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The Risk Aggregator Model in Banking for India

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Abstract

India has relied on banks to drive its financial inclusion efforts. However, the high levels of NPAs in banks' balance sheets has forced them to cut back on lending, adversely affecting the financial inclusion agenda. This has led to calls for reducing regulatory restrictions to enable greater lending. However, there are concerns about financial stability in doing so. Alternative solutions such as narrow banking, while addressing concerns about financial stability, could substantially curtail credit to the real economy. Striking a balance between zero permissions to lend (like the payments banks) and full permissions to undertake completely discretionary lending (like loan companies), this paper presents a stylised version of a bank called the Risk Aggregator Bank (RAB). The RAB, on its assets side, invests or purchases loans and debt securities instead of originating them directly, while resembling a conventional scheduled commercial bank on the liabilities side. The paper elaborates on this stylised version of a bank and on the need for such entities in India in the context of achieving the twin objectives of financial inclusion and financial depth. We explore the various regulatory, institutional capacity level and infrastructural hurdles that hinder the natural evolution of such institutions in India. Particularly, we analyse the impact of Ind AS on the loan markets and the markets for securitised paper, the reforms required in credit rating agency regulations, the infrastructural bottlenecks hindering effective risk management, and the usefulness of Simple, Transparent and Standardised (STS) securitisation framework for the Indian context. The paper also discusses possible solutions to overcome these hurdles in order to enable the development of banking entities that undertake significant risk aggregation as a matter of strategy.

Notes on the Indian Financial System
Note 8, April 2020

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1. The Function of Risk Aggregation in the Financial System

Any financial institution holding risks on its books will engage in risk identification, risk measurement and risk management, and these constitute, among other things, the function of risk aggregation. According to the Basel Committee on Banking Supervision in 2003[2], risk aggregation refers broadly to efforts taken by banks to develop quantitative risk measures that incorporate multiple types or sources of risk[3]. Going by this description, most prominent examples of institutions that must engage in risk aggregation are insurance companies and banks. While the primary purpose of risk aggregation is to provide information to the management and the governing boards on company wide and group-wide risks and its management, it is used for a variety of purposes such as capital allocation and its management, risk identification, risk monitoring, pricing, and solvency assessment.

For the purpose of this paper, we characterise risk aggregators somewhat differently, as banking institutions which have large balance sheets and can effectively hold and manage, or in other words, warehouse the risks transferred from originators (See Box A), which in turn, are financial institutions which serve as the interface between the real and financial sectors[4]. In doing so, we recognise that almost all financial institutions perform the functions of both risk origination and risk aggregation. Thus, in characterising a financial institution as a risk aggregator, this paper presents a stylised version of a financial institution which does only risk aggregation. At a system level, the paper envisages financial risks being transferred from originators to aggregators, with the latter efficiently aggregating these risks on their balance sheets.

Box A: The Origination-Transmission-Aggregation (OTA) Framework[5]

We envisage a financial system to comprise of entities engaged in one or more of three activities — Risk Origination, Risk Transmission and Risk Aggregation. These activities can be outlined as follows:

Risk Origination - Risk origination may be defined as the design and delivery of financial services in a smooth, convenient and affordable manner. It spans the following activities —

1. Designing of products to overcome moral hazard and adverse selection
2. Establishing the identity of the customer
3. Underwriting of risk
4. Disclosure of all product and contract features

[2]Trends in Risk Integration and Aggregation. Bank for International Settlements, Basel, 2003. Accessible at: https://www.bis.org/publ/joint07.pdf

[3]This description has been undergoing continuous refinement and in a publication of the Joint Forum comprising of the Basel Committee on Banking Supervision, IOSCO and the IAIS in 2010 (Developments in Modelling Risk Aggregation, Joint Forum of Basel Committee on Banking Supervision, October 2010. Accessible at https://www.iosco.org/library/pubdocs/pdf/IOSCOPD335.pdf, risk aggregation was described as the process of combining less-comprehensive measures of risks within a firm to obtain more comprehensive measures. Therefore, risk aggregation is a component of risk management that any financial institution that holds risks on its books engages in.

[4]Refer the Origination-Transmission-Aggregation framework of Dvara Research, accessible at: https://www.dvara.com/blog/wp-content/uploads/2012/01/Financial-systems-design conference-2010-2011.pdf

[5]Adapted from the Proceedings of IFMR Financial Systems Design Conference, 2010-2011. This framework is core to the philosophy of Dvara Research. More information is available at: https://www.dvara.com/blog/2012/01/13/ifmr-financial-systems-design-conference-2011-takeaways/

6. Financial advice
7. Product servicing on an on-going basis

High quality origination requires greater alignment of interests between originators and consumers along with possessing the operational and technical capabilities to carry out the above activities in an effective manner.

Risk Transmission - Risk transmission in the financial system involves the movement or transfer of risk from one entity to another, in return for a compensatory payment at a market-determined rate. In a well-functioning financial system, risk moves in an orderly manner between those who are originating it and those who are best placed to manage it, thus improving the overall capability of the system to manage risk.

Both individuals and firms engage in supplying or demanding risk. For instance, individuals are suppliers of risk when they purchase health insurance, whereas they are demanding risk when they are buying equities. Similarly, a lender has to manage credit risk, operations risk and market risk. An efficient market for risk transmission will be able to —

1. Clearly understand and identify the risks to be transferred
2. Develop appropriate instruments for transferring risks
3. Accurately measure and price risks
4. Design and implement a legal framework for enforcement of contracts

Risk Aggregation - In a financial system, risk can be mitigated either through diversification or transfer. The former involves a portfolio-based strategy designed to reduce overall risk by combining a variety of assets which are highly unlikely to behave in an identical manner. The latter involves the movement of risk to external counterparties. Entities ultimately bearing such risks may be termed “aggregators”. Any well-functioning financial system should have robust risk aggregation capacity with a range of institutions, such as scheduled commercial banks, insurance companies and managed funds such as mutual funds.

It is no coincidence that the largest banks in India indeed have the characteristics of large, regionally, and sectorally diversified balance sheets that liken them to the risk aggregators described in Box A. However, their role as risk aggregators seems only incidental to their primary role as originators, given their extensive presence across the length and breadth of the country and operations across sectors and industries. Other relevant institutions performing the aggregation function in India today are the public and private sector insurance companies, large mutual funds, and pension funds such as NPS, besides large banks. We characterise insurers, mutual funds, and pension funds as aggregators as they bear the ultimate risk, for the most part, of the assets and liabilities they originate or purchase. Table A showcases a set of the largest financial institutions in India that engage in risk aggregation.

TABLE A: Assets Under Management (AUM) of large Indian financial institutions that engage in risk aggregation (loans, advances, and investments) (Rs.)

Balance sheet Aggregators	
State Bank of India[6]	2185876.91 Cr
Life Insurance Corporation of India[7]	2,618,299.37 Cr
Managed Funds as Aggregators	
EPFO[8]	318,412.38 Cr
NPS Trust[9]	4,06,952.62 Cr
Largest Debt Mutual Funds[10] as Aggregators	
Money Market Funds (Aditya Birla Sun Life Money Manager Fund — Growth)	11,328.75 Cr
ICICI Prudential FMP — Series 82-1185 Days Plan I - Growth	1,003.60 Cr
ICICI Prudential LT Bond Fund — Growth	742.22 Cr

While in theory, all these entities aggregate risks in their balance sheet, there are important differences in the nature of businesses across each. For instance, the primary risk originated by banks, i.e., loans and advances, are in the nature of assets, while for life insurers, the mortality risk which it insures becomes a liability on their balance sheet. This has important implications for the kind of risk management tools that institutions use. In a similar vein, life insurers would primarily resort to reinsurance. Thus, banking aggregators can effectively manage their risk by selling and buying securitised assets/loans/bonds in the capital markets and thereby manage their portfolio. This is not to suggest that risk management tools are specific to entity type, but to illustrate the fact that certain tools are better suited to specific entities. Given this paper's focus on the banking system, we explore the idea of banking aggregators accessing the loan and securitisation markets to manage their risks.

