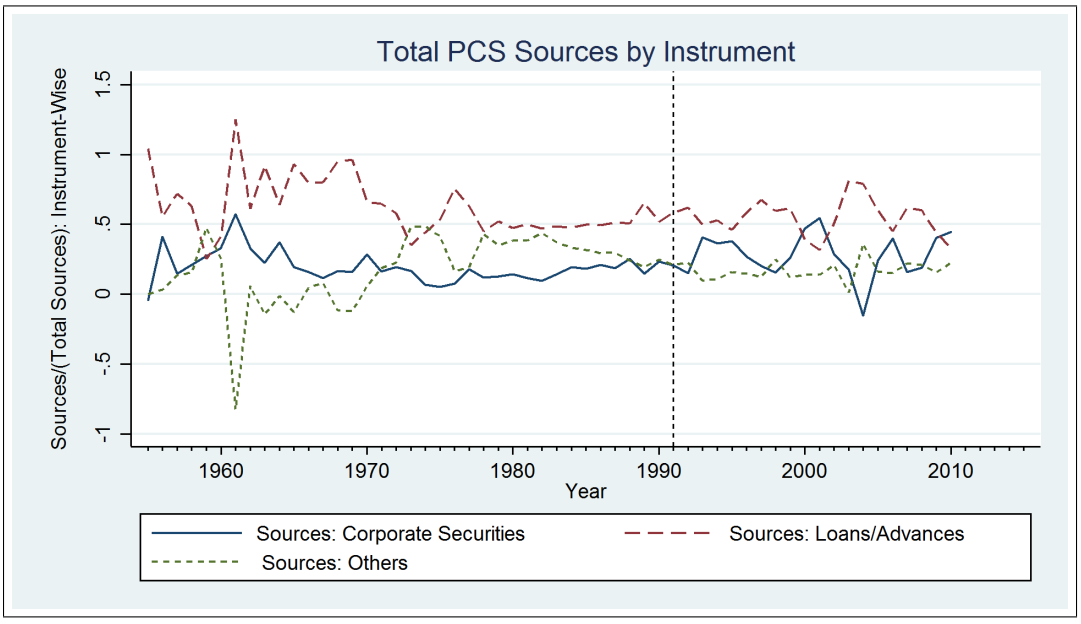

Figure 6b: Sources for the Corporate Sector - by Instrument

3.3 Surplus Sectors

The household sector, as noted, is the main surplus sector. Figure 7a provides a break-up of the uses of funds from the sector over time as a fraction of GDP. Throughout the period in question, there has been an increase in household surpluses, suggesting an increase in financial savings over time. The household sector's funds have been primarily provided to the banking sector, at an annual rate of slightly below 5% of GDP from the 1970s till the 1990s. Subsequent to that period, there has been a marked increase in these funds to the banking sector, averaging around 8%. The second largest use of household funds is to obtain instruments from the 'other financial institutions' category (health and life insurance, and pension funds). These now account for about 3-5 % of GDP in terms of annual claims obtained by the household sector. The figure also suggests that households may consider OFIs and government claims as broad substitutes, since these appear to vary inversely with each other. Figure 7b provides a break-up of the allocation of the household portfolio across various instruments. What is evident is a remarkable stability in this portfolio. Over the last 50 years, roughly 60% of household funds go to deposits and currency (with some notable exceptions). Funds going to other financial institutions are divided between provident funds, life funds and OFI securities. Again, these are relatively stable as a fraction of overall uses - ranging from 5% to 20% of all uses.

The other increasingly important surplus sector is the rest of the world. As figure 8a shows, this was an insignificant source till the late 1990s, but since that period, it has been a large source of funds for the private corporate sector (and to a much smaller extent, the banking sector). The rest of the world provides around 4-8% of GDP in funds to the corporate sector from roughly around nothing before 2000. Figure 8b provides a breakup of the portfolio of the rest of the world. Before 2000, its portfolio consisted of loans and advances, and currency and deposits. Since then, the portfolio is almost entirely in corporate securities[6]. These observations suggest a dramatic and somewhat under-appreciated fact about private debt markets, in that the rest of the world is now a major player rivaling other financial institutions and banking as the preferred source of funds.

