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Future of Indian Banking from Public Policy Perspective

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FOUNDATION FOR ECONOMIC GROWTH AND WELFARE

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Abstract

Technology and social control on banks has helped in achieving a high degree of financial inclusion but the contribution of banks in channelizing financial savings to productive sectors has been sub-optimal due to large public sector debt and decline in financial savings in an increasingly consumption-driven economy. Desktop analysis of the annual reports of the Reserve Bank of India shows that the institutional development in banking sector has followed a punctuated equilibrium path to develop significant endogenous capabilities in Indian banks of reforms and modernization. The banks have responded well to external stimuli and regulations but there are significant challenges at present and plenty of dark fibre to tap. Policy, regulatory and technological measures are needed to correct the risk aversion stance of banks and erosion of profitability in recent years. Institutional reengineering is needed to curb regulatory arbitrage by entities directly competing with banks in raising deposits and lending - including treasury banking through small savings schemes. Credit information systems and systems of record keeping of titles to property and charges thereon need significant improvement. Excessive regulations due to delinquency by a few are against the expectations and interests of the vast majority of compliant stakeholders. Rather blunt macro-prudential regulations need to be supplemented by fine-tuned RegTech/SupTech/FinTech enabled micro regulations and business practices to create appropriate incentives/disincentives at operational levels. Block chain technology deserves special mention to create smart contracts and verifiable transaction trails. Bank account portability is needed to spur competition. Banks need to get disentangled from long-term project finance to refocus on short and medium term credit. Formalisation requires ease of doing business, nay ease of living. Technology-enabled efficient services and white label business correspondents are needed to ease the access and reduce the cost of adoption of formal financial services

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Introduction

1. This is an attempt to review the growth and spread of banking system in India and to identify its current strengths and weaknesses. Recommendations are made for the Government of India and the Reserve Bank of India to steer the banking system into making bigger contribution to economic growth. Considering the dominance of public sector banks and a large stock of debt owed by governments and quasi-government agencies, the governments carry a higher responsibility. Our analysis shows that social control on banking institutions has served the goal of financial inclusion well but an increasingly government and consumption-driven economy, the financial inclusion has not been able to formalize/channelize financial savings. Indian banks are risk averse and have responded more to external stimuli and regulations than endogenous reforms and modernization. However, credit expansion is not commensurate with the size and needs of the economy and so far the focus of technology up-gradation by banks has been on the customer-end service delivery. In order to enhance lending capacity of banks, technology infusion is required by the banks in pre-sanction due diligence and post-disbursement monitoring of borrower performance and state of underlying securities. Technology-enabled institutional support for banks' commercial decisions will in turn enhance scope and capability of the central bank to deploy technology for risk-based supervision, resulting in rationalisation of traditional, blunter tools of supervision.

2. Some basic objectives of a prudential public policy towards banking sector are postulated in Section I. Section II on Financial Inclusion reviews the trend of expanding network of bank branches, ATMs, and cashless modes of banking services. Section III reviews trends in mobilisation of deposits and their deployment by way of credit and investments. Section IV provides a perspective on the size of banking sector vis-à-vis total (formal) financial sector to see whether its significance remains intact. The Central government is performing banking functions of raising deposits and lending through Small savings Schemes. Section V highlights issues connected with this 'treasury banking'. Section VI highlights trends in key indicators of profitability of banks like net interest margin and return on assets/equity. As growth of Non-Performing Assets in last decade has been a major source of steep decline in bank profitability, some generic/specific suggestions are given in Section VII for improving the management of NPAs by improving due diligence both at loan sanction and loan implementation stages. Section VIII contains a suggestion to consider appropriate amendments in the corporate law so that exposure norms are

supplemented with statutory leverage limits on companies and groups of related companies. Section IX discusses the case for a differentiated regulation approach with both incentives and exceptional relaxations for well-behaved banks and their clients. Section X takes a synoptic view of both actual use and potential of information technology for better profitability and customer service.

3. Data has been sourced from Annual Budgets of the Government of India (https://www.indiabudget.gov.in/); the website of the Reserve Bank of India (https://www.rbi.org.in/), especially the Annual Reports on Trends and Progress of Banking in India and Half-Yearly Financial Stability Reports; and CRISIL's Yearbook on Indian Debt Market. (CRISIL, 2018).

I. Basic objectives of a prudential public policy towards banking sector

4. Following is an attempt to articulate the guiding principles and policy objectives for development, regulation and reform of the banking industry:-

(i) Improving financial inclusion, formalization and financialization of savings: Improved channelization of financial savings and generation of credit demand based on acceptable credit-worthiness for productive economic activities is a key prerequisite to boost inclusive economic growth. Hence, the foremost objective of policy should continue to be the expansion in the access points for availing to financial services in general and banking in particular.

(ii) Protecting and enhancing shareholder value: Bankers are trustees of depositors besides normal accountability to their shareholders. Banking is not philanthropy. Globally, it is a low margin, high-volume business, very heavily regulated due to the interests of a large number of small savers and savings aggregators involved in it. Hence, the importance of improving profitability and efficiency (without compromising quality of services to the customers), improving safeguards against bad lending, improving asset quality can hardly be over-emphasized.

(iii) Improving customer service: Like any other business, the business of financial services is also under the oversight of policy makers to ensure that the bankers and other service providers do not abuse their dominant position to vis-à-vis their customers to trample upon their rights to quality service at reasonable price. Policy would also be concerned about misuse of market dominance by any single player or group of players acting in concert through anti-competitive collusion.

II. Financial Inclusion: Expanding the reach of Banking Services

5. Money lending activity in India could be traced back to the Vedic period. Use of various types of credit instruments like loan deeds and pay orders (called Rinapatra, Adesha, Dastawez, Hundis) is centuries old. 'Arthashastra', Kautilya's treatise on statecraft and law in Mauryan Empire (400 BC) details law of contracts including 'Adesha' an order on a banker desiring him to pay the money of the note to a third person, which corresponds to the definition of a bill of exchange as understood today. (Reserve Bank of India, 1998) These financial services were provided by merchants acting individually or through guilds and partnerships. Stipulations for borrowers going bankrupt provided that the debts owed to the State had priority over other creditors. Modern banking based on the idea of a joint stock company is distinctly a European import. The creation of an abstract legal person having the rights to sue and be sued, to borrow and lend, and to own various properties all protected by law allowed pooling of finances and risks to take up more risky business ventures. Virginia Company of London was established in 1606 by royal charter by King James I with the purpose of establishing colonial settlements in North America (Charles Wankel, 2009) because neither the King nor any individual businessman were ready to take the huge business risk involved in the venture. This ushered a new era where finances, risks and returns were pooled and ownership and management was separated within the boundaries set by legal protection.

6. Corporate Banking in India originated towards the end of the 18th century to service British trading interests. Among the first banks were the Bank of Hindustan, established in 1770, as an appendage of the British agency, M/s Alexander & Co., and liquidated by 1832. The General Bank of India was likewise established in 1786 and liquidated by 1791. Three 'Presidency Banks' established under charters from the British East India Company - Bank of Calcutta (1809), Bank of Bombay (1840) and Bank of Madras (1843) acted as quasi-central banks. Allahabad Bank is the oldest joint stock bank in India founded in 1865 with European management. The first bank with Indian ownership and management was the Oudh Commercial Bank, formed in 1881, followed by the Ajodhya Bank in 1884, the Punjab National Bank in 1894 and Nedungadi Bank in 1899. During the period 1901-1914, twelve more banks were established, prominent among which were the Bank of Baroda (1906), the Canara Bank (1906), the Indian Bank (1907), the Bank of India (1908) and the Central Bank of India (1911). In 1921, the three Presidency Banks were amalgamated to form the Imperial Bank of India. (Reserve Bank of India, undated)

7. There were 566 banks as on December, 1951 (of which only 92 were fit enough to be 'scheduled' under the RBI Act, 1934) operating with just 4,151 branches indicating

poor spread of banking services. Most of these were small banks of local character with low capital base. The Imperial Bank of India was nationalised as 'State Bank of India' in 1955 and its seven associate banks were nationalised in 1959-60. Even by 1969, the number of bank branches had increased to only 8,262 branches (of which only 1,833 were rural branches) showing the prevalence of ‘class banking’. Then only SBI and its 7 associate banks alone could be directly influenced by the government to serve government policy objectives and lend to the priority sectors.

8. In a bid to extend ‘social control’ on banks, 20 private commercial banks were nationalized, 14 in July l969 and 6 in April, 1980. The 14 banks nationalised in 1969 were those with deposits exceeding Rs.50 crore each, having aggregate paid up capital of Rs.28.5 crore and spanned 4134 branches, Rs.2627 crore of deposits, of Rs.1813 crore of advances at the time of nationalization. The 6 banks nationalised in 1980 were each with deposits exceeding Rs.200 crore and spanned 2686 offices with Rs.2110 crores of deposits and Rs.1375 crore of advances. This large scale nationalisation was followed by rapid expansion of bank branch network from 8,262 branches in 1968 to 32,419 in 1980, 60,220 in 1991, and.. Realising the adverse impact of this huge expansion on the banks' profitability, as a large number of the branches were commercially unviable, consolidation was attempted as part of banking reforms emanating from Narsimhan - I & II committees. The growth in branch network remained rather slow (65,933 in 2001) till it picked up pace again in 2006. Table 1 shows the growth in offices of commercial banks since 2006.

Table 1 Trend in the expansion of branch network of banks in India

Year	Number of branches	of which Public Sector Banks
2018	1,49,235	95,587
2017	1,46,470	95,588
2016	1,40,810	96,216
2015	1,31,786	93,682
2014	1,23,001	90,376
2013	1,11,382	84,625
2012	1,03,252	76,661
2011	95,014	71,592
2010	88,984	66,180
2009	83,286	62,270
2008	79,065	58,122
2007	74,829	55,284
2006	72,176	52,235

Source: Reserve Bank of India

9. The country has made impressive gains in expanding the access to banking services. By end of March 2018, there were 21 Public Sector Banks (including the SBI and its associates and Bhartiya Mahila Bank merged into a single corporate entity and the IDBI Bank Ltd), 21 Private Sector Banks, 45 Foreign Banks, 56 Regional Rural Banks, 3 Local Area Banks, 10 Small Finance Banks and 5 Payment Banks. Their physical presence far and wide in the country is further augmented by 2,05,201 Automated Teller Machines and 5,18,742 rural and 1,42,959 urban outlets of branchless mode of service delivery through 'Business Correspondents'.

10. Technology has proved to be a big force multiplier in financial inclusion and customer facilitation. Earlier, customers' interface with the bank was only through a branch, which was the custodian of all related documentation leading to problems of long queues, delay in accountal of credits and debits in respective accounts, delay in collection of cheques etc. and possible loss/manipulation of documentation. Manual

matching of signatures or thumb impressions, quick counting of currency notes, daily closing of books with prompt settlement of all discrepancies were prized skills among bank personnel. Thanks to advancement in information technology, now most banks have moved to CORE (centralized online real-time exchange) banking applications to support their operations by creating a Centralized Repository of all the static and transactional information about their clients' accounts. Hence, the bank branches and the clients can access the relevant data (depending upon levels of access controls and authorization). Deposits and withdrawals can be made from any of the bank's branches or through other outlets in the distribution channels of banking services automated teller machines, Internet banking, mobile banking and quickly updated in the client accounts. Information technology has reduced the drudgery and errors involved in manual work in basic tasks like recording of transactions, passbook maintenance, interest calculations, updating of customer records, balance of payments and withdrawal. With increasing use of green, paperless banking, use of cheques and printed passbooks is on the decline.