[6] SBI Annual Report 2018-19

[7] Sum of policy holders' investments and loans line items of balance sheet, as of March 31, 2018, LIC annual Report 2017-18, accessible at: https://www.licindia.in/getattachment/Bottom-Links/annual-report/LIC-Annual-Report-2017-2018-WEB.pdf.aspx

[8] Corpus at end of FY 2016-17, assessible at: https://www.epfindia.gov.in/site_docs/PDFs/Circulars/Y2017-2018/Conf_92EC_AgendaBook_21821.pdf

[9] As on March, 2020, as per numbers accessible at: http://www.npstrust.org.in/assets-under-management-and-subsribers

[10] Based on data from moneycontrol.com, accessed on 11 July 2019

2. The Typology of the Risk Aggregator Bank

Banking institutions provide three financial functions namely, savings, credit and payments. Keeping in mind the aggregation of risks that banks engage in, we characterise, in this paper, a typology of institutions that we call 'Risk Aggregator Banks' (RAB). These will be large banking institutions which have as their primary business on the liabilities side, the ability to raise retail deposits in addition to all other kinds of deposits and debt instruments. They will thus resemble today's Scheduled Commercial Banks (SCBs) in that they can rely significantly on retail demand deposits.

However, their primary business on the asset side would be to invest in a variety of credit risks, in the form of both loans and debt securities and manage them as a portfolio. Such loans and debt instruments will not be originated directly by the RAB but will be purchased from other financial institutions that, in turn, originate these credit risks. Such purchases could be through the direct assignment and other bilateral modes of purchase, or through subscriptions to Pass-Through Certificates (PTC) and bond issuances in the primary market as well as through trades in the secondary market. Alternatively, the RAB could also get the required exposure through off-balance sheet arrangements like guarantees.

Thus, instead of directly originating credit through own branches, the RAB will assemble its portfolio of credit risks originated by specialist originator institutions such as NBFCs and banks that have credit appraisal and underwriting capabilities in alignment with the bank's business strategy and risk appetite. By aggregating risks from disparate sectors, industries and geographies, the RABs could enjoy potential diversification benefits. As credit risk gets transferred out from originators' balance sheets, capital gets freed up, thereby enabling the originator to originate new credit. This could increase financial inclusion and financial depth.

3. The Need for a Risk Aggregator Typology in Banking for India

India continues to be predominantly a bank-based financial system. The country has 44 foreign banks, 22 public sector banks, 21 private sector banks, 6 small finance banks and 220 systemically important non-deposit taking NBFCs, with cumulative outstanding credit of Rs. 90 Lakh Cr[11]. A majority of the real economy relies on the banking system for its credit needs rather than on its capital markets. This is evident from the fact that banks provide more than 90% of the total credit flowing to the private real sector (See Figure A[12]).

FIGURE A: Bank Credit as a percentage of Total Credit to the Private Real sector (%)

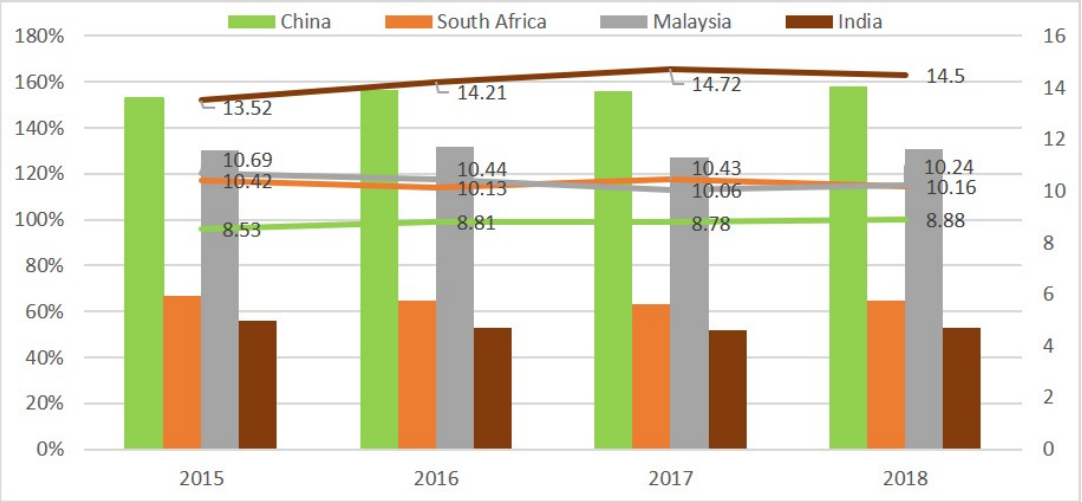
However, compared with other Emerging Market Economies (EMEs), the size of our financial system appears inadequate to support the needs of the real economy. India's Bank Credit to the private non-financial sector as a percentage of GDP is among the lowest (See Figure B[13]).

[11]Compiled from DBIE & FSR, RBI, 2018

[12]Data obtained from BIS, accessible at https://www.bis.org/statistics/totcredit.htm?m=6%7C380%7C669

[13]Bank credit to the private non-financial sector (core debt) as a percentage of GDP, BIS, accessible at https://stats.bis.org/statx/srs/table/f2.4; Number of commercial bank branches per 100,000 adults, Financial Access Survey database, IMF accessible at http://data.imf.org/?sk=E5DCAB7E-A5CA-4892-A6EA-598B5463A34C

FIGURE B: Bank Credit to Private Non-Financial Sector / GDP (LHS) and Bank Branches per 100,000 Adults (RHS)

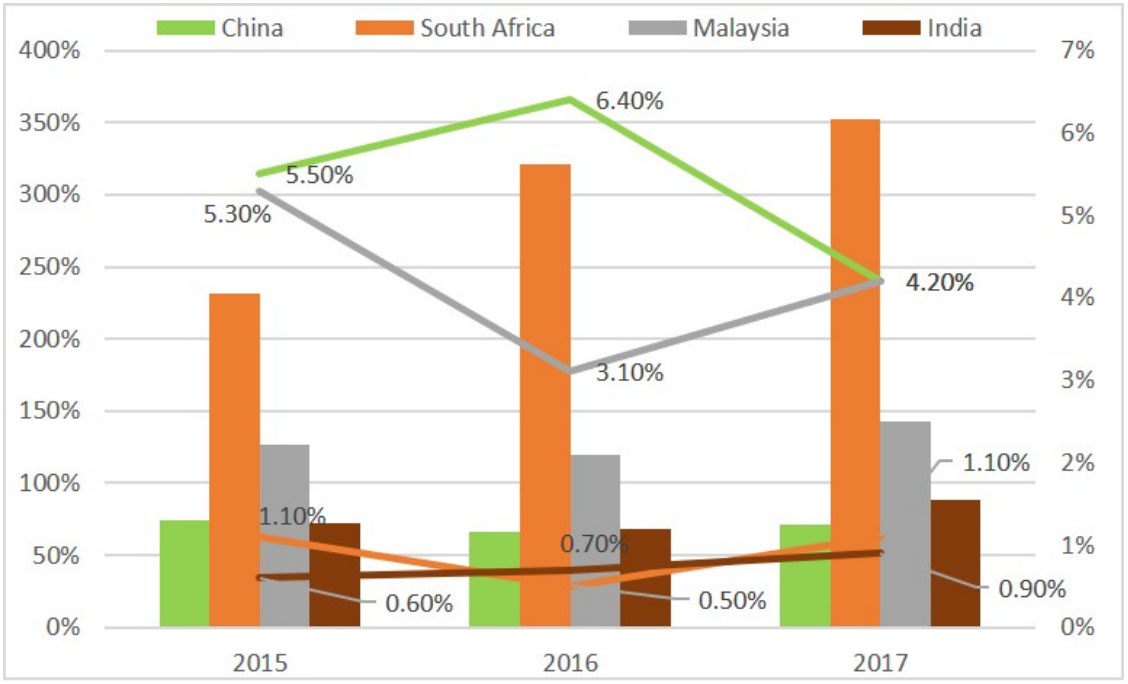


Even when analysed from the perspective of India's real economy, we find that our banking system falls short. RBI's Large Exposures (LE) Framework limits banks from taking exposure to a single counterparty to not more than 20% of their Tier 1 capital, extendable upto 25%[14]. To assess the relative size of the banking sector to the real economy, in light of this restriction on banks, we consider the cumulative Tier 1 capital of India's top ten banks against the current levels of domestic currency bank borrowings of the top ten corporates according to balance sheet size. Assuming these banks strictly comply with RBI's LE framework and also that these banks do not hold bonds or other debt instruments of these corporates, these ten banks would be able to cover the bank borrowings for only top five of these corporates. Since these banks make up 60% of the total banking sector assets, the rest of the banking system is unlikely to have the capacity to serve the credit needs of the remaining corporate sector, and the whole of the MSME and household sectors[15]. This is despite India faring better than these countries when it comes to bank branches per 100,000 population (See Figure B).