[6]Note that when the fraction of the portfolio going to an instrument is greater than one, it means that there is a negative balance that year in one or more of the other instruments.

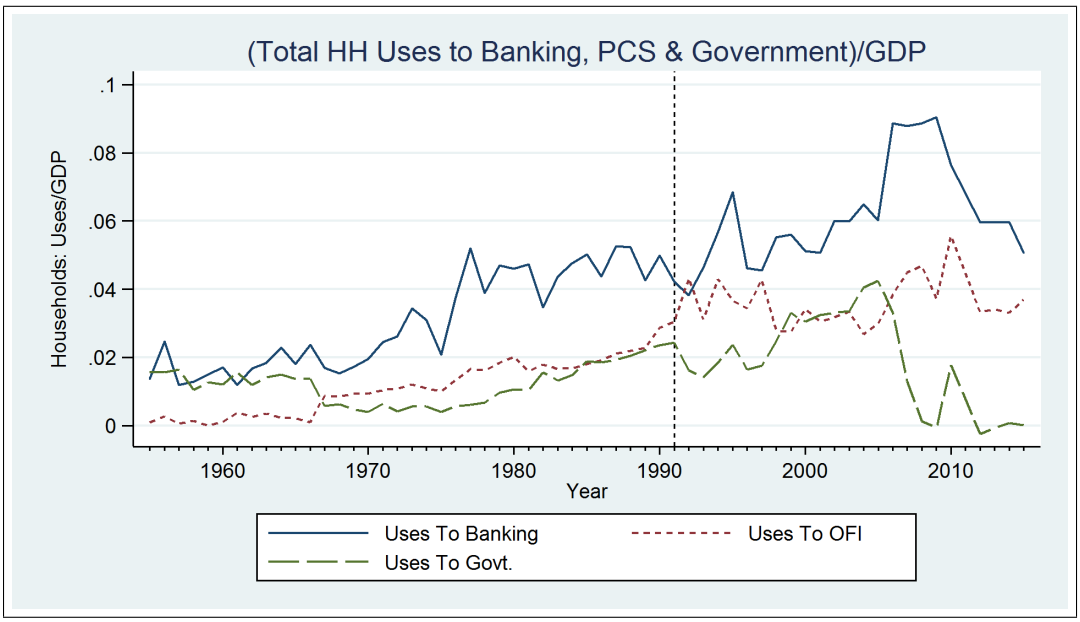

Figure 7a: Uses of the Household Sector to Banking, PCS & Government: Normalised by GDP