11. The share of public sector (PSBs and RRBs) in branch network has fallen from 90% by March, 2006 to 78% by September 2018. Recent years have seen consolidation of physical presence and increased focus on expanding ATM network, branchless banking through BCs and mobile banking. Beginning with the first ATM set up in 1987 by HSBC, the physical presence of ‘branches’ has been gradually augmented by on-site and off-site ATMs. This together with rapid advances made in ‘mobile phone’ and internet-based banking services has vastly improved the access to banking services, enhancing customer convenience and cost rationalisation for the banks. From 74,505 ATMs (66% in Public Sector) at end March 2011, the ATM network of SCBs had expanded to 2,05,201 ATMs (71% Public Sector) by June 2018. In addition, over 15000 White Label ATMs operated by non-bank entities were also in place. The National Financial Switch Network launched in 2004 and now operated by the National Payments Corporation of India (NPCI) now connects more than 2.37 lakh ATMs of 101 Direct Member banks (2,16,952 ATMs), 776 Sub Member banks (4,058 ATMs), 56 RRB Member banks (1,034 ATMs) and 8 White Label ATM Operators (14,146 ATMs).

12. The access to banking services is being further enhanced through the system of 'branchless banking' ushered in 2006 when as a measure to boost financial inclusion, the banks were allowed to engage 'Business Correspondents' as their retailing agents to connect the banks with the unbanked masses. They charge a small commission for every client on boarding, transactions or deposits done by them. This is a practice

imported from the para banking system operating various unregulated Deposit schemes (chit funds etc.) but with stricter control and supervision of the RBI. The BCs were earlier exclusively attached to a specific bank but in 2012, RBI introduced limited interoperability for the retail outlets or sub-agents of BCs (i.e. at the point of customer interface provided the technology available with the bank which appointed the BC supports interoperability. BCs are still very much tied to a single Bank only.

13. The RBI has been relaxing regulatory guidelines and providing new products and other supportive measures to achieve sustainable and scalable financial inclusion, with leverage on technology. Banks were advised to draw up FIPs for 2013-16 upto the branch level to take financial inclusion to the next stage of universal FI in which all eligible individuals (not just households) will have transactional accounts. Pradhan Mantri Jan Dhan Yojana (PMJDY) launched on 15 August 2014 has given a big boost to financial inclusion. Phase I upto August 14, 2015 provided for access to basic banking accounts for saving and remittance, and RuPay Debit card with an in-built accident insurance cover of ₹100,000. In Phase II (upto August 14, 2018), overdraft facilities of up to ₹5000, creation of a Credit Guarantee Fund for coverage of defaults in overdraft accounts, and micro-insurance and unorganised sector pension schemes like Swavalamban were added. Since then it has been converted into an open ended scheme with new features added to it, viz., opening accounts from "every household to every adult"; raising the overdraft limit to ₹10,000 from ₹5,000; overdraft facility up to ₹2,000 without any conditions; raising accidental insurance cover for new RuPay cardholders from ₹100,000 to ₹200,000, for PMJDY accounts opened after August 28, 2018. By 1st May 2019, there were 35.59 crore PMJDY accounts having an aggregate balance of Rs.98,434 crore and 27.71 crore 'Rupay' debit cards. Table 2 shows the progress achieved under Financial Inclusion Plans by all SCBs and RRBs.

Table 2 Progress of Financial Inclusion

Item/At the end of	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18
Banking Outlets in Villages – Branches	37,471	40,837	46,126	49,571	51,830	50,860	50,805
Banking Outlets in Villages - Branchless Mode	1,41,136	2,27,617	3,37,678	5,04,142	5,34,477	5,47,233	5,18,742
Urban Locations covered through BCs	5,891	27,143	60,730	96,847	1,02,552	1,02,865	1,42,959
BSBDA through branches	81	101	126	210	238	254	247

(No. in million)							
BSBDA through branches (Amt. in Rs. billion)	110	165	273	365	474	691	731
BSBDA through BCs (No. in million)	57	81	117	188	231	280	289
BSBDA through BCs (Amt. in Rs. billion)	11	18	39	75	164	285	391
BSBDA Total (in million)	139	182	243	398	469	533	536
BSBDA Total (Amt. in Rs. billion)	120	183	312	439	638	977	1,121
OD facility availed in BSBDA (No. in million)	3	4	6	8	9	9	6
OD facility availed in BSBDA (Amt. in Rs. billion)	1	2	16	20	29	17	4
Kisan Credit Cards (No. in million)	30	34	40	43	47	46	46
Kisan Credit Cards (Amt. in Rs. billion)	2,068	2,623	3,685	4,382	5,131	5,805	6,096
General Credit Cards in rural and semi urban areas (No. in million)	2	4	7	9	11	13	12
GCC General Credit Cards in rural and semi urban areas (Amt. in Rs. billion)	42	76	1,097	1,302	1,493	2,117	1,498
ICT A/Cs-BC Total Transactions (No. in million) during the year	156	250	329	477	827	1,159	1,489
ICT A/Cs-BC Total Transactions (Amt. in Rs. billion) during the year	97	234	524	860	1,687	2,652	4,292

Source: Reserve Bank of India. (The above is year-end cumulative data except the last two rows which contain 'during the year' data. BSBDA refers to Basic Savings Bank Deposit Accounts).

14. Mobile banking is especially critical to serve the under-banked market. RBI has taken several steps to enable mobile payments such as removal of the transaction limit of Rs.50,000 per customer per day. In October 2018, mobile wallet transactions volume reached 36.85 crore with total value of Rs.18,786 crore. Total digital lending crossed Rs.5,00,000 crore during 2017-18.(India Brand Equity Foundation, 2019).

15. Thus, impressive gains have been made in furthering financial inclusion agenda. It can be further expanded if full interoperability is allowed among business correspondents at the client-interface level, which requires the banks to be ready with necessary technological upgradation of their Core Banking Solution software. Maintaining legacy systems is an expensive affair and CORE banking potentially brings down IT maintenance costs by moving to shared services platforms. Migration of data from legacy software to new CORE banking applications is a major implementation issue. The issue allowing development of 'White Label' Banking Correspondents providing services to clients from multiple banks has been under deliberation. This has raised certain hopes and heckles that naturally goes for all disruptive changes in business models and technologies. Apart from the technology angle, the move also requires overcoming resistance from the bank personnel.

III. Credit, Deposit and Investment profile of banks: Channelizing savings for productive use

16. Long ago, general cultural/religious disapproval of living on debt was quite strong. The indebted person suffered lower social status and was forbidden to undertake pilgrimage. Living satisfied within one's own means was promoted as a virtue. Borrowing was particularly a matter of disgrace for Kings. (Though a hedonistic counterpoint is found in CHARVAK DARSHAN ***यावज्जीवेत्सुखं जीवेत् ऋणं कृत्वा घृतं पिबेत् । भस्मीभूतस्य देहस्य पुनरागमनं कुतः ।।***). No wonder, Prof Raj Krishna called the average rate of 3% relatively debt free economic growth of India in first 30-35 years of India as 'Hindu rate of growth'. The general cultural/religious disapproval of living on debt is correspondingly accompanied with general disapproval (and even moral condemnation across cultures and religions) of moneylending, seen as using money to make more money by taking advantage of others' handicap and distress. Earliest known religious injunctions against usury are found in our Vedic texts. Buddhism, Judaism, Christianity and Islam have seen increasing stridency to the extent of charging any interest for loans as sinful. Many nations from ancient Greece to ancient Rome have outlawed loans with any interest though the Roman Empire eventually allowed loans with carefully restricted interest rates, the Catholic Church

in medieval Europe banned the charging of interest at any rate. Negative portrayal of moneylenders in popular culture is immortalized by the character of Shylock in Shakespeare's drama *Mercnant of Venice* and in the world of cinema. In fact, moralistic formulation of ancient and medieval economic theory and beliefs was based on disapproval of charging interest or making profits. Some scriptures disapproved any interest or profits while others disapproved unreasonably high, 'unconscionable' interest or profit, making money at the expense of a fellow human being. Modern economic theory has sought to de-stigmatize both interest and profits, based on the notion of Rational Economic Man, delinking finance and morality (even to the extent that the governments are not averse to merely taxing rather than expropriating proceeds of crime) but occasions keep recurring when the State is called upon to check excessive interest and profits.

17. Given this long tradition of looking down upon moneylending and living on debt, the credit was used mainly in business and commerce for ease of transaction. The sovereign borrowings and household borrowings have been rather negligible proportion of overall economy until the onset of the World Wars in the last century. The Great Depression in the USA and post-war reconstruction ushered in an era of more relaxed attitudes to government borrowings. Today almost all shades of political economic systems approve of Keynesian economics of government boost to Demand in the economy, including borrowing-financed public expenditure, deferred taxation and a draft on resources belonging to the future generations.

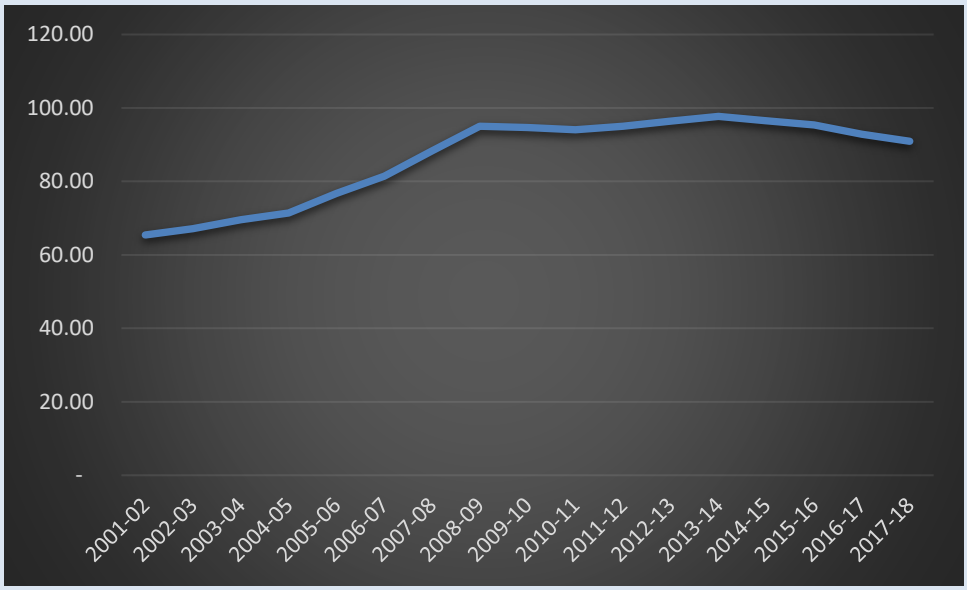
18. In Indian context, this trend of relaxed attitude to debt is captured by the growth in credit culture. In 1951, the outstanding bank credit (other than investment in government securities) was merely 5% of GDP and it remained subdued at 9% of GDP even by 1969 when banks were nationalised to unleash policy-pushed growth in credit. It climbed to 21% of GDP by 1991, 27% by 2002, 30% by 2004, 36% by 2005, 51% by 2008 and peaking to 60% by 2014. Since then, it has been sliding down to 52% of GDP by 2018. The doubling of credit level (30% to 60% of GDP) during 2004-2014 was accompanied by a build-up of non- performing assets, which have hobbled the growth of bank credit since 2014. The Central Government Debt was 24.7% of GDP in 1951, most inherited debt of pre-Independence era. It shot up to 39.2% by 1981, 44.1% by 1985 and thereafter started galloping to 58.4% by 1990, peaking to 62.6% in 1994. After climbing down to 50.7% by 2000, it again surged to 62.6% by 2005 but has since come down to 49.1% of GDP by 2018, more by denominator effect of high inflation leading to higher nominal GDP de-magnifying the sustained build-up of Public Debt.

19. The outstanding banks deposits of scheduled banks were 9% of GDP which had grown to 11% of GDP by 1969 with a healthy growth in the Credit Deposit Ratio from 60% to 77%. However, post-nationalisation, the CD ratio fell back to 60% by 1987 due to high pre-emption of Banks resources in RBI/government mandated investments and to 50% by 2001 more due to lower credit offtake rather than mandatory investments. Banks voluntarily held more than the minimum investment in government securities expected of them. In 1987, the total bank deposits were 33% of GDP but outstanding credit was only 20% of GDP with a large part of the gap going into mandated investments that added to stock of Public Debt. By 2001, the SCB deposits had increased to 49% of GDP but the Bank credit was only 24% of GDP, with a large part of the gap (16% of GDP) being invested in government securities. By 2018, the Deposits, Credit and Investment in G-Secs had reached 70% of GDP, 52% of GDP, and 20% of GDP. About 30% of total bank deposits being invested in government securities is more than the minimum investment expected from Banks. There is scope to improve the overall Credit-Deposit ratio from 70% to say 75% if banks reduce their investments and focus more on lending.