[14]See RBI Direction on Large Exposures Framework, Sep 2019, accessible at https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11685&Mode=0

[15]This analysis was first briefly published in an opinion piece by the same authors in Moneycontrol.com, titled 'Differentiation in banking models is a must to drive competition', December 2018.

FIGURE C[16]: Market Capitalisation of Listed Domestic Companies/GDP (LHS) and Corporate Bond Issuance Volume/GDP (RHS)



Additionally, banking in India has historically been expected to play an integral role in nation-building as seen in the continued policy-interventions that have been channelled through the banking system. These include a lending policy to priority sectors, government interventions in the form of loan waiver policies, interest subvention policies in relation to small and marginal farmers and more recently for loans of upto Rs. 1 Cr for MSMEs, among others. However, in following these directives, banks are faced with twin challenges. One is that they tend to mis-price the risks given the mandate to lend to these sections at low interest[17]. This, in turn, tends to erode their Return on Assets (ROA). At a system level, banks in India have ROA of less than 0, while banks in other jurisdictions tend to have a return on assets in the range of 0-2% as observed for top 100 banks of the world (See Figures D[18] and E[19]). In contrast, NBFCs in India have relatively higher RoAs. While risk-adjusted performance measures such as risk-adjusted return on capital (RAROC) would be the metric of choice here, since these are not needed to be disclosed under Basel rules, and since RBI does not provide any analysis of how Indian banks perform on this metric, an analysis of this measure has not been done here.

[16]Market capitalization of listed domestic companies (% of GDP), TCData260, World Bank, accessible at: https://tcdata360.worldbank.org/indicators/CM.MKT.LCAP.GD.ZS? Corporate Bond Issuance Volume to GDP (%), Global Financial Development Databank, World Bank, accessible at: https://databank.worldbank.org/reports.aspx?source=1250& series=GFDD.DM.13#

[17] While mispricing and bad underwriting are not necessarily limited to only those loans that have a price cap applied, these issues are particularly problematic for lending where a price cap is prescribed by the Government or the RBI as it interferes with freedoms to price in risk premiums as adjudged by banks' underwriting policies

[18]Table 10, Bank Group-wise Select Ratios of Scheduled Commercial Banks, Statistical Tables Relating to Banksin India, various years, DBIE, RBI; Select Ratios of the NBFC Sector, various years, Financial Stability Reports, RBI

[19] Chart II.5, Report on Trend and Progress of Banking in India 2018-19, RBI

FIGURE D: Return on Assets of SCBs and NBFCs (%)

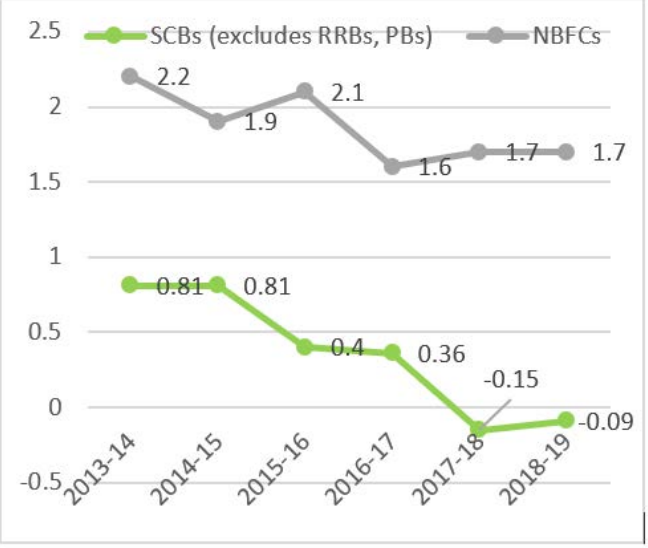


FIGURE E: Distribution of World's Top 100 Banks by Return on Assets (No. of banks)

Second is that they lack the specialised underwriting skills required to assess these customers since, these customers tend to range from large firms to farmers to small businesses and mortgages. This is most evident in the relatively high NPA levels seen across important sectors such as industry, agriculture and services in recent years (See Figure. F[20] and G[21]).

FIGURE F: Bank-group wise Asset Quality

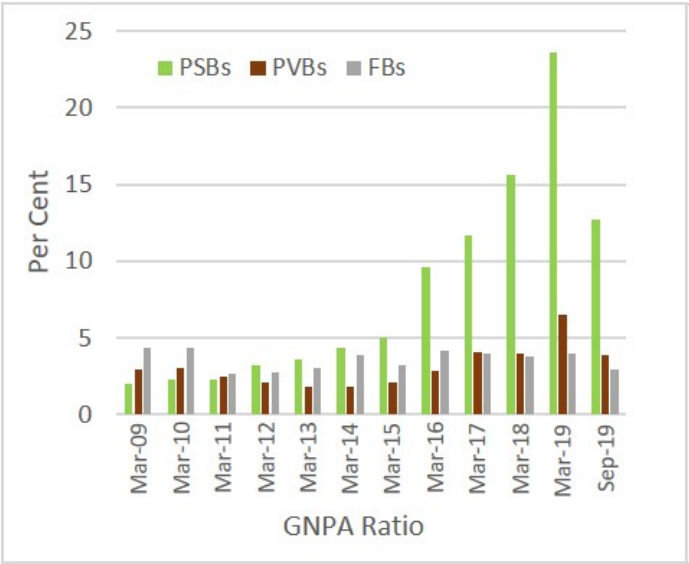
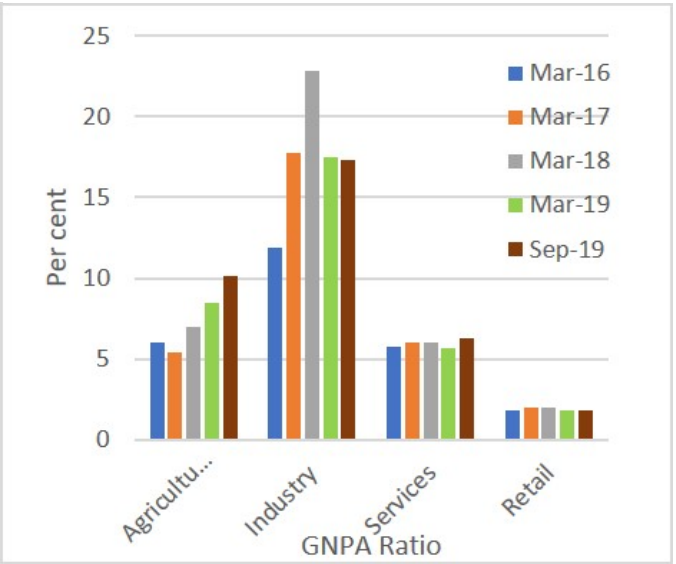


FIGURE G: Asset Quality of Broad Sectors

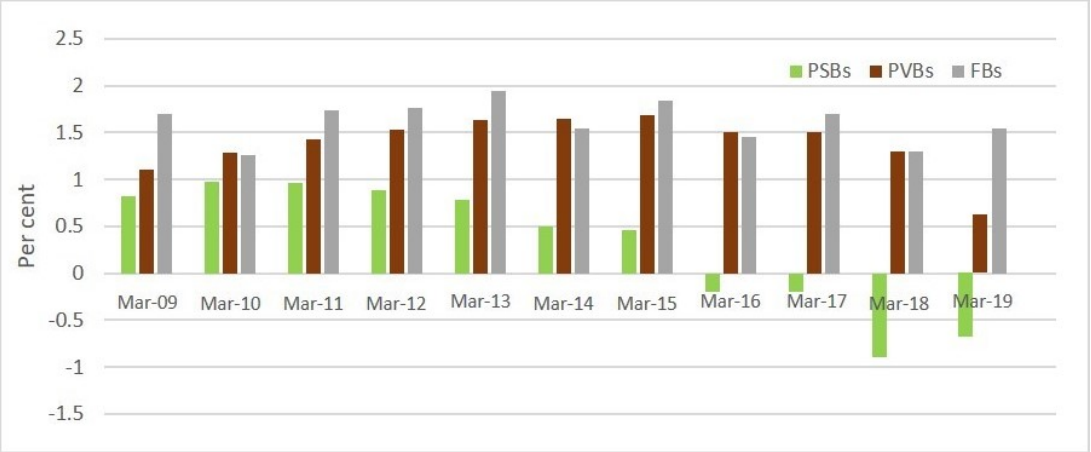


[20]Chart 2.2a: Select asset quality indicators of SCBs, RBI Financial Stability Report, Issue No. 20, Dec 2019. DBIE - Statistical Tables Relating to Banks in India, Bankwise and Bank Group-Wise Gross Non-Performing Assets, Gross Advances And Gross NPA Ratio of Scheduled Commercial Bank