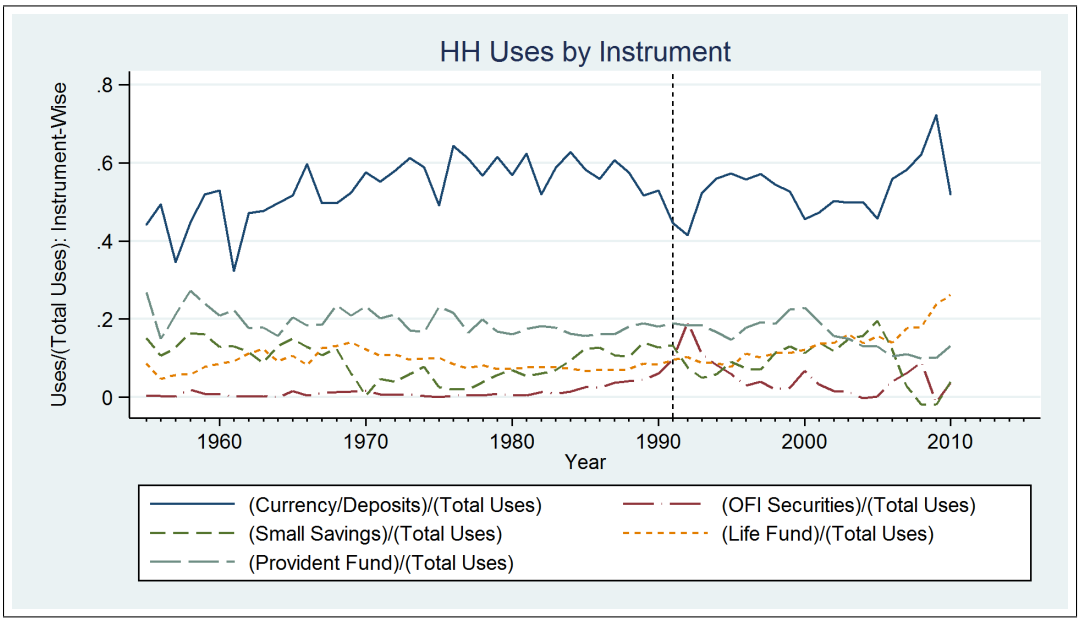

Figure 7b: Uses of the Household Sector - by Instrument

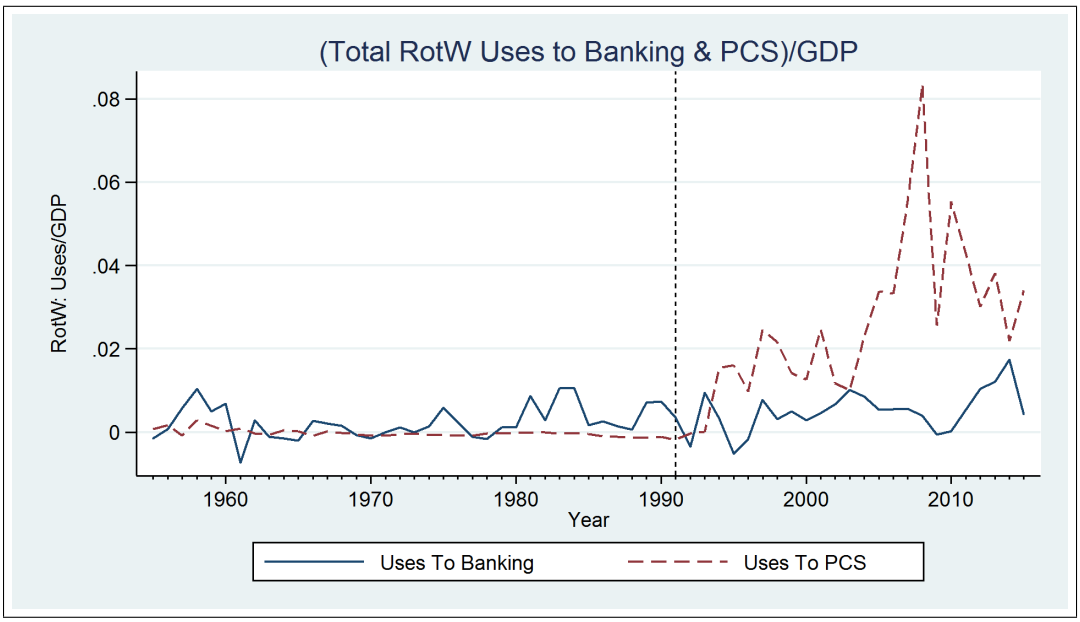

Figure 8a: Uses of the RotW Sector to Banking & PCS: Normalised by GDP

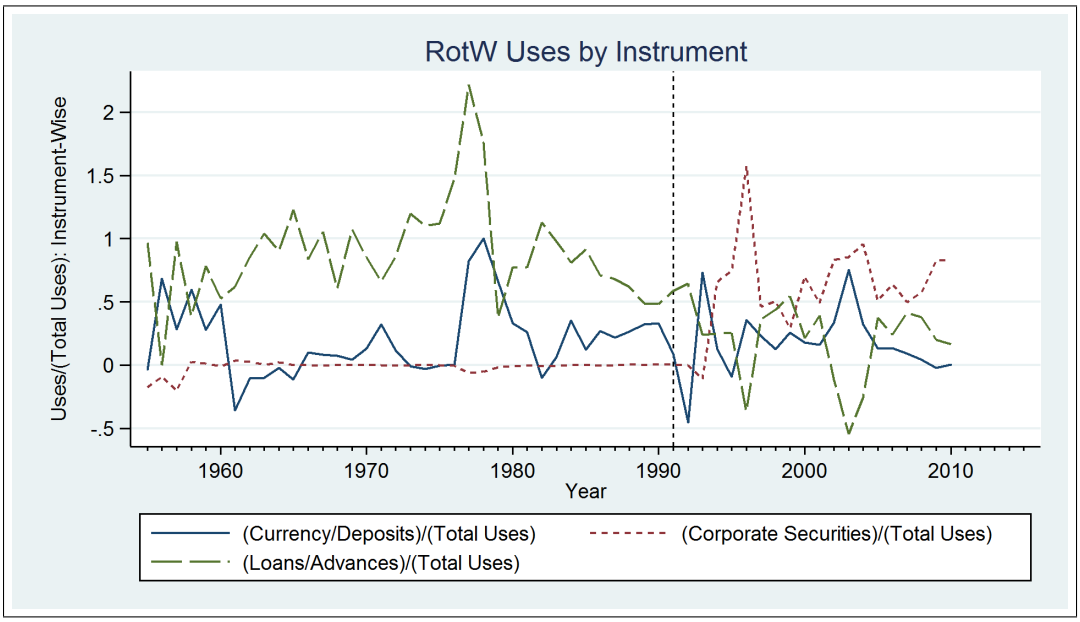

Figure 8b: Uses of the RotW Sector - by Instrument

3.4 Banking and Capital Markets

Finally we turn to the banking sector. As might be expected, given its centrality in liquidity transformation, banks do not take large positions. As figure 9a shows, sources and uses closely evolve together. Figure 9c shows the evolution of the uses of banking funds over the period. The two main uses are for funding the two principal deficit sectors, government and the private corporate sector (the other sectors are not shown). In the late 2000s, the private corporate sector became the primary use of banking funds. Perhaps more interestingly, while banks are most reliant on households as their source of funds, in the recent past, the rest of the world has become an important source as well. As figure 9b shows, banks now obtain funds equivalent to roughly 2% of GDP from the rest of the world, from virtually nothing as recently as 2010.

Just as importantly, it is important to acknowledge that despite the continued centrality of banking India is moving towards greater reliance on capital markets rather than through banking intermediaries. This is seen most clearly in figure 10 which depicts the difference between loans and advances on the one hand and securities on the other as sources of funds for the economy., normalized by GDP. In the period prior to liberalisation, loans and advances typically accounted for a larger fraction of sources (bars above the axis), but this trend was reversed since then and in almost every year, securities account for the larger fraction (bars below the axis).