20. The bank deposits are either lent as loans and advances or invested in debt securities. Hence, growth in bank deposits from 9% of GDP by 1951 to 70% of GDP by 2018 is a crude proxy for the spread of 'living on debt culture' among the governments, businesses and households.

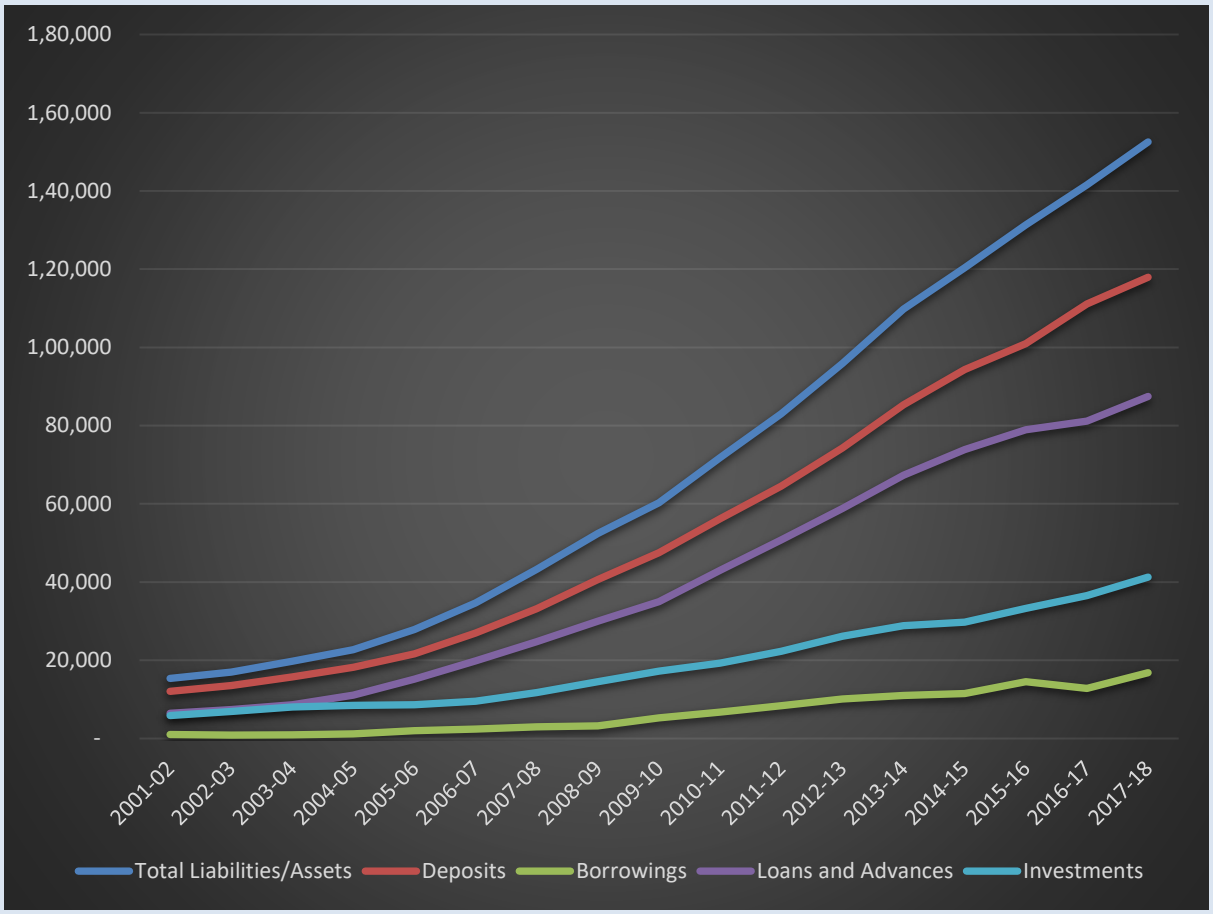
21. The following charts on some key macro-aggregates of Scheduled Commercial Banks' size, credit, deposit and investment profile and Gross Domestic Financial Savings highlight the decline in deposit mobilisation by banks.

Chart 1 Trend in Bank assets as % of GDP



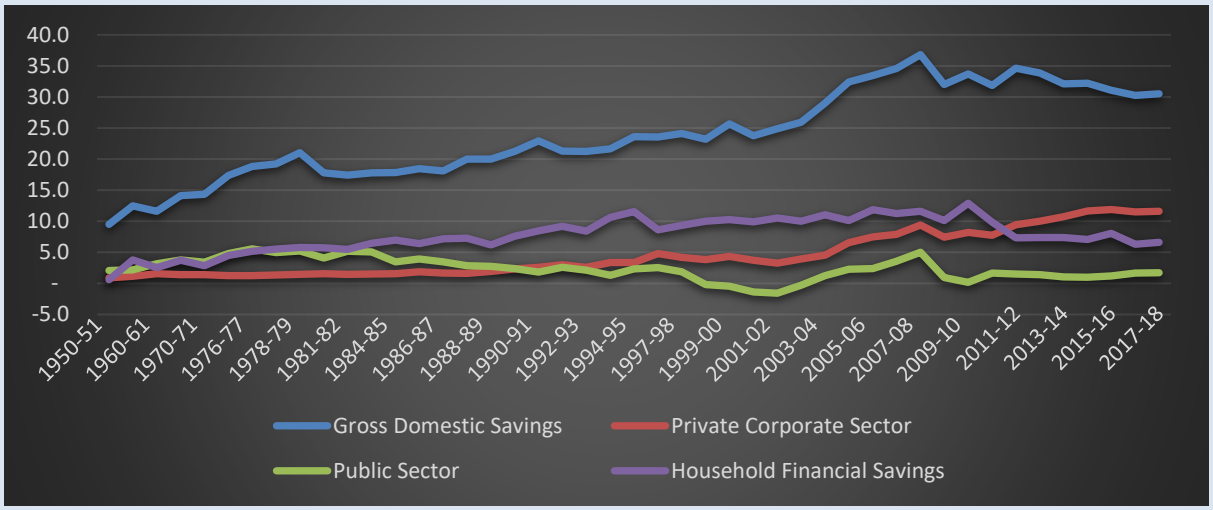
Source: Reserve Bank of India.

Chart 2 Trends in key aggregates for Scheduled Commercial Banks (Rs. in billions)



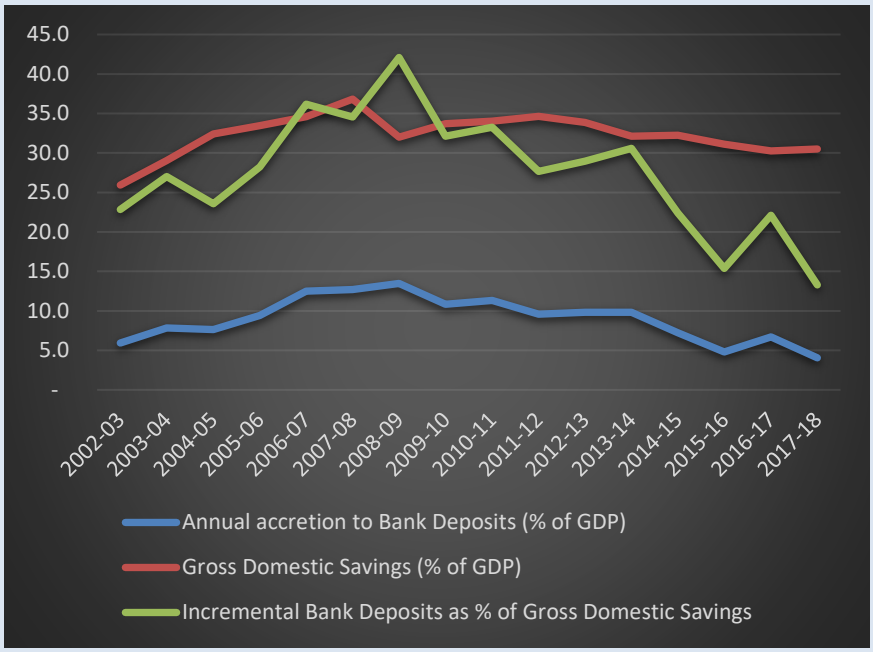
Source: Reserve Bank of India.

Chart 3 Trends of Savings in the Economy (% of GDP)



Source: Reserve Bank of India.

Chart 4 Annual Accretions to Bank Deposits (% of GDP)



Source: Reserve Bank of India.

22. The above charts capture the decline in growth of banking assets, declining proportion of accretion in Bank Deposits to the Gross Domestic Savings (GDS), decline in GDS in general and steeper decline in Household Financial Savings, which has implications for governments, bankers and corporates alike. Gross Domestic Savings were 9.5% of GDP in 1951 which peaked to 36.8% in 2007-08 and has since declined to 30.5% in 2017-18. Household Financial Savings were a negligible 0.6% of GDP in 1951, peaked to 12.9% in 2009-10 and have since declined to 6.6% of GDP by 2017-18. The implementation of the Fiscal Responsibility and Budget Management Act, 2003 seeks to ensure that the government borrowings do not crowd out other borrowers from the market. There has been reduction in financial repression of the banking system through mandated investment in government securities but bank deposits have stagnated at about 70% of GDP since 2009. The Small Savings Schemes operated by the Central Government compete with banks for household financial savings. These savings have shown decline from 14% of GDP by 2008 to 8% of GDP by 2018. The stagnancy in bank deposits and fall in treasury banking mop up of financial savings points to decline in the overall domestic financial savings one the one hand and increasing financialisation of savings, i.e., marginal diversion of savings from bank deposits and Small Savings instruments to the capital market, particularly mutual funds, on the other.

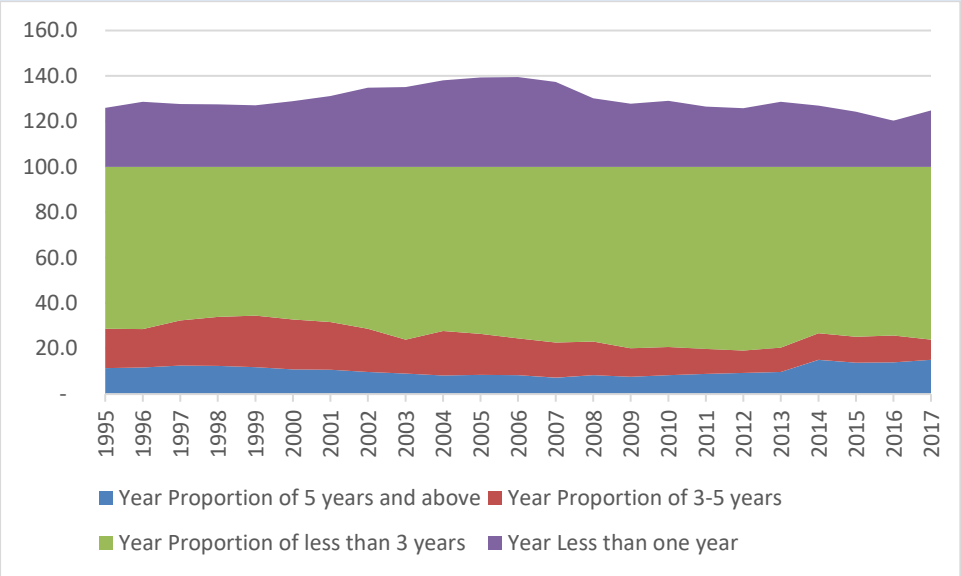
23. Almost steady fall in Domestic Savings and Household Financial Savings since the peak in 2007-08 in an increasingly consumption-driven (and that too credit-financed consumption) should be a cause of serious concern to policy makers. With rising debt

financing of recurrent expenditure and aggressive mopup of Household Financial Savings by the governments to finance fiscal deficits leaves, non-government entities will continue to be pushed to external markets to tap foreign savings and upward pressure on interest rates are likely to continue.