[21]Chart 2.3a - Sectoral asset quality indicators of SCBs, RBI Financial Stability Report, Dec 2018 & 2019

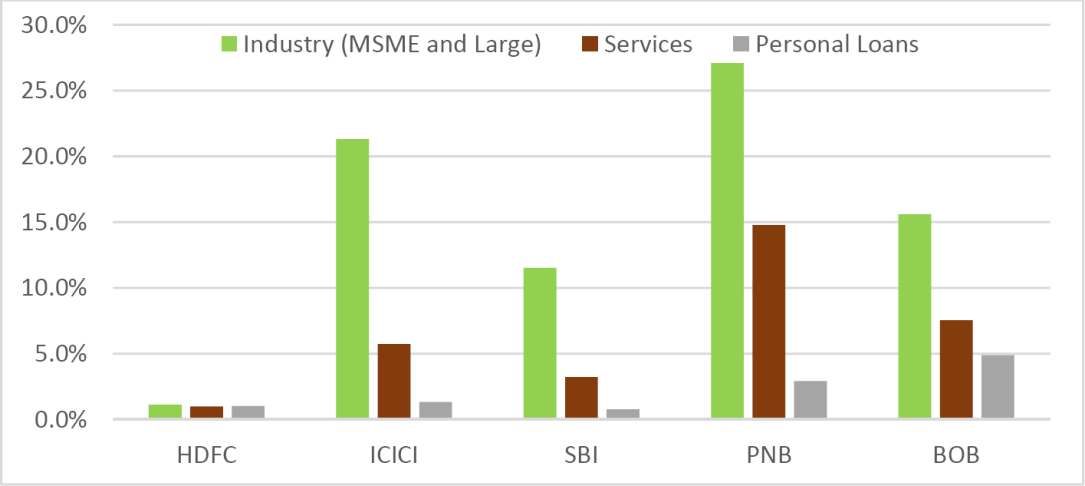
Taking these factors into account, the lending activity of many banks has been eroding all the value created by the deposit-taking activity (See Figure. H[22]).

FIGURE H: Bank Group-wise Return on Assets



However, it should be noted that some banks, like HDFC Bank, have been able to keep their NPA levels much lower than their peers and this speaks to the nature of their underwriting practices (See Figure I[23]).

FIGURE I: Sectoral NPA% Comparison across top 5 Banks (March 2019)



Bad performance on the asset side has, for a variety of reasons not driven retail depositors away from these bad banks. These inexpensive retail deposits have provided the cushion to internally support this erosion in value on the assets side. Given the low deposit rates offered by banks in India, relative to the risk-free rate, these deposits represent tremendous value to the banking system in terms of a profitability cushion. In order to protect these deposits, the RBI had restricted the lending and branch opening activities of some banks by applying the Prompt Corrective Action (PCA) framework on select severely underperforming banks for a period of about four years between 2014 and 2018. The other approach that was employed previously was to completely stop bad banks from lending and letting them invest in G-Secs only, also known as narrow banking, as recommended by the RBI Committee for Capital Acc-

[22]Table No. 10, Bank Group-wise Select Ratios of Scheduled Commercial Banks, Statistical Tables Relating to Banks in India, RBI

[23]Disclosures in the respective bank's annual reports for HDFC Bank, ICICI Bank, State Bank of India (SBI), Punjab National Bank (PNB) and Bank of Baroda (BOB)

-ount Convertibility (Chair: S.S Tarapore, 1997)[24]. Neither of these solutions is optimal nor sustainable in the long run as it reduces credit flow to the economy while locking up scarce funds and capital in the ailing institutions. When lending is stopped on a large enough scale, it can have adverse impacts on the ability of the real economy to obtain credit.

The Risk Aggregator typology in banking can strike a balance between permissions to undertake completely discretionary lending (like in the case of loan companies) and zero lending (like in the case of payments banks), and can act as an effective business model in a financial system that is comprised of banks and NBFCs to meet the unmet credit needs of the real economy. The RAB would play an important role as an investor with a regulated balance sheet that can aggregate credit risks through a variety of means and provide credible funding streams for other banks and NBFCs to originate more of these loan pools in a high-quality manner.

In a stylised version of such a typology, 100% of the entire asset side of the balance sheet will contain credit risks in the form of direct assignment and other bilateral modes of purchase, or through subscriptions to PTCs and bond purchases in the primary/secondary market as well as through guarantees, without a single loan originated directly through its own operations. Such a stylised version would be a very simplified version with none of the complexities of a real-world scenario. In reality, a RAB can be expected to have the freedoms to choose a business strategy that comprises of a mix of approaches to build its portfolio of credit risks, such as by direct origination through own facilities or by employing BC institutions, direct purchases from banks and NBFCs, and purchases of bonds and PTCs from the primary and secondary markets. There is, therefore, no requirement for a separate licensing regime for the RAB under the RBI. The outcome of interest for this paper is to understand what the regulatory and infrastructural constraints are, that prevent or hamper the development of such a business model organically. The Banking Regulations Act 1949 indeed permits for the existence of a RAB in its definition of "banking"[25].

A balance sheet that is large enough and with adequate capital to absorb the risks sourced from originators

We envision the RAB to be a large banking institution with a large capital base to absorb any potential losses on the credit risks it assumes from the balance sheets of a variety of originators. However, we recognise that the criterion of size is not an integral one to the construct of the RAB and that we could have RABs of various sizes. Strictly speaking, the size of a RAB is a function of only the minimum asset size, the level of concentration of risks, and its risk appetite[26]. Given the geographic, social, economic and sectoral diversity, there might be a role to play for intermediate small and mid-sized specialised RABs. However, for the purposes of this paper, in our stylised version of the RAB, we stipulate that these entities have large balance sheets.

[24]RBI Report of the Committee on Capital Account Convertibility, Press Releases, June 3, 1997, RBI. Accessible at: https://www.rbi.org.in/scripts/BS_PressReleaseDisplay.aspx?prid=18533

[25]According to Section 5 of BR Act 1949, "banking" means the accepting, for the purpose of lending or investment, of deposits of money from the public, repayable on demand or otherwise, and withdrawal by cheque, draft, order or otherwise. Accessible at: https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/BANKI15122014.PDF

[26]We are exploring this in greater detail in a subsequent paper

4. Efficiency Gains from the Risk Aggregator Bank

We envisage benefits to come from more efficient management, pricing and allocation of risks by all relevant participants and this would accrue to the banking system if such risk aggregator models in banking are allowed to evolve. Such a benefit is accomplished through two ways:

Diversification Benefits: The RABs, aggregating risks from a variety of geographies, sectors and risk profiles, would be able to reduce the overall risk in their portfolio due to diversification benefits. While regulatory capital approaches do not provide any explicit benefits in the form of capital relief stemming from holding better diversified portfolios, the economic capital is more efficiently managed in this case as opposed to holding concentrated portfolios. In India, there is some recognition of this diversification benefit in the calculation of regulatory capital. This is obtained in retail portfolios classified as 'Regulatory Retail'. RBI's capital regulation provides some capital relief, by way of lower risk weight, for retail portfolios that are well diversified, as measured by the granularity of the portfolio[27]. The assumption here is that granularity is a good proxy for diversification, and thus a very granular portfolio is a well-diversified portfolio.

A sharper focus and reliance on core competencies for various institution-types: Since the credit risk originators transfer, from their balance sheet, the assets they originate to RAB-like entities, they would be able to originate more assets for a given level of capital and funds. In the Indian context, what this could mean is that, NBFCs, being sector or region specific, can continue to focus on leveraging their expertise around originating risks concentrated in their sector/region. While their balance sheets would hold concentrated credit risks, they would be able to manage these risks by transferring them to a RAB-like entity, who is much better placed to handle them.

Thus, this framework provides an alternative strategy to increase financial inclusion without having to necessarily license more full-service banks. This removes a huge impediment as getting the required number of qualified applicants for a full-service bank is proving to be a big challenge.

[27]Section 5.9.3, Granularity Criterion, Master Circular — Basel III Capital Regulations, RBI, 2015, accessible at: https://rbidocs.rbi.org.in/rdocs/content/pdfs/58BS300685FL.pdf

5. Tackling Infrastructural, Institutional and Regulatory Bottl--enecks hindering the development of RAB-like Institutions

In this section, we identify a set of bottlenecks that come in the way of institutions that wish to become a RAB and put forward measures to remove these bottlenecks. These cover primarily two sets of issues. One pertains to issues with current processes for internal risk management and how these can be strengthened by management-driven improvements to internal processes. However, this is incomplete without abilities to move risks out of one's own balance sheets as and when required. Hence, the second set of issues pertain to infrastructural and system-level elements to enable this in a smoother manner.