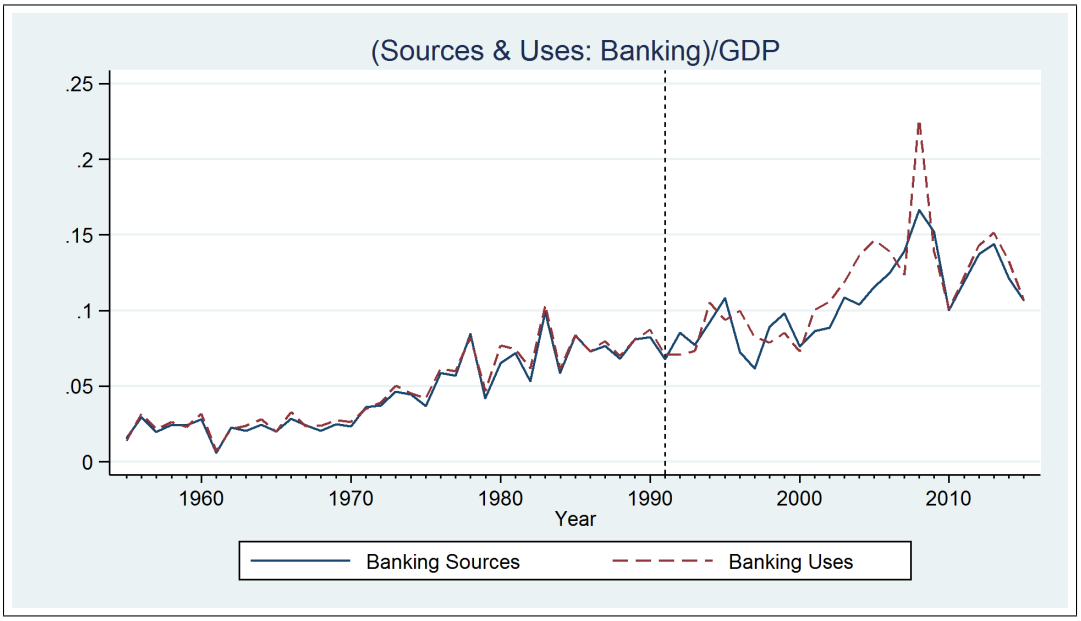

Figure 9a: Sources and Uses for the Banking Sector: Normalised by GDP

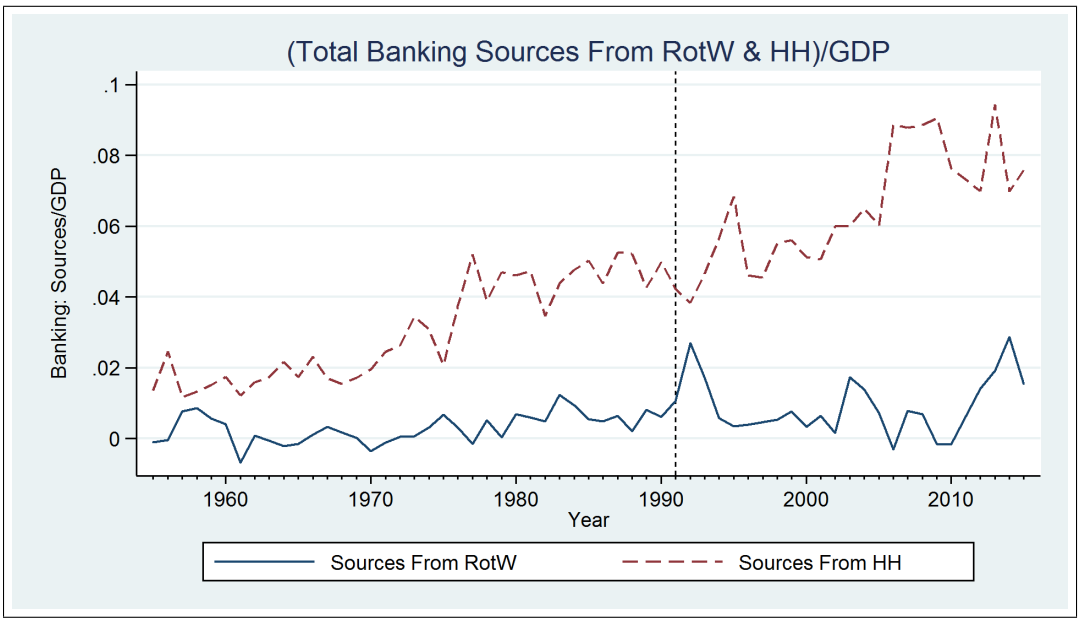

Figure 9b: Sources for the Banking Sector from RotW & Households

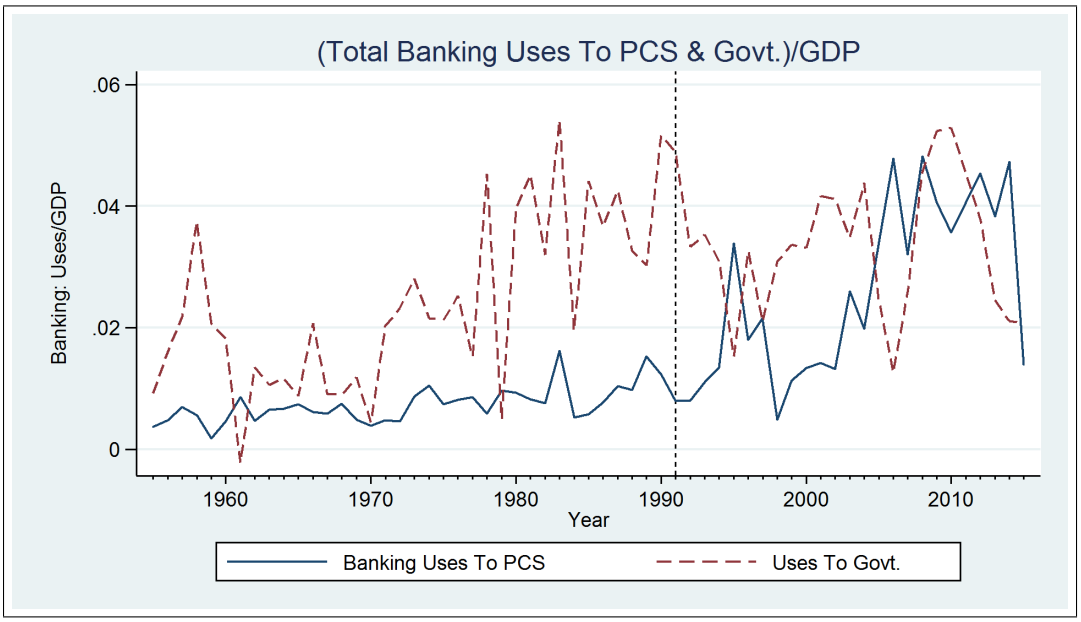

Figure 9c: Uses of the Banking Sector to PCS & Government

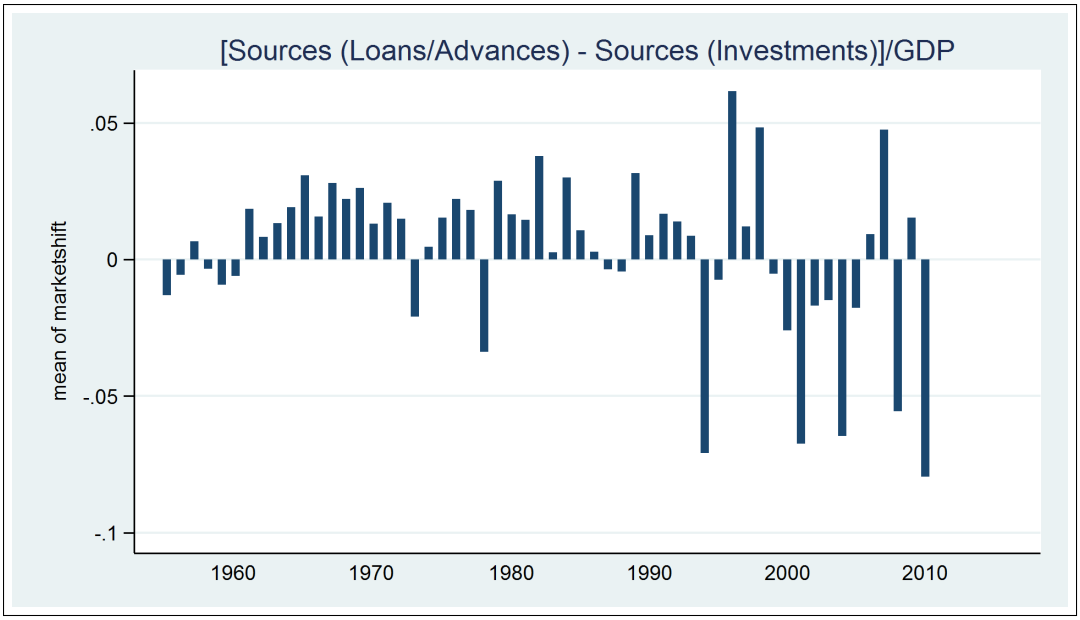

Figure 10: Total Sources (Loans/Advances) - Total Sources (Investments): Normalised by GDP

4 Conclusion

We have provided here a very broad brush précis of the evolution of the Indian financial system over the last 60 years. India is relatively unique among developing countries in having collated such an accounting framework and it remains woefully underused by analysts and policy makers alike. It should be noted, however, like with any other exercise in data collection, there are many caveats that must be made as to the quality and reliability of data. As described at the outset, much of the data has to be imputed from samples, some data is calculated from residuals, and stock data is not available (although flows are calculated as differences between stock positions). Given the difficulty of calculating these data, there are somewhat significant statistical discrepancies and it would be somewhat foolhardy to assume very precise estimates, and one should not be surprised if some conclusions do not tally with other published data. Nevertheless, the FoF does provide a very useful framing and accounting tool to understand macroeconomic history. At the very least, accounts of the macroeconomic evolution of the Indian economy should not be too discrepant with the accounting identities presented in the FoF accounts.