Maturity mismatch - Bank credit is not a substitute for long-term risk capital:

24. Utilization of short term loans for financing acquisition of long term assets is inherently problematic. Unfortunately, several public sector banks have got entangled in financing of long gestation infrastructure projects using their shorter term deposits. Chart 5 shows the trend in maturity profile of banks

Chart 5: Maturity profile of deposits of scheduled commercial bank



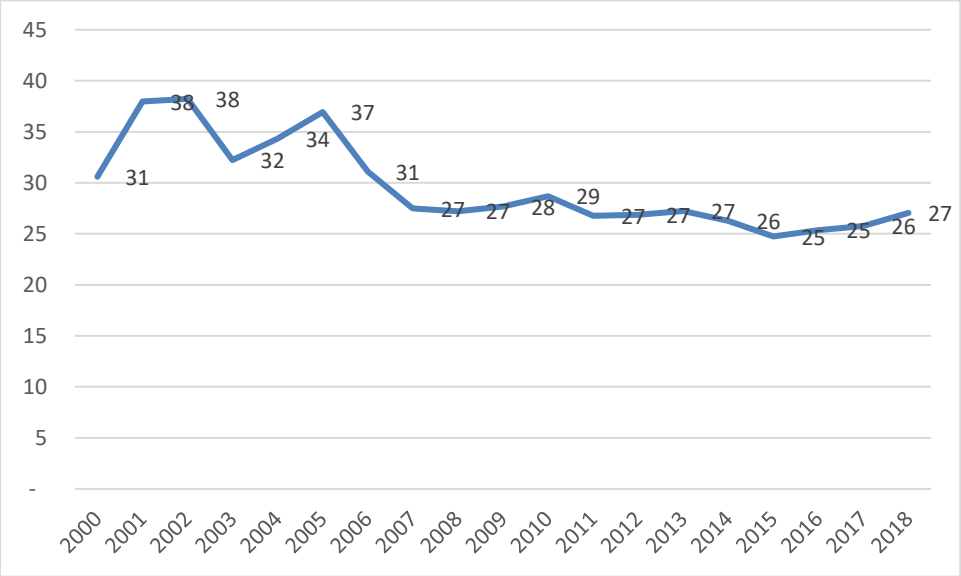
Source: Reserve Bank of India.

25. A major challenge, not articulated enough, is therefore to see that the financial market players play in the right arena in the right weight category as presently some having long-term funds are playing in short term markets while those with access to short term funds are nudged to get entangled in the market for long-term finance. Absence of a deep bond market is major cause for banking crisis because commercial banks are ill-suited to provide long-term project finance. Conversion of some major Development Financial Institutions into commercial banks has left a void in the market for long-term finance. Unfortunately, the insurance and pension funds having access to long-term funds generally shy away from infrastructure financing and prefer to play investor in the financial market. LIC has taken one corrective action by getting involved into financing of railway infrastructure.

Asset Profile: Bank investments

26. Chart 6 shows that investment levels by scheduled commercial banks (almost 80% of investment is in Central and State government securities) have remained stagnant at about 27% of total bank assets since 2007, indicative of fiscal stress as well as lazy banking.

Chart 6 Outstanding investments by scheduled commercial banks (% of total bank assets)



Source: Reserve Bank of India

27. Under section 42 of the RBI Act, 1934, SCBs are required to maintain minimum liquid assets (in the form of investment in Central and State governments tradable debt securities) as a percentage of their Demand and Time Liabilities (DTL). This ratio has historically been as high as 38.5%, but has gradually come down to 19.5% now, being brought down steadily in line with international levels of the Liquidity Coverage Ratio (LCR) under Basel-III. About 81% of SCB investments were in these SLR securities at end of March 2018. The SLR holdings are in excess of prescribed minimum indicative lazy banking or lack of creditworthy borrowers for various reasons. There is general oversupply of government bonds relative to demand and these being considered safe investments, banks end up transferring all credit shortfalls into investments in gilts.

28. Large holding of government securities by banks exposes them to risks of re-pricing of governments' borrowing costs which could rise due to inflationary, fiscal or other domestic as well as global macroeconomic developments. The interest rate exposure of banks from their investment in gilts is accentuated due to the increasing maturity of primary issues. The weighted average maturity of the stock of government securities has increased steadily from 9.66 years in 2012-13 to 10.67 years in 2017-18. With relatively high duration and concentration of gilts in investment portfolio, bank earnings and capital remain exposed to adverse yield moves, especially as the share of investment income has been on the rise in recent years.

29. There is a general expectation from the market on moderation in inflation and resultant reduction in interest rates. However, supply side constraints, both domestic

and external and compulsions arising out of increased government borrowings do not allow the inflation risk being wished away. Low interest-rate regimes are not unmitigated blessing because they can encourage capital flight, unexpected boost to unmerited credit supply and fall in savings rate besides hurting the interests of fixed-income earners. Low interest-rate regimes also increase pressures from borrowers to swap/refinance old high-cost debts with lower cost debts as happened under the 'Debt Swap Scheme' launched during 2002-03 to 2004-05 when State governments prepaid to the Central government high cost loans (Rs.1,06,076 crore) with interest rate of 13% and above through market refinancing. Banks may not be able to charge full pre-payment premium in negotiations with hefty borrowers.

Bank asset profile shows declining bank credit for productive sectors and capital formation

30. Recent years' trend show marginal decline in share of bank credit as means of finance to industry. The stress being faced by Bank credit to industry in recent years has been caused by a combination of delinquencies and sectoral problems beyond the control of the borrowers. Tables 3, 4 & 5 capture the decline in bank credit to industry.

Table 3 Profile of Gross Bank Credit during the year (Rs. in billions)

	2011-12	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19(upto 18 Jan 2019)**
Agriculture and Allied Activities	623	673	761	999	1,170	1,095	378	529
Industry	3,451	2,643	2,863	1,411	731	-509	194	502
Services	1,322	1,189	1,856	757	1,280	2,611	2,482	1,841
Personal Loans	829	1,293	1,121	1,566	2,259	2,278	2,884	2,286
Others	-2	947	-34	82	37	-520	-92	289
Total Gross Bank Credit	6,223	6,745	6,566	4,815	5,477	4,955	5,847	5,447

Source: Reserve Bank of India

Table 4 Sectoral Share in Gross Bank Credit during the year (% of total)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19(upto 18 Jan 2019)
Agriculture and Allied Activities	10	10	12	21	21	22	6	10
Industry	55	39	44	29	13	-10	3	9
Services	21	18	28	16	23	53	42	34
Personal Loans	13	19	17	33	41	46	49	42
Others	-0.03	14.04	-0.52	1.70	0.68	-13.00	-12.00	-11.00

Source: Reserve Bank of India

31. The above tables are based on accretion to outstanding stock of loans and advances at year-end and therefore show NET credit flows, net of repayments. Based on provisional data covering about 90 per cent of total non-food credit extended by all scheduled commercial banks, the share of different segment of borrowers in outstanding bank credit extended by SCBs by Jan 18, 2019 was as follows:)

Table 5 Sectoral share in outstanding bank credit

	Sector	Outstanding credit (Rs. in billion)	% share in total
I	**Gross Bank Credit (II + III)**	**82750**	**100**
II	Food Credit	707	0.9
III	Non-food Credit (1 to 4)	82043	99.1
1	Agriculture & Allied Activities	10832	13.1
2	**Industry (Micro & Small, Medium and Large)**	**27495**	**33.2**
2.1	Micro & Small	3710	4.5
2.2	Medium	1040	1.3

2.3	Large	22745	27.5
3	**Services**	**22346**	**27**
3.1	Transport Operators	1332	1.6
3.2	Computer Software	189	0.2
3.3	Tourism, Hotels & Restaurants	387	0.5
3.4	Shipping	75	0.1
3.5	Professional Services	1693	2
3.6	Trade	4959	6
3.6.1	Wholesale Trade (other than food procurement)	2186	2.6
3.6.2	Retail Trade	2774	3.4
3.7	Commercial Real Estate	1981	2.4
3.8	Non-Banking Financial Companies (NBFCs)	5576	6.7
3.9	Other Services	6149	7.4
4	**Personal Loans**	**21371**	**25.8**
4.1	Consumer Durables	46	0.1
4.2	Housing (Including Priority Sector Housing)	11208	13.5
4.3	Advances against Fixed Deposits (Including FCNR (B), NRNR Deposits etc.)	687	0.8
4.4	Advances to Individuals against share, bonds, etc.	58	0.1
4.5	Credit Card Outstanding	842	1
4.6	Education	692	0.8
4.7	Vehicle Loans	2006	2.4
4.8	Other Personal Loans	5831	7
5	**Priority Sector**	**26652**	**32.2**

5.1	Agriculture & Allied Activities	10768	13
5.2	Micro & Small Enterprises	10180	12.3
5.2(a)	Manufacturing	3710	4.5
5.2(b)	Services	5847	7.1
5.3	Housing	4287	5.2
5.4	Micro-Credit	235	0.3
5.5	Education Loans	566	0.7
5.6	State-Sponsored Orgs. for SC/ST	4	0
5.7	Weaker Sections	6086	7.4
5.8	Export Credit	175	0.2

Source: Reserve Bank of India

32. In the current scenario, the share of bank credit for agriculture, industry and services is 13%, 33% and 27%, respectively. Personal Loans account for 26% of the total bank credit and this segment has been rapidly growing in recent years. Outstanding Bank credit is 57% of bank assets (52% of GDP). Total bank investment in government securities is 22% of their total assets (% of GDP). This indicates the risks ahead for the banks in an increasingly consumption-driven economy with declining savings and investment if adequate credit is not available for boosting the productive capacity of the economy.

33. If credit to Industry and Services is taken as a proxy for 'corporate loan book' and credit for Agriculture and Personal Loans is taken as 'retail loan book,' it can be seen that the corporate loan book share has sharply fallen from 77% to 46% while the retail loan book share has shot up from 23% to 56% during 2012 to 2018. Opinions can be sharply divided whether it is a welcome trend. More disaggregated analysis is needed to arrive at definitive conclusions. Personal Loans are generally considered more secure, backed with concrete assets but this portfolio also includes home loans to individuals for under construction housing projects under tripartite agreements with project developers. A number of such projects have been marred by delinquencies and diversion of funds by project developers leaving the home buyers and the banks in lurch.

IV. Size of Banking Sector vis-à-vis the Financial Sector: Diminishing significance?

34. Banking sector is the most dominant segment of the financial sector, with the scheduled commercial banks commanding about 56 per cent of total assets (*vide* Table 6) but its dominance is slowly being dented with increasing competition from the other players in the business of intermediation of financial savings in the economy. The governments and corporates, the major borrowers, are increasing tapping the domestic and foreign savings directly through small savings, bonds and trade credits. Bypassing the intermediation of major financial market players like banks is a challenge for all financial sector regulators. The public sector banks seem to be particularly affected by this trend.