5.1 Strengthening the Institutional Capacity for Risk Management

Developing capabilities in underwriting and risk management th at drive business strategy

With a portfolio of credit risks, the aim of the RAB would be to focus on managing aggregate risk on the balance sheet and have a strategy that is driven by setting and achieving the desired risk-adjusted return on this portfolio. The RAB should,therefore, possess the required capabilities to price, diversify, transfer and hedge the risks that they aggregate. It should be emphasised that the capabilities to price, diversify, transfer and hedge risks are not specific to only RABs. These capabilities are required for effective risk management by all existing credit institutions today. However, we outline below how such capabilities are to be developed by RABs in some detail. Efficient risk management of their asset portfolio brings down their overall level of risk and thus the economic capital requirement. Such a risk management system would have five main components —

- Risk Governance and Audit — A critical feature of the RAB model is the carrying of credit risks, originated by external entities, by the RAB. To ensure greater alignment of interests between the RAB and the originator, the RAB would need to have a Risk Governance and Audit mechanism for the originators with which it has strategic partnerships. This mechanism should be able to effectively vet the risk management capabilities and underwriting processes of the originators and audit the same on an ongoing basis.
- Risk Based Pricing — RABs should be able to accurately assess the risk associated with each transaction and price it appropriately. This requires the RAB to be equipped with tools that would reveal the true costs associated with their operations. These tools are Matched Fund Transfer Pricing (MFTP) to understand the true cost of funds, Activity Based Costing (ABC) to understand the administrative and other operational costs incurred for various activities in order for these costs to be accurately reflected in the pricing, and Risk Adjusted Performance Measurement (RAPM) to ascertain the cost of equity[28]. In addition to these internal processes, the RAB would also require sufficient information about the assets and the underlying loan pools to be made available to it. In assessing this information, the RAB might have to rely on opinions provided by third parties like Credit Rating Agencies (CRAs). To ensure the validity of the

[28]For a more detailed discussion on these concepts and their importance in banking, see Deepti George, 'Modernisation of India's Banking Sector', No.5, Notes on the Indian Financial System, Dvara Research, 2016

CRA's opinion, we discuss some reformative measures for CRAs in greater detail later in this paper. Alternatively, the RAB could use its internal ratings based (IRB) approach and due diligence in pricing these loan pools. This would entail the RAB developing in-house expertise in various sectors in order to accurately rate these loan pools.

- Risk Monitoring — Given the lack of a direct connect between the RAB and the underlying borrower, it becomes essential that credit risk portfolio of the RAB is monitored on a real time basis. To do this, the RAB needs to have Management Information Systems (MIS) and analytical capabilities to not only monitor the portfolio but also model the underlying risk and flag through early-warning systems, to manage any risk build-up.

- Risk Transfer/Hedging — While the primary function of the RAB is to absorb risks efficiently, it might not always be possible to diversify all the risk within one's own balance sheet. Additionally, risk management is a dynamic process and thus would require the RAB to sell/transfer risk out of the portfolio or hedge certain non-credit risks associated with portfolio. For instance, a RAB having an agriculture portfolio might want to insure itself against risk of a fall in the price of agricultural produce. It would thus have to take suitable positions in the commodity futures market. This would require the RAB to possess adequate expertise and internal capabilities to take positions in a variety of financial markets. These internal capabilities would also need to be complemented by reducing the barriers to participate efficiently in these markets. Some of these barriers and corresponding solutions are discussed later in this paper.

- Risk Diversification — In building up its credit portfolios, the RAB needs to design its Risk Governance mechanism in a manner that ensures the required level of diversification as set by its Board and strategy. To achieve a given level of diversification, the RABs could employ tools like the Generalised Hirschman-Herfindahl Index (HHI)[29], variance-covariance matrix and other measures of diversification/concentration.

5.1.1 Building a Reliable Supply of High-Quality Assets by Originators

Originators act as the interface between the real economy and the financial system. Thus, they form the foundation on which the RAB model rests. This requires us to ensure that the assets originated by them are of high quality. High quality assets in this context does not necessarily mean assets with low credit risk. The term here implies that the assets originated have their risk accurately priced into them. Consequently, the end investors in these securities, the RABs, have a more accurate view of the risk they are originating on their balance sheets.

Given that almost all credit that is originated in India is held to maturity, all RBI-regulated credit institutions act as originators. As of 2018, this encompassed 93 scheduled commercial banks, 10 small finance banks, 56 regional rural banks, around 11500 NBFCs and a multitude of other credit intermediaries[30]. The risk management and pricing policies of these institutions differ significantly from one another. While scheduled commercial banks have detailed guidelines on risk management and pricing, NBFCs except for NBFC-MFIs,

[29]See Vaibhav Anand and Ramasubramanian S.V, "Generalized Herfindahl-Hirschman Index to Estimate Diversity Score of a Portfolio across Multiple Correlated Sectors', 2015, Dvara Research

[30]Report on Trend and Progress of Banking in India, 2017-18, RBI

do not have any specific guidelines on pricing, and till recently did not have specific guidelines on risk management[31].

While market practices could enforce some discipline on originators to incorporate a sound business, conduct and risk management practices, there is a clear need for a more consistent regulatory treatment in the areas of risk management and pricing. This assumes greater significance if we consider NBFCs to fulfil the role of originators.

5.2 Plugging Infrastructural Gaps

5.2.1 Removing the Loan-Bond Distinction

To effectively manage its credit portfolio, the RAB would need to be able to trade their credit risks, including loans, without incurring undue transaction costs. However, the illiquid nature of loans makes it difficult to trade. A contributing factor to their illiquidity is the differences in loan documentation among banks which makes comparability across loans an onerous task. This is unlike a debenture, where the Debenture Trust Deed (DTD) sets out the entire legal base governing the transaction, including, covenants, events of default, and so on[32]. To enable greater tradeability of loans, standardised DTD templates can be developed by RBI or FIMMDA that may be used by banks for loans. Enhancing tradeability of loans would enable better price discovery of these loans and consequently more accurate pricing of risk by the RAB.

5.2.2 Deepening the Primary and Secondary Markets for Securitised Paper in India

A key input for the RAB is the availability of securitised assets that it can hold on its books. This requires the existence of an efficient and liquid market for securitised assets to enable the risk originators to transmit risks to the risk aggregators.

The securitisation market in India has been operating since the early 1990s[33]. However, the market has remained small relative to the size of the banking sector. For instance, the traded volume for the entire market for FY2018 is about Rs 95000 Cr. This is about 14% of the total loans outstanding of one of the large banks in India[34]. The market has predominantly been driven by the need for banks to achieve their Priority Sector Lending (PSL) targets[35], as witnessed by the dominant share of PSL assets in the market for securitised paper. Non-PSL asset securitisation has however been on the rise in the past few years as shown below in Figure J. The securitisation market in India comprises of Direct Assignment (DA) and Pass-Through-Certificate (PTC) transactions (for a brief overview of the trends in the securitisation market see Annexure 1). DA transactions are transactions where a portfolio of loans is sold directly without the creation of any securitisation structure or SPV and where no credit enhancement is provided by the originator, and any first loss default guarantee is treated pari

[31]Risk Management System — Appointment of Chief Risk Officer (CRO) for NBFCs, RBI, May 16, 2019, requires certain types of NBFC types with asset size more than Rs.5000 cr. to appoint a Chief Risk Officer. Accessible at https://m.rbi.org.in/Scripts/BS_CircularIndexDisplay.aspx?Id=11557

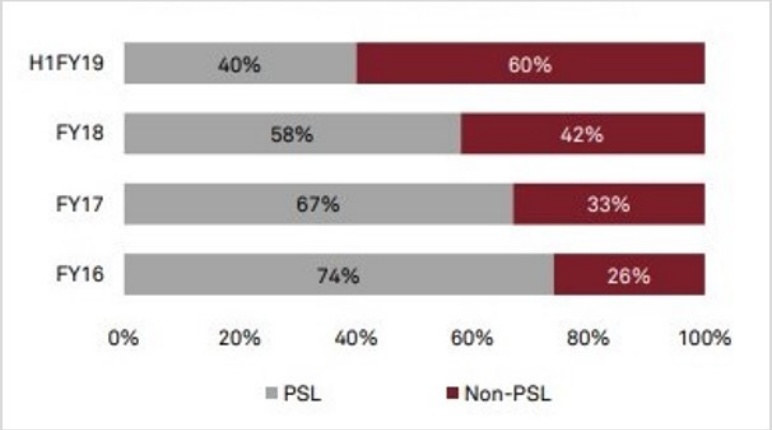
[32]Form No. SH-12 Debenture Trust Deed - http://ebook.mca.gov.in/notificationdetail.aspx?acturl=6CoJDC4uKVUR7C9Fl4rZdatyDbeJTqg3LolEwO1GGqJzfier4FrQWtHcAG4YRcit