The main findings from this descriptive paper provide some useful insights that complicate some narratives. These can be summarized as follows: First, the household sector is the largest net surplus sector. Households have seen their collective financial surpluses rise to about 10% of GDP year on year. This suggests that on aggregate, one should not expect

households to experience severe financial strains as is sometimes stated as a matter of great concern (the household debt bubble). Of course, here too the distribution of assets and liabilities within the household sector is likely to matter for our understanding, but in aggregate, households' balance sheets are not stressed. Secondly, despite the substantial changes in financial markets in terms of regulations and new instruments, there is a remarkable stability in patterns of financing. Households have maintained roughly the same portfolio balance between deposits and other instruments throughout the period. Although there are newer instruments, particularly the stock market and convenient savings devices such as SIPs, in aggregate, there has been very little change in the portfolio balance of households. Similarly, despite the development of capital markets, private corporate businesses rely on loans and advances more extensively than on debt instruments, and the reverse is true for the other major deficit sector, the government. But this does not mean that there have been no changes at all. Perhaps most interestingly, in the last half decade, the rest of the world has become one of the more important sectors, and is currently the second largest surplus sector in the economy. It has become one of the main source of funds for the private corporate sector and has begun to be a net creditor to the banking sector as well. The globalisation of finance in India really began fairly late in the liberalisation process, but may now have taken greater hold.

This simple accounting approach allows us a framing that accounts for money flows and that gives us a very useful anchoring. But this leaves open several questions that need to be asked about the relationship between financial positions and current expenditure on goods and services. It is clear from our framing that nominal government debt and private corporate debt would be rising through the period since they were both net deficit sectors throughout (whether the debt-income ratios of the sector were rising is another question entirely. Since we do not have stock data, this becomes a more difficult question to answer.) The question of why an economic unit had rising debt over some period is often treated as equivalent to the question of why its expenditure was higher relative to its income in that period. This is shorthand, but it can be misleading. Logically, funding for a sector can be used for myriad purposes, including to obtain assets and to maintain cash balances as much as to undertake expenditure (see Mason and Jayadev [2014, 2015] for expositions as to why rising debt is not equivalent to rising expenditure.) Understanding how the financial positions of various sectors have been linked (or not) to patterns of expenditure and sectoral growth rates is an obvious next step for research, but one that is beyond the purview of the current exercise.

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