Table 6 Total assets of major financial sector intermediaries

	2010/11			2016/17		
Total Assets	**In INR billion**	**Percent of GDP**	**% share in assets**	**In INR billion**	**Percent of GDP**	**% share in assets**
	125,414	**164.3**	**100.0**	**251,259**	**164.7**	**100**
Scheduled Commercial Banks	**71,834**	**94**	**57**	**141,746**	**93**	**56**
Public Sector Banks	52,940	69	42	97,366	64	39
Private Sector Banks	13,982	18	11	36,014	24	14
Foreign Banks	4,912	6	4	8,246	5	3
Regional Rural Banks	**2,154**	**2.8**	**1.7**	**4,105**	**2.7**	**1.6**
Local Area Banks	**11**	**0.0**	**0.0**	**8**	**0.0**	**0.0**
Cooperative Credit Institutions	**8,555**	**11.2**	**6.8**	**11,660**	**7.6**	**4.6**
Urban Cooperative Banks	2,733	3.6	2.2	2,718	1.8	1.1
Rural Cooperative Credit Institutions	5,822	7.6	4.6	8,942	5.9	3.6
Non-banking Financial Companies	**6,689**	**8.8**	**5.3**	**19,798**	**13.0**	**7.9**
Deposit-taking NBFCs	1,054	1.4	0.8	2,781	1.8	1.1
Non-Deposit taking NBFCs	5,635	7.4	4.5	17,017	11.2	6.8
Of which, systemically important	5,635	7.4	4.5	16,888	11.1	6.7
All-India Financial Institutions@	**2,906**	**3.8**	**2.3**	**6,034**	**4.0**	**2.4**
Standalone Primary dealers	**103**	**0.1**	**0.1**	**312**	**0.2**	**0.1**
Insurance Companies	**15,126**	**19.8**	**12.1**	**30,760**	**20.2**	**12.2**
Non-life Insurance	627	0.8	0.5	1,823	1.2	0.7

Life-Insurance	14,301	18.7	11.4	28,542	18.7	11.4
Reinsurance	198	0.3	0.2	395	0.3	0.2
Provident and Pension Fund	**4,243**	**5.6**	**3.4**	**7,966**	**5.2**	**3.2**
Mutual Funds	**5,922**	**7.8**	**4.7**	**17,546**	**11.5**	**7.0**
National Small Savings Funds	**7,871**	**10.3**	**6.3**	**11,325**	**7.4**	**4.5**
Grand total	**125,414**	**164.3**	**100.0**	**251,259**	**164.7**	**100.0**

@ National Bank for Agriculture and Rural Development, Exim Bank, National Housing Bank, and Small Industries Development Bank of India

Source: Report of Joint IMF-World Bank mission (World Bank, 2017)

35. The above table does not fully capture the amount of credit inflows from abroad. Country's external debt stood at 20.5% of GDP by 2018, some of which would have been intermediated by the above mentioned market players and some would be direct inflow to the borrowers. There is no exact and synchronous reckoning of aggregate debt incurred by all economic agents in the country due to reporting gaps and lags, inter-connected borrowings through refinance & on lending etc. Due to inter-connection of intermediation of credit and investment across various market intermediaries, the aggregate total assets of financial intermediaries is more than aggregate indebtedness of various domestic entities to domestic and foreign financiers. Hence, the above may not be taken as a proxy for country's indebtedness.

36. The biggest challenge for the banking sector is that its dominance in the country's financial sector is getting eroded by non-Bank credit providers not subjected to the costs and burdens of regulations applicable to the Banks. Some wilful defaults and some structural defaults arising out of business cycle have vitiated the atmosphere for expansion of Bank credit particularly for industries. The NPA crisis in the banking sector and consequent decline in bank credit to industry has resulted in banks' assets declining from a peak of 98% of GDP in 2014 to 91% of GDP in 2018. Non-bank financial intermediaries have somewhat grown their balance sheets to compensate for this decline but perhaps not enough. Steady decline in Savings rate in the economy and particular decline in household financial savings (due to combination of increasing in household financial liabilities and greater diversion of savings to real estate and gold/jewellery) point to increasing dependence on foreign savings that will come with costs and strings attached. Increasing formalisation of economy so as to

channelize financial resources from informal to formal channels and disincentivizing disproportionate locking up of savings in precious metals are, therefore, a must for the financial sector to grow. The remedial actions to address these concerns are beyond the banks and lie with the government and the RBI.

37. Banks are facing growing competition from non-Bank entities in the financial sector in resource mobilization. Traditional banking based on term loans and overdraft based on domestic deposits faces pressure of competition from access to cheaper foreign funds and progressive development of corporate debt market (bonds and inter-corporate loans), P2P lending, emergence of complex financing models based on securitisation of tangible and intangible assets, lease finance, suppliers' credit and increasing diversion of savings away from Bank Deposits to pension and insurance funds and other financial market instruments.

38. The financial services are not just provided by 'formal sector' comprising of entities on the radar of various regulatory bodies but also by informal sector' players. All informal systems develop or pre-exist formal systems and thrive mainly on the logic of reducing the costs and hassles of access to formal system services and also to hide their activities away from the glare of taxmen or other regulatory bodies responsible for ensuring welfare of workers and protection of environment. Improving the Ease of Doing Business in financial services can take away the disincentive to financialisation and formalisation in terms of costs and hassles. To remain informal is a compulsion for the small entities genuinely incapable of handling the compliance burden of regulations. However, it is a choice for those who choose to remain informal with dishonest intentions of concealing ill-gotten income/wealth or of avoiding payment of taxes. Such elements should of course continue to be pursued by the long arm of law.

39. Although banks continue to be dominant source of overall credit, increasingly credit being provided by the four All India Financial Institutions and other Non-Bank Finance Companies have to some extent compensated for decline in the bank credit, particularly credit to the industrial sector. Table 7 demonstrates their relative significance.

Table 7 Loans Advances (year-end outstanding) (Rs. in billions)

	2014-15	**2015-16**	**2016-17**	**2017-18**
Scheduled Commercial Banks	73,882	78,965	81,162	87,460
% of GDP	59.3	57.4	53.2	52.1

AIFIs	4,273	4,762	5,283	6,097
% of GDP	3.4	3.5	3.5	3.6
NBFCs	11,106	12,826	14,800	17,643
% of GDP	8.9	9.3	9.7	10.5

Source: Reserve Bank of India

40. Comparing the trend of bank vs. nonbank credit, Reserve Bank of India commented in its annual report on trend and progress of banking in India for 2017-18: "*The lending space vacated by banks, particularly PSBs, was taken up by non-banks in 2016-17 although some rebalancing was evident in 2017-18. A dip in the issuances of corporate bonds and a sharp fall in issuances of commercial papers (CPs) was reflected in a decline in the share of non-bank sources. Credit disbursements by non-deposit taking systemically important NBFCs and housing finance companies (HFCs), larger accommodation by four RBI-regulated All India Financial Institutions (AIFIs), a significant increase in short-term credit from abroad and public issuances of equity by nonfinancial companies more than compensated, and expanded the flow of resources from nonbanks. This trend continued in H1:2018-19 on sustained bank credit growth."*

V. Treasury Banking: Small Savings Schemes

41. The Small Savings Schemes operated by the Ministry of Finance compete with banks for tapping household financial savings to mobilise deposits with tax incentives and marginally more attractive interest rates. As part of reforms, the traditionally large differential between the post-tax yield on bank deposits vis-à-vis small savings instruments has been narrowed down but remains significant for particular instruments. These savings have shown decline from 14% of GDP by 2008 to 7.7% of GDP by 2018. The stagnancy in bank deposits and fall in treasury banking mop up of financial savings indicates a combination of decline in the overall domestic financial savings and increasing financialisation of savings, i.e., marginal diversion of savings from bank deposits and Small Savings instruments to the capital market, particularly mutual funds.

42. The asset size of all SCBs together is about 91% of GDP by 2018 (60% Public Sector, 26% Private Sector, 5% Foreign Banks) while NSSF had accumulated liability of 7.7% of the GDP to its depositors. The NSSF balance sheet size is bigger than the size of any bank except that of the State Bank of India (20.6% of GDP). Hence, it is

considered desirable that in order to provide level playing field to the commercial banks, the bank-like operations of National Small Savings Fund which are outside banking regulation framework are brought within this regulatory framework. It is recommended that the NSSF presently operated through Public Account of India should be converted into a full-fledged formal commercial Bank or a Development Financial Institution, which can augment small saving collections with infrastructure bonds. FSLRC recommendations on regulatory structure for NSSF may also be implemented along with this move.

VI. Shareholder value: Profitability of banks

43. Net Interest Margin (Spread) is the ratio of difference between interest income earned and interest expended to total assets. Return on Assets is the ratio of net profits to total assets and Return on Equity is the ratio of net profits to shareholders funds. These three key metrics are used to judge the profitability of banks. Trends are given in Table 8.

Table 8 Trends in key indicators of profitability of banks (per cent)

	Net Interest Margin			Return on Assets			Return on Equity		
Year	**Public Sector Banks**	**Private Sector Banks**	**Foreign Banks**	**Public Sector Banks**	**Private Sector Banks**	**Foreign Banks**	**Public Sector Banks**	**Private Sector Banks**	**Foreign Banks**
2005	3.18	2.51	3.54	0.95	1.06	1.61	17.24	13.27	11.72
2006	3.03	2.74	4.05	0.88	1.07	2.08	15.39	13.34	14.18
2007	2.79	2.54	4.36	0.92	1.02	2.28	16.08	13.71	15.98
2008	2.35	2.67	4.33	1.00	1.13	2.09	17.13	13.43	16.05
2009	2.35	2.86	4.33	1.03	1.13	1.99	17.94	11.38	13.75
2010	2.29	2.9	3.96	0.97	1.28	1.26	17.47	11.94	7.34
2011	2.77	3.1	3.86	0.96	1.43	1.75	16.9	13.7	10.28
2012	2.76	3.09	3.89	0.88	1.53	1.76	15.33	15.25	10.79
2013	2.57	3.22	3.83	0.80	1.63	1.92	13.24	16.46	11.53
2014	2.45	3.31	3.54	0.5	1.65	1.54	8.48	16.22	9.03
2015	2.35	3.37	3.54	0.46	1.68	1.84	7.76	15.74	10.24
2016	2.23	3.41	3.59	-0.07	1.50	1.45	-3.47	13.81	8.00
2017	2.12	3.38	3.38	-0.10	1.30	1.61	-2.05	11.87	9.12
2018	2.08	3.32	3.44	-0.84	1.14	1.34	-14.62	10.12	7.16

Source: Reserve Bank of India

44. Banks are now free to fix and revise their interest rates periodically. The competition due to this deregulation has resulted in steady decline of NIMs over the years. NIM for SCBs was as high as 6.44 percent in 1992 in a regime of 'administered' interest rates. It gradually declined to 3.08 percent by 2005 and has continued to slide down almost steadily to just 2.5% by 2018. Return on Equity has precipitously fallen to a high of 15% (annual average) during 2004-2013 to 5.2% (annual average) during 2014-18. In fact, in 2017-18, it turned negative (-2.7%) for the first time. Such is the crippling effect of the NPA crisis on the Banking sector fundamentals. The aggregate numbers for all the scheduled commercial banks mask the deeper decline in the profitability of Public Sector Banks, which command 66% share in total SCB assets in 2018, steadily down from 75% in 2005. The NIMs of private and foreign banks has

been consistently higher than that of PSBs since 2008, being 60% and 65% higher, respectively, in 2018. The PSBs recorded a higher average Return on Equity (16.3%) during 2005-2013 (with peak of 18% in 2008-09, the year of 'global financial crisis') but has since fallen vertically into negative zone. It was 8.5%, 7.8%, (-) 3.5%, (-) 2.0% and (-) 14.6% in 2014, 2015, 2016, 2017 and 2018, respectively. The single biggest driver of this steep fall is the killing burden of 'Provisions and Contingencies' (which is mainly due to provision for NPAs) which used to be an average of 18% of shareholders' funds during 2005 to 2015 but has since increased to 29% in 2016 and 2017 and to a record high of 41% in 2018.

45. It is seen that the profitability has been affected primarily because of provisions as the operating profits are far higher than net profits. For example in 2018, the SCBs suffered a net profit of (-) 0.21% whereas the operating profit was (+) 1.92%. For public sector banks also, the operating profit was (+) 1.55 % whereas net profit was (-) 0.85. Therefore, it can be surmised that once the issue of NPAs is properly handled, there are no other major areas of concern. However, some concerns remain on both costs and revenue fronts. Firstly, the major burden of spreading the financial inclusion falls on public sector banks with attendant costs of servicing a large number of relatively low value accounts. Secondly, a large holding of increasingly longer-term government securities in investment portfolio (over 80%) exposes banks' investment income to interest rate risks On-the-anvil reforms in fiscal responsibility and government payment systems including PFMS and DBT are progressively reducing the conventional benefit of float available to banks.