[33]Securitization in India: Managing Capital Constraints and Creating Liquidity to fund Infrastructure Assets, Asian Development Bank, 2017. Accessible at https://www.adb.org/sites/default/files/publication/379076/securitization-india-infrastructure.pdf

[34]Authors' calculations based on information from HDFC Bank Annual Report 2017-18

[35]CRISIL Yearbook on the Indian Debt Market 2018

FIGURE J: Retail Asset Securitisation Volume by PSL Eligibility[36]



passu with the purchaser[37]. These transactions can be rated by external CRAs, but this cannot serve as a substitute for comprehensive due diligence that would necessarily have to be done by the purchasing bank on an on-going basis[38]. Also, loans obtained through the DA route cannot be disposed off other than by way of repayment and thus cannot be resold once purchased[39]. In contrast, PTCs involve the creation of an SPV with its associated tranching structures. These securitisation structures are also rated by third party CRAs. Thus, the PTC transactions offer better protection to investors as they come with a first loss guarantee that is not pari passu with the risk held by the investor and are usually rated by an independent CRA. This additional protection offered by PTCs, as compared to DAs, is also viewed favourably by the market[40]. Also, PTCs are securities which can be traded in the market, unlike DA transactions that need to be held to maturity by the purchaser.

However, at a structural level, the market is quite opaque, fragmented and illiquid. The trades are done entirely OTC with no single point of reporting taking place in the market. Thus, no single entity has a definitive and complete view of all the trades taking place in the market. Additionally, the secondary market for securitised assets is almost non-existent. While the lack of a secondary market hampers price discovery and liquidity, the lack of a platform for even primary issuances increases the opacity in the market. All this combines to hinder the development of the market as witnessed by its small size and illiquid nature. This is unfortunate as securitisation not only offers an additional source of stable and low-cost funding for originators but also helps in managing the credit and liquidity risks in the balance sheet in a better way[41]. Also, the RAB model depends critically on the existence of a well-functioning and liquid securitisation market. It is thus imperative that policy and regulatory measures are taken to expand the primary market for securitised assets and also create an active and liquid secondary market. We offer some recommendations below.

[36]ibid

[37]See Section B paragraph 1.3 of Final Guidelines on Securitisation, RBI, 2012, accessible at https://rbidocs.rbi.org.in/rdocs/content/pdfs/FIGUSE070512_I.pdf

[38]Section B, Paragraph 2.8.1, Ibid

[39]See Section B, Paragraph 1.1.1 Master Circular - Priority Sector Lending- Targets and Classification, RBI, July 1, 2015. Accessible at: https://m.rbi.org.in/Scripts/BS_ViewMasCirculardetails.aspx?id=9857

[40]Page 40, CRISIL Bond Market Yearbook 2018

[41]RBI's circular on Liquidity Risk Management Framework for Non-Banking Financial Companies and Core Investment Companies, Nov 2019. Accessible at : https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11719&Mode=0

5.2.3 Role for Government

The Government can, through its Development Finance Institutions (DFI) such as Small Industries Development Bank of India (SIDBI), National Bank for Agriculture and Rural Development (NABARD) and Micro Units Development and Refinance Agency (MUDRA), play the role of providing risk-based guarantees to originators such as banks and NBFCs. Such a guarantee institution can provide a whole suite of specialised products and investment approaches such as the following to boost risk-taking by originators especially when originating credit risks from previously underserved regions and sectors.

1. Credit enhancements in the form of partial or full second loss guarantees in securitisation transactions involving loans of interest
2. Credit enhancements in the form of co-guarantees on second loss in securitisation transactions involving loans of interest, along with other guarantors such as banks and NBFCs
3. Credit enhancements in the form of partial or full second loss guarantees in pooled bond issuances of originators
4. Credit enhancements in the form of co-guarantees on second loss in pooled bond issuances by originators, along with other guarantors such as banks and NBFCs
5. Investment in Pass-Through Certificates representing junior tranches in securitisation transactions involving loans of interest

Credit enhancements have the effect of directly reducing the loss given default (LGD) of the underlying portfolio of loans or bonds for the investor (here the RAB). This, in turn, increases overall credit rating of the PTC and lower interest cost for the originator and ultimately the end-borrowers. This is because, irrespective of the rating of the originator, their Non-Convertible Debenture (NCD) issuances can now aspire for higher ratings with the support of guarantees from Government-funded DFIs. This would bring in investors, including RABs, who may want exposures to a particular sector for diversification purposes, but who would do so only with improved ratings of the NCDs. This serves to hand-hold smaller high-quality originators operating in difficult regions or segments such as the North-East and East. By adopting such a strategy, DFIs can serve originators that engage with various sectors by directly impacting cost and the volume of funds available to the end customer. It can also catalyse a new base of capital markets investors as well as partial guarantors for these assets which are otherwise, fairly dominated by banks. In contrast to providing guarantees for pre-selected loans, such as is being done by CGTMSE, in this case, losses beyond the first loss (which gets borne by the originator), such as that arising from local systematic risk events that adversely affect concentrated operations of specialist lenders can be diversified out of their balance sheets.

5.2.4 Making it Easier for Banks to Participate in the Securitisation Market

Securitised debt is bespoke by nature unlike other fixed income instruments like bonds. While for bonds the defining parameters would be tenor, yield and credit rating of the issuer, for securitised debt, many other parameters also have to be taken into account. These include tranche structure, presence of guarantees/overcollateralisation, represent-

-ation and warrants and most importantly, the characteristics of the underlying loan pool. While complete standardisation is not possible, any system which can increase the level of standardisation and comparability across securitisation products would help in reducing the complexity involved in investing in these securities.

One method of ensuring greater standardisation and comparability among securitisation transactions is the Simple Transparent and Comparable (STC) framework for the capital treatment of securitisation transactions (See Box B).

Box B: STC Securitisation Framework of EU

The STC framework lays down a set of criteria across the three dimensions of[42]:

- Simplicity - Simplicity refers to the homogeneity of underlying assets with simple characteristics, and a transaction structure that is not overly complex.
- Transparency — Investors should be provided with sufficient information on the un-derlying assets, the structure of the transaction and the parties involved in the transaction, thereby promoting a more comprehensive and thorough understanding of the risks involved. The manner in which the information is available should not hinder transparency, but instead, support investors in their assessment.
- Comparability - Criteria promoting comparability could assist investors in their understanding of such investments and enable more straightforward comparison across securitisation products within an asset class.

Securitisation transactions fulfilling these criteria would qualify for lighter capital treatment. These criteria are not limited to the specification of the mortgage pool but are mapped to significant risk types in the entire securitisation process.

These are —

- Asset Risk — Includes generic criteria relating to the nature of the underlying assets but does not directly address the credit risk. Some of these are —
  - Nature of the assets
  - Asset performance history
  - Consistency of underwriting
- Structural Risk — Includes criteria around the securitisation structure. Some of these are —
  - Currency and Interest rate asset and liability mismatches
  - Alignment of interests
  - Documentation disclosure and legal review
- Fiduciary and Servicer Risk— Includes criteria relating to the governance of key parties to the securitisation process. Some of these are —
  - Fiduciary and contractual responsibilities
  - Transparency to investors

[42]Criteria for identifying Simple, Transparent and Comparable securitisations, BIS, 2015, accessible at: https://www.bis.org/bcbs/publ/d332.pdf

This framework was developed by the Basel Committee by incorporating the learnings from the crisis, the most pertinent one being that the securitisation structure itself can represent a source of risk[43]. Thus, the STC framework was developed to incentivise the creation of securitisation transactions whose assets and structure are simple and transparent. This would enable a more accurate assessment of the underlying risks by investors and supervisors[44]. However, it is to be noted that these criteria do not comment on the riskiness of the underlying pool but only assist investors more accurately assess the risk of the exposure[45]. This framework has been adopted by the EU, renamed as Simple, Transparent and Standardised (STS), and has come into force from 1^{st} January 2019[46].