46. Government is actively promoting greater use of plastic money and digital payments and the results have been quite encouraging. (The Unified Payment Interface (UPI) set up in 2016 and managed by National Payments Corporation of India has seen exponential growth. In March, 2019, the number of UPI transactions stood at around 800 million, from just 178 million a year ago.) It is surmised that dwindling requirement of handling cash (and even cards) will have significant impact not just on ATM industry of cash logistics but also on the size and profile of HR and physical resources needed by banks of the future. Less-cash economy will reduce operating expenses of one type but will require additional investments in securing the IT systems against fraud, security breach or other abuses including invasion of privacy. In the short-term, the investments in technology upgradation of their business operations will drain profitability.

47. With growing financialisation of limited savings, access to cheaper CASA funds is expected to be progressively reduced, which coupled with the continuing overhang of NPA resolutions, is likely to keep the profitability subdued in short term.

Competition with banking sector

48. A significant phase in the evolution of Indian banking was the financial sector reforms phase I (1991-92 to 1997-98) and phase II (beyond 1998-99) to address issues such as low profitability, weak capital base and lack of adequate competition. Reforms brought in prudential norms, operational flexibility and functional autonomy and strengthening the supervisory practices, improving credit delivery, promoting financial inclusion, improving customer service. To improve competition, the entry of private and foreign banks - which together command 34% of total banking assets by March 2018 - was allowed into the system, as a corrective to nationalisation.

49. The general practice of consortium-based lending shows that there are not many big enough lenders to lend to big business. The government has set in motion a process of consolidation to reduce the number of public sector banks, rationalise manpower and branch network and create a few banks of global stature.

50. Another development on the anvil affecting competition is the Bank Account Portability. The RBI had in 2012 allowed intra-bank portability to shift account to another branch with fresh KYC. The next logical step is allowing the customers Bank Account Portability across banks akin to Mobile Number Portability successfully implemented in the telecom sector. The portability is considered desirable as it would improve customer service by enhancing competition. Unlike in the case of mobile numbers, a bank customer wishing to switch to a new bank is not typically interested in retaining his old bank account number but his whole KYC/Customer ID, old account balances, ECS mandates, standing instructions etc. as well. Harmonising different coding patterns followed by different banks in assigning bank account numbers and varying levels of computerization is a major operational concern. The old accounts not being subjected to rigorous KYC and KYC not being updated is a major identified risk. It is felt that portability with fresh KYC should be quite possible, especially with the use of Aadhaar based authentication after necessary safeguards on data privacy are in place. – Such authentication (identity verification) is now safely possible through two-factor authentication (Aadhaar number or Aadhaar VID and biometric or OTP), QR Codes and masked AADHAAR card based e-KYC. Accelerated implementation of this reform – quite desirable and inevitable - in the face of several challenges would be a game-changer and should be expedited. It may

begin with basic saving account portability and then be extended to even loan accounts.

Asset Quality

51. A system of classification of assets was introduced by RBI in 1985 when prudential norms were introduced for the first time. Banks were advised to classify their loans and advances under a Health Code system. The system comprises of eight codes (1 - 8) which indicated the quality or health of individual loan account. On the recommendation of Narasimham Committee – I (1991), RBI advised the Banks to classify their loans and advances into 4 categories i. Standard Assets, ii. Substandard Assets, iii. Doubtful Assets and iv. Loss Assets. Prudential norms were introduced from April 1992 bringing changes in accounting policies of Banks on income recognition, asset classification, provisioning for bad debts and expected capital adequacy.

52. Non Performing Advance is defined as an advance where payment of interest or repayment of instalment of principal (in case of Term Loans) or both remains unpaid for a period of two quarters or more. An amount under any of the credit facilities is to be treated as 'past due' when it remains unpaid for 30 days beyond due date. The aggregate domestic NPAs of PSBs formed 14.46 percent of total outstanding loans and advances as on March 31, 1992 as against 13.59 percent on March 31, 1991. It is interesting to note that the ratio of gross NPAs to gross Advances had reported a sharp and steady decline from a high of 14.6 per cent in 1999 to 2009. After a small increase to 2.39% in 2010, it came back to the level of 2.25% in 2011 before showing steady increase to 4.1% in 2014. The RBI realised that this metric was not adequately capturing the extent of 'bad loans' because the banks were finding ways to classify some fit-to-be-NPA loan as non-NPA loans through restructuring of loans. RBI devised a new metric called the 'stressed assets' to include not just officially reported gross NPAs but also 'restructured standard advances.' RBI found that the stressed advances had increased to 10.0 per cent in March 2014. Thereafter, the RBI adopted a stringent attitude to clamp down on misreporting of 'bad loans' and since then, the disclosure of hitherto hidden bad loans has severely pummelled the SCB balance sheets, particularly of PSBs, leading to record decline in their RoE to (-) 14.6% in 2018.

53. The stressed advances of banks had increased to 10 per cent of the total advances by March 2014. Five sub-sectors: infrastructure, iron and steel, textiles, mining

(including coal) and aviation, had significantly higher levels of stressed assets and thus these sub-sectors were identified as 'stressed' sectors in previous financial stability reports. These five sub-sectors had 52 per cent of total stressed advances of all SCBs as of June 2014, whereas in the case of PSBs it was at 54 per cent.

54. The problem of NPAs is not confined to large loan accounts. Credit to MSMEs by SCBs is about 18% of the total credit and the RBI has highlighted the significant underperformance of the PSBs with regards to credit to MSME. PSB performance in the MSME segment trails that of other intermediaries. This is both in terms of inherent as well as realised credit risk. PSBs are extending plain working capital and term loan structures in this high-risk segment. The issue of frauds in working capital limits in PSBs in general have been highlighted in successive Financial Stability Reports.

55. These developments have put a question mark on the reliability of NPA numbers reported in years preceding 2014 and actually a ‘back series’ of stressed advances needs to be generated. But more important is the issue of dealing with the NPAs already recognized and preventing future build-up of bad loan portfolios.

56. After the Asset Quality Reviews of the RBI pointed out the deterioration in the NPA position, the Government moved to appoint an Expert Committee, which in its Report in 2015 recommended the Insolvency and Bankruptcy Code 2016.

57. On February 14, 2018, the RBI had abolished half a dozen existing loan-restructuring mechanisms, and instead provided for a strict 180-day timeline for banks to agree on a resolution plan in case of a default. Banks were mandated to furnish a weekly report on credit information to CRILC on all their borrowers having aggregate fund-based and non-fund based exposure of Rs.5 crore and above. RBI also mandated that insolvency proceedings would have to be initiated in case of a loan of Rs.2,000 crore or more if a resolution plan is not implemented within 180 days of the default. This stipulation has been set aside by the Supreme Court and a review of the RBI circular dated 14/2/2018 is on the anvil. Since the issue of this circular, a number of large value loan accounts are subject matter of resolution/.insolvency proceedings are under various stages of litigation.

58. Table 9 summarises the success of efforts made by scheduled commercial banks at recovery of debts through three different recovery channels during 2012-13 to 2016-17.

Table 9 Recovery of bank debts through different recovery channels (March 2018)

	Lok Adalats	Debt Recovery Tribunals	SARFAESI Act	Total
No. of cases referred	1,20,45,490	1,17,109	8,14,257	1,29,76,856
Amount involved (Rs. in billion)	2,386	2,831	5,134	10,351
Amount recovered during the year (Rs. in billion)	98	367	904	1369
Recovery percentage	4.1	13.0	17.6	13.2

Source: Reserve Bank of India (Amount recovered could be with reference to cases referred during the given year as well as during the earlier years.)

59. The 4th channel of recovery was opened with the enactment of Insolvency and Bankruptcy Code 2016 and setting up of National Company Law Tribunals and National Company Law Appellate Tribunal. On 3rd January 2019, Hon. Finance Minister brought out in a Facebook post that NCLTs have admitted a total of 1322 cases and at the pre-admission stage, 4452 cases were disposed; 66 were resolved after adjudication and liquidation was ordered in 260 cases. In 66 resolution cases, creditors recovered approximately Rs.80,000 crore, of course with significant haircuts. (Jaitley, 2019)

VII. Suggestions for improved management of Non-Performing Assets

60. There are several causes for build-up of NPAs. Some measures on the anvil and those that can be further introduced to deal with the problem of bad loans are discussed below.

61. To avoid the fresh NPAs, Banks have to hone their skills to efficiently appraise the associated risk. Required orientation towards proper handling of NPAs should be given to the handling staff through a formal training. The Bank officials responsible for sanction of such loans which become NPAs should be made accountable if there is evidence of malafide intentions or slackness in appraisal. Care should be taken by the Banks that there is no perception of undue victimization.

62. Lack of post sanction follow-up and monitoring and failure to recognize early warning signals of impending delinquency is a managerial deficiency that can only be overcome through improved risk-based onsite and offsite regulation by the RBI.

VII A. Blunter tools of bank regulation needs infusion of technology

63. Strict ex post regulations are no substitute for poor ex ante oversight. Presently, banking regulations impose costs and penalties at a stage after the loan sanction stage, during the loan implementation phase whereas the mischief may have happened at the loan sanction stage such as accepting securities without verification of rightful title of the borrower to the security. No amount of capital provisioning norms is going to correct delinquency of that sort. Tackling the NPA crisis requires due diligence well before a loan is tagged as NPA.

64. Macro level regulations like forcing the banks to make provisions for bad and doubtful debts and fine-tuning the norms for classifying a loan as bad and doubtful debts requiring provision, in line with tightening Basel norms are supposed to act as a disciplining factor for the bank management at a later stage when delinquency has already set in. How far this discipline can be transferred from the boardrooms to the operational managers? What can be done to bring systemic changes to prevent the delinquency if there are errors or omission and commission in the very sanction of loan and due diligence on security offered? What changes need to be made in the system of onsite inspection and offsite monitoring through periodic reports and returns rendered to the RBI? It may be beyond the scope of this Paper to go into these details but the need for answers to these questions is self-evident based on significant rise in loan delinquencies, often undetected in time by existing systems of checks and controls. These have even invited criticism about the quality of inspections and oversight exercised by the RBI on banks and counterviews about the functioning of public sector banks.

65. Capital adequacy norms create incentives and disincentives at the corporate level and have their own value as elements of regulatory architecture but these need to be supplemented with regulatory measures that guide and restrain delinquency at the operational managers level both on the lender's side as well as on the borrower's side. It may not have been possible in the past due to cost considerations but today the technology enables robust micro regulations being put in place that can actually target the individual operational decisions and individual transactions. The regulators' failure to keep up with the technology needs to be remedied. So far the focus of technology upgradation by banks has been on the customer-end service delivery. In order to enhance lending capacity of banks, technology infusion is required by the banks in pre-sanction due diligence and post-disbursement monitoring of borrower performance and state of underlying securities. That will in turn enhance scope and

capability of the central bank to deploy technology for risk-based supervision resulting in rationalisation of traditional, blunter tools of supervision.

VII B Improving due diligence both at loan sanction and loan implementation stages

66. Banks typically try to minimize bad lending decisions by operational procedures like separation of teams for verification of security offered, for creditworthiness verification and for loan sanctioning and outsourcing some functions to third parties. It is considered worthwhile to institute a technology-enabled, RBI-controlled system of randomised assignment of tasks involved in pre-sanction scrutiny and post-sanction monitoring. Advances in RegTech/SupTech make such interventions possible. It is apt to mention that the Income Tax Department is planning a similar system of anonymising the interface between the tax assesse and tax officers in the process of assessment and scrutiny of tax returns. Controller General of Patents, Designs and Trademarks has instituted a system where a patent application may be filed online and assigned for scrutiny to any controller of patents. The whole idea is to establish client connection with the whole organisation and not just with a set of pre-identified persons manning a physical or virtual office under that organisation. Banks can benefit from technology to cut down arbitrariness and collusion in the process of loan sanctioning. The conventional wisdom to depend on the skills and integrity of the public official and direct human contact is gradually yielding space to the new paradigm of system based controls to minimize organisational risks when the scale of operations is very large and the skills/integrity levels are not uniformly distributed across the organisation.