The adoption of STC type framework could significantly help in developing the securitisation market in India through the increased ease of purchase/sale transactions by banks. While the lighter capital treatment such as that accorded in the EU, would be a strong incentive for banks to devote greater resources to building their securitisation portfolio, the primary utility of having such an STC type framework is in the creation of a market of easy-to-trade PTC paper that banks can now invest in. The requirements of simplicity in the securitisation structure and the greater standardisation of assets within the portfolio increase the tradeability of the asset and thus could lead to the development of a secondary market that banks, including RABs, and other financial institutions can tap into in order to rebalance their portfolio of credit risks.

5.2.5 Strengthening Credit Rating Agency Regulations

The effective functioning of the financial system requires that credit ratings of assets originated by various originators accurately reflect the underlying credit quality at a point in time. The CRAs exist to provide reliable third-party, independent credit ratings. These ratings should enable parties in financial transactions involving credit risks, including in securitisation transactions, to make accurate pricing, capital allocation and sell/purchase decisions. Thus, the effective performance of CRAs is critical.

The ratings performance of CRAs in India have not been adequate and useful for the purposes it is accessed. The unprecedented downgrades made by CRAs for IL&FS and DHFL, among others[47], have brought to the surface the inefficiencies in CRA business operations when it comes to their ability to predict credit default, which is their raison d'etre. Even more fundamentally, there is evidence indicating a disconnect between the default probabilities implied by the ratings and the actual experience[48]. While such a disconnect can be on account of credit quality issues of the underlying assets/securities, the fact that ratings have not been reflecting these issues in their ratings in a timely manner is a cause for concern. To

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[43]See Basel III Document Revisions to the securitisation framework (Amended to include the alternative capital treatment for "simple, transparent and comparable" securitisations), 2014, BIS, accessible at: https://www.bis. org/bcbs/publ/d374.pdf. Also see Criteria for identifying Simple, Transparent and Comparable securitisations, 2015,BIS, accessible at: https://www.bis.org/bcbs/publ/d332.pdf

[44]Ibid

[45]Ibid

[46]STS Securitisation practical guide, nortonrosefulbright.com, accessible at http://www.nortonrosefulbright.com/knowledge/technical-resources/capital-markets-union/investing/sts-securitisation-practical-guide/

[47]Like Amtek Auto and JP Morgan Debt Fund

[48]Risk-weighting under Standardised Approach of Computation of Capital for Credit Risk in Basel Framework- An Analysis of Default Experience of Credit Rating Agencies in India, RBI Working Paper Series 06/2017; accessible at: https://rbi.org.in/scripts/PublicationsView.aspx?Id=17453

remedy the situation, SEBI came out with amendments to the CRA regulations[49] and directives for greater disclosure[50]. The main amendments include a legal separation of credit rating business from other businesses of the CRA, continuous monitoring and periodic review of the ratings of securities issued by them, giving due consideration to asset-liability mismatches while providing ratings and including a separate section on the liquidity levels while releasing the ratings, disclosing any factoring in of support from parent/group/Government while issuing the rating, as well as treating sharp deviations in bond spreads as material events.

While these directions are a step in the right direction, a more fundamental alignment in incentives and consequently the behaviour of these institutions is needed. Towards this end, reforms in the following areas can be considered.

1. **Aligning Interests of CRAs with that of other stakeholders** - A number of regulations have been put in place to ensure that the conflicts of interest arising out of issuer-pays compensation model do not affect the quality of ratings provided by the CRAs. However, these regulations do not address the core issue of incentive misalignment that is integral to the "issuer pay" model. Credit ratings are no longer merely opinions, as many regulations mandate credit ratings as part of regulatory compliance. Thus, credit ratings have far-reaching implications, involving multiple stakeholders like regulators, lenders, and investors. The report of the Standing Committee on Finance on "Strengthening the Credit Framework in the country" (Chair: Dr.M.Veerappa Moily) recommends that the Ministry of Finance explore the "investors pay" and "regulator pays" models[51]. A stakeholder-pay model could be considered in which, regulators, investors, lenders and stock exchanges form a corpus to compensate CRAs. This could help eliminate the conflict of interest present in the "issuer pay" model.

2. **Improving transparency and disclosure through enabling Infrastructure** - Ratings shopping has been identified as a problem where the issuer selects CRAs that will assign the highest rating to their issues.[52] While there are some regulations in place to address this issue, they do not address the current situation where the investor does not have the complete picture on how CRAs have rated the same security. Currently, SEBI requires the CRAs to disclose all ratings regardless of whether they were accepted

[49]SEBI (Credit Rating Agencies) Regulations 1999 [Last Amended on May 30, 2018]; accessible at:https://www.sebi.gov.in/legal/regulations/jun-2018/securities-and-exchange-board-of-india-credit-rating-agencies-regulations-1999-last-amended-on-may-30-2018-_39237.html

[50]Guidelines for Enhanced Disclosures by Credit Rating Agencies (CRAs), SEBI, November 13,2018; accessible at: https://www.sebi.gov.in/legal/circulars/nov-2018/guidelines-for-enhanced-disclosures-by-credit-rating-agencies-cras-_40988.html

[51]Strengthening of the Credit Rating Framework in the Country, Standing Committee on Finance (2018-19), 72nd Report, Ministry of Finance and Ministry of Corporate Affairs; accessible at http://164.100.47.193/lsscommittee/Finance/16_Finance_72.pdf

[52]Report of the Committee on Comprehensive Regulation for Credit Rating Agencies. Securities and Exchange Board of India, Ministry of Finance, Capital Markets Division, 2009

by the issuer. However, there is no common platform on which these ratings, published by different CRAs, on the same security can be found. Such a platform, as required to be established by European Securities and Markets Authority (ESMA) in the EU, can enable investors to make informed decisions in addition to deterring the issuers from ratings shopping[53]. CRAs can be mandated to update this portal every time a rating opinion is put out.

3. **Accountability to Investors** - In India, currently, when CRAs contravene any of the provisions of the regulations, SEBI is empowered to penalise as per the provisions of Chapter V of the Securities and Exchange Board of India (Intermediaries) Regulations, 2008.[54] However, unlike in the US and the EU, where the CRAs can be held accountable through a civil liability regime, there is no direct remedy available to persons aggrieved by the actions taken by the CRAs in India.[55] Thus, it is suggested that SEBI include provisions in the current regulations making CRAs liable for compensation to investors, with adequate safeguards.

5.3 Smoothening Regulatory Wrinkles

5.3.1 Allowing Banks to take positions in the Commodity and Credit Derivative Markets

Alongside and as part of the credit risks taken on by the RAB, it would also be exposed to other risks like currency risks, commodity price risks, rainfall risk and so on. Banks are currently allowed to participate in the credit derivatives and foreign currency markets to hedge their credit and currency risk respectively. However, they are specifically barred from taking positions in the commodity market[56]. This leaves their agricultural borrowers, and hence the bank, vulnerable to price shocks in the agricultural produce markets. With agriculture being an important part of the PSL norms for banks, this constitutes a significant risk for which banks have no mitigation strategy. This would have to be remedied by allowing banks to trade in the agri-commodity futures and options market.

Another significant lacuna in the ability of banks to manage credit risk is the restriction of allowing Credit Default Swaps (CDS) for only corporate bonds[57]. Almost the entire banking book of a bank comprises of loans, for which banks cannot purchase credit protection. This gap should be closed with RBI allowing CDS to be extended to loans also. In recommending this measure, we are cognisant of the fact that this would still be an imperfect hedge as the under-lying asset is not marked to market. This can be mitigated to some extent by requiring banks to value loans on a fair value basis. This is already required by Indian Accounting Standards (Ind AS) and it would thus be only a matter of time before banks also come under the new accounting regime and consequently be required to account for assets on a fair value basis.

[53]Regulation (EU) No 462/2013 of the European parliament and of the council of 21 May 2013 amending Regulation (EC) No 1060/2009 on credit rating agencies, 2013, accessible at: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:146:0001:0033:EN:PDF

[54]Securities and Exchange Board of India. (2018). Securities and Exchange Board of India (Credit Rating Agencies) Regulations, 1999 [Last amended on September 11, 2018]

[55]Prakash, Shreya et al (2017). Regulations of Credit Rating Agencies in India. Vidhi Centre for Legal Policy.

[56]Section 8 of the Banking Regulation Act, 1949 explicitly prohibits banks from directly or indirectly dealing in the buying or selling or bartering of goods. A bank taking a position in the commodity markets would be akin to indirectly buying or selling the commodity and is thus prohibited.