VII C Improving information sharing about creditworthiness

67. Availability of adequate amount of quality information on counterparties is a critical component of financial infrastructure in any country. By reducing the information asymmetry between lenders and borrowers, this provides a fillip to the growth of credit. Due to lack of coordination among lending institutions, borrowers are often able to defraud one branch or one bank and yet source credit from another branch or bank. The Credit Information Scheme put in place by the Bank in 1962 was discontinued in 1995 due to (a) Inordinate delay in submission of the information by banks; (b) information furnished by banks being often outdated and incomplete; and (c) the demand for such information from banks was very insignificant. Setting up of credit bureaus in Asia really took off only after the Asian crisis of 1997. Credit Information Bureau (India) Ltd. (CIBIL) was incorporated in August 2000. The Credit Information Companies (Regulation) Act (CICRA) was enacted in the year 2005 with a view to regulate Credit Information Companies. In 2014, the RBI set up a

Central Repository of Information on Large Credits (CRILC) to collect, store, and disseminate credit data to lenders. Systems of credit rating, credit scores, central registry of defaulting borrowers and institutionalised sharing of creditworthiness information are being implemented with varying degree of success. RBI) is considering setting up a central database of bank loans to instil a better credit culture in the country. More and more countries are moving towards transparent and comprehensive public credit register to enhance efficiency of the credit market, increase financial inclusion, improve ease of doing business, and help control delinquencies. This needs to be fast-tracked.

68. Further, the systems to judge and monitor creditworthiness of debt seekers need to be beefed up for all segments – big corporates, MSMEs, farmers, traders and individuals. (Although the scale of living on debt-fuelled consumption is not as high as in some advanced economies, personal loans have registered sharp growth in recent years.) In India, there are six credit rating agencies registered with SEBI (CRISIL, ICRA, CARE, SMERA, Fitch India and Brickwork Ratings). Timely lessons can be drawn from highly leveraged countries to strengthen the institutional mechanism for credit rating. It must be conceded that like all human institutions, the credit rating agencies are also vulnerable to pressures and professional misjudgement / failures especially in case of big borrowers (governments and corporates) but that can hardly be a ground to wish them away. The recent case of liquidity crisis in ILFS not being forecast/red-flagged by credit rating agencies calls for mandatory and continuous monitoring/reporting of large corporate entities (deemed Systemically Important from wider public interest viewpoint) by at least two accredited credit rating companies must be mandated under law. For this, necessary amendments in the Companies Act and SEBI Act need to be carried out. The Fair Credit Reporting Act (FCRA) of the USA can also be used as a benchmark legislation to provide a sound legal basis for voluntary and mandated use of crediting rating and management of associated risks like data privacy.

69. Creditworthiness verification is particularly problematic for first time borrowers as there is no prior credit history available in the formal system. However, the implementation of GST has opened a new avenue of collateral free Digital Lending based on tracking of digital trail of GST declared turnover by small businesses.

VII D Suggestions on improving pre-sanction processes

70. There is need to strengthen the business processes that precede the sanction of a loan. Some suggestions are discussed below.

A. Anonymize the interface between the applicant and applicant scrutinizer and application acceptor.

71. The Controller General of Patents and Trademarks used to have a system whereby the patent application was examined by the office where it was filed and since different offices may have had capacity differential or backlog of cases to contend with, an applicant could choose the office where you'd like to file the application for possible fast track processing. Under a new system introduced by them, the applications are received online and then allocated to this or that controller for examination. At the time of filing the application, the applicant does not know who is going to examine the application.

72. The Income Tax department has instituted a system whereby an assessee is not under the jurisdiction of a single assessing officer whose identity is known to him before filing the return and only that assessing officer has been given power to scrutinise and accept the income tax return. Under the new system once an income tax return is filed online it can be assigned to any officer for a scrutiny under a random system control allocation of work. So it tax return filer does not know who is going to examine and accept it.

73. Technology enables the loan applications being assigned for a scrutiny to one or more officers who need not be from the bank branch where the application is filed. In fact, it enables the application being examined by multiple experts from different angles. The title verification for offered securities can be assigned to an independent set of persons or even a professional agency. All this has to be done in a time bound manner (where technology enables workload based assignment of work) so that the decision on the application - accepted with such and such conditions or rejected for such and such reasons - is conveyed to the loan applicant.

B. Title search mechanism

74. Inadequate scrutiny of title to the immovable property offered as security for bank credit and of pre-existing charges on the property is another source of NPA problem. This also requires setting up of a Registry, preferably online, of security interests created on an immovable asset so that creation of multiple charges on the same property can be checked.

75. As part of the ease of doing business agenda being pursued with the State governments, States are creating online databases of all lands and enabling digital search of titles as well as charges created on immovable assets. Karnataka is perhaps most advanced in this direction.

C. Randomized selection of post-audit and scrutiny

76. Earlier the assessing officers had wide discretionary powers to select any income tax return for detailed scrutiny. Now systemic checks and balances have been put in place whereby the selection of sample for detailed scrutiny is either controlled by the IT system to bring randomness and anonymity or the selection is based on a verifiable trail of revenue intelligence.

D. Improving transparency and accountability through a digital log of the entire process of pre-sanction scrutiny

77. The systems are undermined by discretionary interventions, particularly the undocumented interventions called ‘phone banking’ with a different, negative connotation. Discretion cannot and should not be eliminated altogether.

78. The importance of separating wilful defaulters from genuinely distressed borrowers can hardly be over-emphasised. Taking note of the public interest involved, the Supreme Court has ordered the RBI to provide its Inspection Reports to applicants under the Right To Information Act, 2005, dismissing the RBI's plea that it has a fiduciary responsibility not to disclose the information which would inevitably disclose the identity of defaulting borrower. This will set in motion a ‘name and shame’ regime that needs to be implemented very carefully.

E. Capacity building on management of escrow accounts

79. Diversion of loan funds for unapproved purposes by wilful defaulters has emerged a major delinquency. Escrow account mechanism is typically used by Banks in project financing through term loans drawn in tranches. In the real estate sector, this trend of diversion is sought to be checked by ring fencing the loan funds into escrow accounts for particular projects and sub-projects. When individual drawls are made from the escrow account, the bank staff may not be equipped to judge if the amounts being drawn are inflated or the purpose has been misdeclared. Curbing inadmissible withdrawls being allowed from escrow accounts, out of collusion or ignorance, requires capacity building and putting in place systems of technology enabled surveillance- random sampling and verification.

F. Exposure norms must be supplemented with statutory leverage limits on companies and groups of related companies.

80. The focus of NPA debate has been on large corporate loan defaults and delinquencies and farm loan waivers. Bailing out borrowers, whether out of compulsion or compassion, always raises the moral hazard issue, weaken the repayment culture and creates problems for further lending. It is important from policy viewpoint to deny

and discourage excessive borrowing by borrowers beyond their repayment capacity. From an analysis of major NPAs, it is seen that the defaulting borrowers are highly leveraged with lower risk capital. Just as there are banks questionably lending way above their core capital base, there are several borrowers who borrow well above the risk capital they own.

81. It will be worthwhile to explore if on the analogy of capital adequacy norms for the lenders, there can be statutory curbs on the permissible debt-to-equity ratios for borrower companies, preferably embedded in the Companies Act. (At present, the power to approve debt to be incurred by a company is vested in the Board of Directors but that is the only statutory limitation on the corporate debt. The Companies Act should go beyond and put additional restrictions and may be caps on the quantum of debt that a company can incur.

82. Hence, it is recommended to prescribe and enforce debt equity norms for companies and to deny further credit to over leveraged borrowers by regulations or to have a mechanism where such loan approvals are given at board level or with formal permission of the RBI and government.

83. Negligent over-valuation of security offered by loan applicant is another source of NPA problem. This is largely the result of information asymmetry that can only be addressed by creating large databases on prices accessible to lenders. Public agencies hold data that can be shared with suitable anonymization for bonafide purposes.

G. Differentiated regulation with incentives and exceptional relaxations for well-behaved banks and their clients

84. Presently there is a baseline regulation uniformly applicable to all banks and then there is extra regulation applicable to do banks exposed to special risks like high NPA, low liquidity or incidence of fraud. Everywhere there is a trend to reward well behaved and special category of clients. The Customs and the Department of Commerce have evolved a system Star Export Houses which are given certain priorities and privileges. The Income Tax Department proposes to honor tax payers and has created special facilitation for large taxpayer units. Customs has certain rules giving priority clearances to star export houses. Airlines give special priorities and privileges to frequent flyers and first class passengers. The government recognises certain Central Public sector Enterprises as being Maharatna Navratna companies giving special empowerment and privileges to decide their HR policy and sanction capital expenditure. The bank regulation also recognises Systematically Important Banks and NBFCs but more for the purpose of enhanced regulation. There is a case to

introduce and incentive and reward scheme for well-behaved players, whether bankers or borrowers.

85. Banks are only a subset of a large class of entities. The general law of companies is not applicable to the banking companies and non-banking financial companies because banks and NBFCs have certain peculiar features requiring separate legislation and separate regulatory bodies to regulate them. However at a conceptual level there would continue to be calls for adoption of the basic governing principles of general corporate law of the country and the norms of corporate governance even by banking companies.

H. Increasing use of technology for profitability and customer service

86. Traditional banking practices are costly and also unable to meet increasing customer expectations. This is leading to loss of high value clients by inefficient banks denting their profitability. With inevitable bank account portability, pressure to adopt and adapt to technology will only increase in coming years.

87. Branch footfalls are steadily declining. Banking services are increasingly being provided through multiple channels (Branches, ATMs, Phone banking, Netbanking, Mobile Banking; Credit/Debit and Prepay cards). Digital assistants, social media and third party channels are projected to act as primary channels for banking. This business reorientation requires investment in IT infrastructure and services (Data Warehousing, Customer Relationship Management, Analytics). Competition is not between banks but also with non-bank intermediary entities, markets and instruments for credit and financial services that continue to develop and expand.

88. Mechanisation of manual business processes started in 1980s with introduction of encoders, standard cheques and machine processing of cheques through MICR. This was followed by branch level computerisation and inter-branch connectivity in 1990s culminating in introduction of Electronic Funds Transfer facility. CORE Banking Solutions were implemented to facilitate seamless transaction processing between different departments within the bank using shared databases. Introduction of ATMs brought a new customer delight for cash withdrawals/deposits and other services like ordering cheque book, account statement. Gradual introduction of ECS, NEFT and RTGS has taken e-banking to a new level cutting fund transfer delays from days to hours to minutes.

89. The digital payments system in India has evolved the most among 25 countries, including UK, China and Japan, with the IMPS being the only system at level 5 in the Faster Payments Innovation Index (FPII). India stepped up to 28th position on the

government's adoption of e-payments ranking in 2018. The number of transactions through IMPS increased to 1.22 billion in volume and amounted to Rs.11.12 trillion (US$ 133.75 billion) in value between April-December 2018.

90. There has been burst of FinTech in recent times working on various technologies to change the way customers experience financial services. Technology will focus on eliminating manual efforts in all transactions and introduce newer methods of authentication to address increasing concerns on data security and privacy. Conventional methods of authentication through User ID & password in the case of internet banking, PIN in the case of ATM, Mobile PIN in the case of Mobile Banking, TPIN in the case of telebanking login are being strengthened with One Time Password on mobile and email or voice prompt. Typing and keying transactions may soon be replaced or supplemented with next generation authentication methods. Access controls on entry of only bonafide customers into unmanned smart branches/kiosks after biometrics recognition through fingerprints and Iris scan, behavioral biometrics like the way customers type in the key board, click the mouse, facial expression (smile on the face, blink of eyes), gestures and speech recognition. Robots interacting with customers using speech recognition and facial expression recognition technology may be cost effective in advanced countries, it may still take some time in India as the cost of robotics will be far more than the benefit. Full-scale robotics and smart interactive devices and interfaces, banking on the drive, bank on your smartwatch; all are likely scenarios of future banking with diminishing direct contact with banking staff and representatives. Future of a typical bank is a fintech company.

91. Chatbot services are a new dimension in managing customer interface. In March 2018, Kotak Mahindra launched Keya, India’s first integrated voicebot, which can understand both Hindi and English powered by Nuance. Keya combines conversational intelligence with human-like natural dialogue. It ushers a new era of consumer interaction.