[57]Revised Guidelines on Credit Default Swaps (CDS) for Corporate Bonds, RBI, 2013

5.3.2 Indian Accounting Standards and 'Significant Risk Transfer'

While Ind AS is not yet applicable to banks in India, all large NBFCs have already started reporting as per the new standards and banks are expected to follow suit. The application of these new standards is expected to severely curtail the securitisation market pertaining to PTCs. The main issue is the lack of capital relief for originators when they securitise the assets in their portfolio and sell it through the PTC route. The main reason for this is because of the current market practice of originators giving a First Loss Default Guarantee (FLDG) equal to or more than the expected loss of the securitisation pool. Under Ind AS such a sale would not qualify as an asset sale where there has been a significant transfer of risks from the originator to the investor. Consequently, the entire asset pool remains in the balance sheet of the originator and is not given off-balance sheet treatment. Thus, an important benefit of securitisation is lost as the originator is forced to provide capital for the entire asset pool, over and above the FLDG exposure.

This is an immediate and important issue that needs to be remedied by RBI. The issue is not specific to the Indian context and has been tackled by the EU already. The Capital Requirements Regulation of EU (CRR) provides a quantitative test to ascertain whether an originator can exclude its securitised exposure from the calculation of risk weighted exposure[58]. Broadly, the quantitative test checks whether there has been significant risk transfer out of the balance sheet of the originator. It does this by comparing the risk weighted exposure of the originator with the expected loss rate of the underlying pool. The RBI should come out with guidelines detailing similar tests so as to ensure that the PTC market does not get nipped in the bud. This would also remove the uncertainty currently prevailing among investors on whether to calculate capital charges on their securitised exposures, since they are currently anyway being provided for by originators. This is particularly important for banks and insurance companies which, unlike other investor types such as High Networth Individuals (HNI), have regulatory capital cushions prescribed for holding these risks.

5.3.3 Restrictions on Holding PTC investments in Held — To — Maturity bucket

The RBI regulations on the investment portfolio of banks severely restricts the ability of banks to hold PTCs. To elaborate, in the Indian banking system, within the trading book, three sub-categories called Held-To-Maturity (HTM), Available For Sale (AFS) and Held For Trading (HFT) exist. PTCs, being securities, are to be held in the trading book, even if a bank wishes to hold them to maturity. Yet they are not held in the HTM category as banks can hold

[58] CRR (2013), Article 243: The Quantitative test for significant risk transfer is applied for 2 cases —

1. Securitisation transaction with a mezzanine tranche - the risk-weighted exposure amounts of the mezzanine securitisation positions held by the originator institution in this securitisation do not exceed 50% of the risk weighted exposure amounts of all mezzanine securitisation positions existing in this securitisation
2. Securitisation transaction without a mezzanine tranche — if the originator can demonstrate that the exposure value of the securitisation positions that would be subject to deduction from Common Equity Tier 1 or a 1250% risk weight exceeds a reasoned estimate of the expected loss on the securitised exposures by a substantial margin, the originator institution does not hold more than 20% of the exposure values of the securitisation positions that would be subject to deduction from Common Equity Tier 1 or a 1250% risk weight. Accessible at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R0575&from=EN

only specified non-SLR securities in the HTM category[59]. In addition, banks can hold only up to 25% of their total investments under the HTM category[60]. Taken together, these restrictions act as a significant barrier for banks to expand their investments in PTCs, and therefore pose a significant obstacle to RABs' ability to hold PTCs to maturity if they choose to do so. It is anomalous that securities purchased with the intention of holding them to maturity should be classified under AFS or HFT.

To remove such anomalies, RBI should allow Pass-Through Certificates (PTC) and other securities, whether originated directly or purchased in the secondary markets to be held in the banking book of a bank based on declared intent[61] and not merely based on source or legal documentation. The RBI Committee on the Development of Housing Finance Securitisation Market (Chair: Dr. Harsh Vardhan, 2019) has also made a similar recommendation in the context of developing the Mortgage Backed Securities (MBS) market in India[62].

[59]Master Circular — Prudential Norms for Classification, Valuation and Operation of Investment Portfolio by Banks, accessible at: https://rbi.org.in/Scripts/BS_ViewMasCirculardetails.aspx?id=9904#21

[60]Ibid — "Banks are allowed to include investments included under HTM category upto 25 per cent of their total investments"

[61]This was also one of the recommendations of the Committee on Comprehensive Financial Services for Small Businesses and Low Income Households (Chair: Dr.Nachiket Mor) — chapter 1.2 Recommendation 4.1b

[62]See Chapter 6, 2A, Report of the RBI Committee on the Development of Housing Finance Securitisation Market, September 2019 (Chair: Dr. Harsh Vardhan); accessible at: https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=941#CP62A

6. Conclusion

The RAB model presents a simple and efficient way in which the banking system can be strengthened to further financial inclusion without increasing systemic risk. The RAB model is only a modification of the existing business model of banking and does not necessitate licensing new entities. However, there are certain regulatory frictions that need to be sorted out for a bank to consider becoming a RAB.

Annexure 1: Trends in Securitisation in India[63]

FIGURE K: 10-year Trend in Securitisation Volume

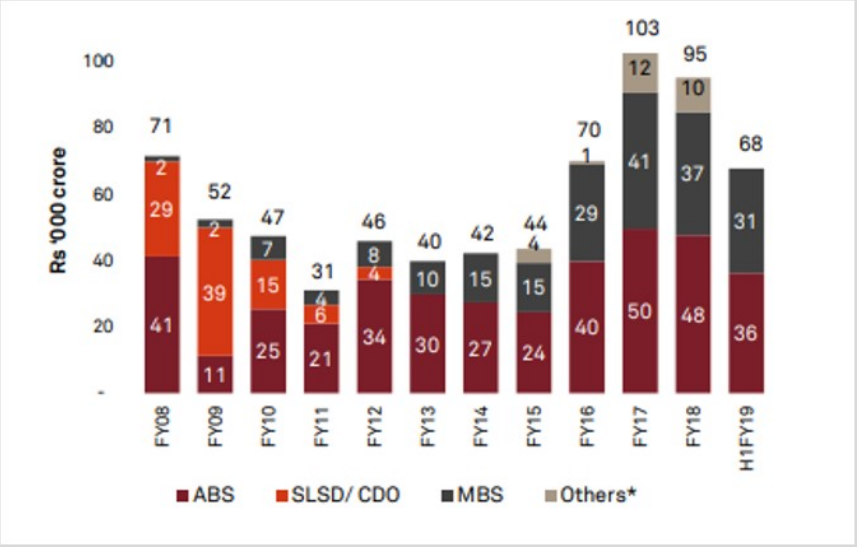
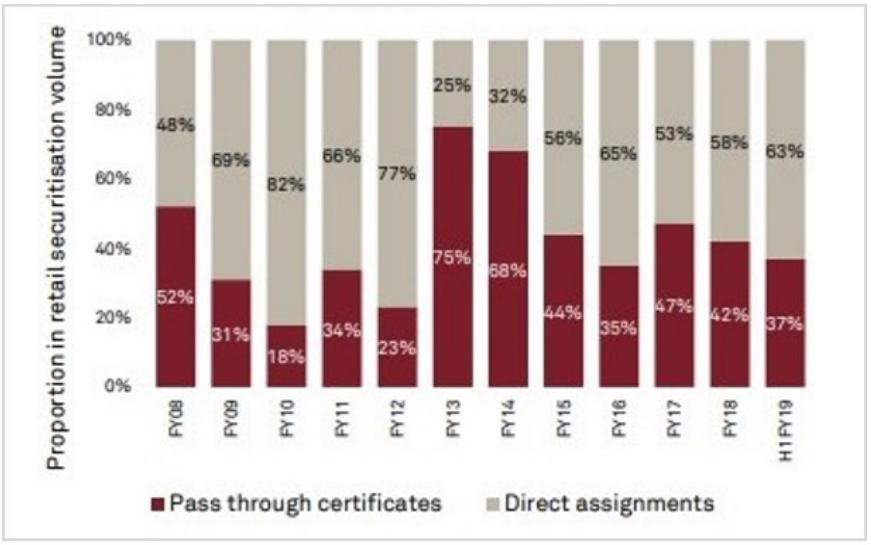


FIGURE L: 10-year Trend in DA-PTC mix



[63]CRISIL Yearbook on the Indian Debt Market, 2018, accessible at: https://www.crisil.com/en/home/our-analysis/reports/2018/10/crisil-yearbook-on-the-indian-debt-market-2018.html