92. The above technologies are focussed on how a customer approaches and interacts a bank. A host of new technologies of ‘Intelligent Banking’ are being developed to change the way a bank approaches its clients, both existing and potential new clients. With advancement of technology in Data analytics and Artificial intelligence, banks are likely to use behavior patterns of customers to understand their desires & needs and offer products & services which will suit their needs. Data captured from multiple sources like social network media profile, likes and dislikes, travel and vacation styles, choice of goods, income & expense & investments patterns from credit cards

& bank accounts statements can be mined using data analytics tools to understand the needs of customers and to offer personalised products to suit their needs such as preapproved loans. Of course, bank would be called upon to adhere to regulations on data privacy and security and to focus on developing an effective Risk Assessment and Mitigation system in this era of highly innovative cybercrime.

93. Another serious challenge faced by the banks is the emergence of disruptive fintech technologies of distributed ledgers, notably Blockchain based recordkeeping of transaction trails and smart contracts. It also offers a redeeming opportunity to the banks to switch from term loans and working capital limits to transaction-based finance for better control on borrower delinquency. Banks will have to compete with FinTechs; either innovate newer ways of doing business or collaborate with them to improve their efficiency to stay in the business. Blockchain based transaction authentication services can revolutionize how banks and other financial services providers record and prove the transactions.

94. In August 2018, the World Bank successfully launched bond-i (blockchain operated new debt instrument), the world's first bond to be created, allocated, transferred and managed through its life cycle using distributed ledger technology. The two-year bond raised A$110 million, marking the first time that investors have supported the World Bank's development activities in a transaction that is fully managed using the blockchain technology.

95. Earlier in June 2017, the World Bank had launched a Blockchain Innovation Lab to understand the impact of blockchain and other disruptive technologies in areas such as land administration, supply chain management, health, education, cross-border payments, and carbon market trading. Some Central banks are contemplating creation of regulatory sandbox for blockchain companies. Amendments to the Information Technology Act may provide for admissibility of such transaction trails as admissible evidence of the authenticity of the transaction. (Moving from term loan to a credit card type of credit facility would mean a major template change for the banks where financing of ineligible transactions can be denied to check diversion of credit for unintended purposes.) RBI has invited stakeholders' comments on the draft 'Enabling Framework for Regulatory Sandbox' by May 8. (A regulatory sandbox (RS) usually refers to live-testing of new products or services in a controlled and test regulatory environment for which regulators may or may not permit certain regulatory relaxations for the limited purpose of the testing.) RBI has proposed fintech start-ups could set up regulatory sandbox or live-testing of innovative products and services in segments such as retail payments, money transfer, artificial intelligence and data

analytics in the financial sector, excluding crypto-currencies, credit registry and credit information. The fintech sandboxing is to be for a limited set of customers and only 10-12 fintech companies. It is welcome that the RBI has put out draft norms for a 'regulatory sandbox' for financial technology products. The regulatory sandbox approach is now the global standard for testing new fintech products and services, in a time-bound controlled space and limited rollout, designed as field tests.

96. Present approach to automation has been to essentially automate the pre-existing manual processes and systems of accounting journals and ledgers but future lies in Blockchains based accounting and authentication systems are set to change a lot in this area. Distributed Ledger Technologies could reshape how both money and information is stored and transmitted. Today when money moves, each party involved marks the transaction in its ledger. Record-keeping and reconciliation are duplicative processes that repeat across the separate financial accounts of remitters, banks, central banks, clearing systems and beneficiaries. The inefficiency is exaggerated and most acute for global payments, since time zone differences, cut-off times and other complexities can add days of delay.

97. Banks need to invest heavily in distributed ledgers as a cost-saving measure and also to reduce operational risks. Future use of distributed ledgers is expected to monetize the Internet of things in a programmable economy. Real-time payments from/to anywhere and in any currency could create immediate visibility and transparency. Instantaneous global access to funds and corresponding information is likely to enable companies to better optimize working capital, meet liquidity needs worldwide and mitigate fraud. Banking interoperability is likely to allow financial institutions to work together seamlessly and use new or emerging technologies such as the cloud and Application programming interface to efficiently connect to clients and distribute data.

98. The technology offers tantalising prospects of nirvana for global payments and treasury. Payments can be made nearly instantly on a single, tamper-proof ledger shared among participants? These transactions would be immutable, incorruptible and irreversible. Directly connecting counterparties via a shared ledger would enable a global peer-to-peer payments system where payments could happen nearly instantly from and to anywhere in any currency with an immediately visible payment trail to simplify track and trace. Beyond transaction details, enriched data could be immutably linked to a transaction to allow easier, more accurate auditing of supporting documentation for a payment. Companies could gain anytime, anywhere, near-instant global access to their funds and related information.

99. These technological advancements are likely to make several traditional financial products like term loans and bonds based on estimated bulk requirements obsolete and replaced by variants of credit cards to provide transaction level credit. Further, the extensions of ideas of buybacks and swaps from financial sector to real economy and vice versa may rewrite the traditional rules of business contracts based on one way irreversible transfer of title.

100. Last but not the least, growing anonymity in the interface between payer and payee, borrower and lender brings in its wake major challenges to privacy and security of IT systems, more so when globally the financially frighteningly overwhelms the real economy. With more and more data moving from challans, vouchers, cashbooks, ledgers and manually maintained registers, there is anxiety about potential loss of audit trails. IT system based transaction processing and accounting poses following challenges: deskilling at various levels, loss of understanding about process flow and logic, disconnect between system designer and user. How does a user or stakeholder or oversight agency know that the reports generated by the IT system are based on complete, accurate and authentic data and that robust input/output/processing controls are in place. There is clear risk of the regulators' oversight lagging behind the fast-paced developments in the markets and technologies.

VIII. Concluding remarks

101. Although bank credit to industry and agriculture continues to be matter of concern reflecting deteriorating asset quality in these sectors, banks have started lending more to less stressed sectors such as retail loans - personal/house/vehicle loans, vehicle. Expanding the ambit of PMJDY from every household to every adult is expected to deepen formal financialisaton of disadvantaged sections of society. Capital infusion in weak RRBs and operationalisation of an increased number of SFBs and PBs is expected to enable the expansion of the geographical penetration of banking services. Introduction of innovative products for digital payments and measures to improve cyber security in banking are continuing apace. The IBC framework for resolution of stressed assets is expected to address the bad loan problem and improve debtor-creditor relationships even as competition from NBFCs, bond market and fintech companies intensifies for the commercial banks. In this environment, banks need to augment their capital base to guard against future balance sheet stress, and improve their credit monitoring and risk management strategies.

102. The system of money and banking grew to meet the requirement of trade and commerce so that entities can be free from the limitations of the barter system to freely exchange goods and services using certain coins and currencies as medium of exchange of transferable storehouse of value. This simple model has undergone massive transformation with proliferation of currencies, issuance of currency well beyond their intrinsic value. The organisational forms of entities needing and providing money and credit has also increased manifold in size and complexity. Monetary easing by advanced economies had flooded the emerging market economies with fiat currencies printed with little asset backup. The destabilising effects have not yet waned. Rather trade tensions have added to uncertainties in externals sector management with implications for domestic monetary policy as well as for banks and other financial sector players.

103. Excessive regulations that are put in place after instances of delinquency by a few come to light are against the expectations of the vast majority of compliant stakeholders who would want these regulations to be whittled down. Maintaining the golden balance between the two conflicting objectives is policy dilemma for the government. The agenda of the government should continue to promote, in wider public interest, increased formalization of financial services alongwith promotion of ease of doing business and technology-enabled efficient services so that incentives and disincentives affecting access and cost of formal system services do not deter the stakeholders from accepting formalisation.

104. Not so proximate but even more serious challenge that would be casting its shadow on the future on Banking is the emergence of disruptive fintech technologies. Preparedness to deal with disruptive fintech technologies for improved management of banking system requires coordinated action, and investment in new skillsets, overcoming staff resistance. A Grand Bargain is required to push this agenda because delay will be detrimental.

105. Working capital finance and project finance have been the mainstay of traditional banking and it is surmised that the banks would continue to remain strong in providing working capital whose scale may go up with increasing engagement of the country with the rest of the world though that would also bring in additional exposure to foreign currency exchange rate variation risks. Fintech technologies of distributed ledgers, notably Blockchain based recordkeeping of transaction trails. It also offers a redeeming opportunity to the Banks to gradually switch from term loans and working capital limits to transaction-based finance for better control on borrower delinquency. Converting term loans into technology enabled transaction finance

requires more transaction level scrutiny by banks to identify only credit-eligible transactions, similar to transaction controls on outgo from Escrow accounts.

106. Burdens of directed lending and off-budget liabilities of governments: The NPA crisis that seems to be claiming highest attention at present is mainly due to involvement of large business houses in private sector. That is likely to be addressed sooner than expected but the bigger pain for both the government and the banks lie in navigating the quagmire of off-budget liabilities of the Central and State governments and the vulnerabilities in their parastatal, particularly the corporate public sector enterprises.

107. The NPA crisis that seems to be claiming highest attention at present is mainly due to involvement of large business houses in private sector. That is likely to be addressed sooner than expected but the bigger pain for both the government and the banks lie in navigating the quagmire of off-budget liabilities of the Central and State governments and the vulnerabilities in their parastatal, particularly the corporate public sector enterprises.

108. Although the theoretical foundation of the financial sector including banking supporting the capitalist economy expects a pure market-driven approach to financial sector regulation with no government interference in the business decisions of various market players, either at sector/sub-sector level or at transaction level, the recurrent market failures, crises, government bailouts have blunted the arguments favouring the 'government at arms' length' stance. The approach of 'privatising business gains and socialising business losses' has rightly raised the issue of moral hazards and attracted public ire. To be pragmatic, the financial services cannot be purely market-driven, especially in an emerging economy facing scarcity of resources.

109. Due to their significant contribution and wide reach within the financial system and the economy, banks are highly regulated in most countries and subject to minimum capital requirements based on an international set of capital standards, the Basel Accords. It is surmised that the Basel regulated Banks will continue to yield space to not only *differently regulated or unregulated players* in the financial market but also to direct tapping of domestic and foreign savings by governments and corporates alike through small savings, bonds and trade credits. Non-market financing (including completely informal financing) is of course a challenge for all financial sector regulators. The banks are particularly affected. There is no salvation for the banks without elimination of regulatory arbitrage in the credit market through appropriate institutional reengineering as recommended by FSLRC.

110. Time and cost overrun in projects due to delay in land acquisition or getting statutory clearances, disruption of market due to dumping or changes in taxation/tariff/subsidy policies, economic recession, changes in government policies, natural calamities, volatility in exchange rates, input price escalation and resultant business failure are some of the factors due to which borrowers fail to repay for reasons beyond their control. Theoretical answer to this problem is that there must be sufficient risk capital involved in all risky business ventures. Since gains of success are not shared, the entrepreneur/shareholders should not expect losses on failures to be passed on to the banks or public exchequer.

111. The challenges being faced by the banking industry also provide opportunities for the government working with the Reserve Bank of India to steer the banking industry in meeting the requirements of a growing economy poised to be among top 5 economies in the world.

112. From the government viewpoint, all the above would mean readying the public sector banks straddling a vast territory in the industry (not entirely profitably) to face the transition. Difficult policy choices would be to either let them free to seek private capital from the market and nudging them towards consolidation and privatization or to pump huge amount of capital directly or through some holding company structure. India needs to have at least a pair of global scale banks as the country is headed to be the third largest 5 trillion dollar economy in a not too distant a future.

113. Under current development paradigm, economic growth requires credit expansion which is not commensurate to the size and needs of the economy. Besides scaling up banks through mergers, institutional support for banks' commercial decisions also needs to improve. So far the focus of technology upgradation by banks has been on customer-end service delivery. In order to enhance lending capacity of banks, technology infusion is required by the banks in pre-sanction due diligence and post-disbursement monitoring of borrower performance and state of underlying securities. Both lending and borrowing decisions carry commercial risks and the bonafide decision makers need to be duly protected against ex-post scrutiny. Such institutional reengineering with banks will in turn enhance scope and capability of the central bank to deploy technology for risk-based supervision resulting in rationalisation of traditional, blunter tools of supervision.

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