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4TH NATIONAL SUMMIT – BANKERS BORROWERS MEET 2018

"Coming of Age: Changing Contours of The Relationship Between Bankers and Borrowers"

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Message from Mr. Ashvin Parekh

The Bankers – Borrowers Business Meet initiative first started in 2015 and was met with great enthusiasm. The theme for the event was 'Business Advances – Issues and Concerns' and the event got an overwhelming response from the industry.

The second edition was held in 2016 to continue with this dialogue and the theme for the event was 'Empowering MSMEs'. The theme for the 2017 was '10 emerging mantras for banks and borrowers'.

Ashvin Parekh Advisory Services is proud to associate itself with the 4th National Summit Bankers & Borrowers Business Meet 2018 with theme: *"Coming of Age: Changing Contours of The Relationship Between Bankers and Borrowers"*

MSME sector has been an integral contributor to the India growth story with its huge contribution to the country's GDP and employment. Funding for SME sector has been largely driven by banking sector. With the innovation in the SME sector, the innovation in the banks too have to scale up. The diversification in the borrower class is at its peak. Thereby, it demands diversified methods to cater to such borrower segment. Consequently, the challenges related to such innovation have to be also forecasted upon. ASSOCHAM and APAS, by way of Bankers – Borrowers Business Meet

– 2018, facilitate a dialogue and establish common business language and effective relationship between the MSME sector and the Banking industry. This is to ensure that there is a good understanding and appreciation for the key areas of trends and changes. The emphasis of such sessions has been to redefine the areas of focus for the banking leadership, develop a layout and thereby encourage an environment of constant innovation and structural improvements to be brought about within the banking and NBFC sector.

The report discusses aspects that relate bankers to the customer segment, their interaction in terms of credit assessment, availability of the data, rating methodologies, traditional means credit risk assessment, data gathering and increased responsibilities on bankers and borrowers in light of such dynamic environment. The challenge that lies ahead for both the bankers and borrowers is to understand the new trends, their impact to the lending relationship and successfully find solutions to create a constructive and healthy relationship between the bankers and the borrowers. At the cost of reiterating, the much talked about disruption that can arise out of technology challenges, need to be discussed and solutions be found in a collaborative manner. This report aims at discussing some of the critical and major issues.

The discussions covered in the book are designed keeping in mind the fact that between the enabling environments and the business of small and medium sized borrowers, the latter should prevail. The enabling environments need to be examined and bespoke solutions be arrived at.

As knowledge partner to this initiative, APAS is committed to highlight these requirements from both the sides namely bankers and borrowers. In order to fulfill this in an effective way, both APAS and ASSOCHAM are eager to have your feedback and suggestions.

As always, it has been an enjoying experience in developing this report. I would like to thank the team from ASSOCHAM led by Shri Chandan Kumar for their continued support, and my colleagues – Sujana Hari, Ankita Narnaware, Rishank Dabra, Harsh Mirpuri and Kalpesh Mantri for assisting me in developing this report.

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Sr. No	Topic
1	Responsibilities on bankers and borrowers
2	Lending environment for SMEs
3	Non-performing Assets resolution environment
4	Access to data and ratings

Responsibilities on Bankers and borrowers

I. State of financing for SMEs

Small and medium-size business enterprises (SMEs) are very important for economic growth and growth and competitiveness of any economy. Supporting and funding SMEs' financial needs is equally important. For major part of history, funding to SMEs has happened through banks. For banks too, SMEs have been important customer segment. However, despite these factors, banks have shifted their significant amount of focus from SMEs to retail customers. The trend has also been observed across the globe. Consequently, the historic strong relationship between banks and their SME customers has gradually begun eroding. Several differentiated approach have been adopted by the banks towards the SME lending business. However, the innovation haven't been just enough to hold on to the "elite servicing" criteria when compared with retail customers. In light of such conditions, banking sector servicing the SMEs segment has started noticing several changes. SMEs have now started to recognize the alternate funding mechanisms and also alternate routes for credit scoring. The innovation in funding has just begun. The banks might want to strategize their outlook towards SME funding, if they want to maintain the lead position

in the sector. The report herewith talks about the changing contours of the banking and borrowing business specifically related to SME borrowers.

II. Funding mechanism for SMEs:

Funding mechanism for SMEs can be categorized into 4 different sets of entities depending on the stage of the enterprise. We may appreciate the fact that the funding institutions differ based on the stage of the start-up/ enterprise. This offers greater comfort to the start-up in terms of width of funding it can receive and also to the funding institution in terms of its asset-liability management. Below we can see detailed nuances of funding in each stage of a start-up.
Start-up stage: Enterprises in this stage reported the use of funds from personal and family sources, from friends, and from public (i.e., government-owned) banks largely for the purpose of working capital.

Start-up stage:

At a start-up stage, the entrepreneurs used funds from personal and family sources and from public (i.e. government owned) banks. This funding is largely sought for the purpose of working capital requirements. The other highly reported use of an institutional source was public banks for collateral financing. Such nature of the funding source implies high degree of risk aversion and cautiousness adopted by the financial institutions while funding a start-up.

Survival stage:

The primary purposes for which enterprises sought funding were working capital, short-term loans, and overdrafts. Such enterprises were mostly in the survival stage. Finance for working capital was sourced largely from public banks and moneylenders, followed by personal funds and private banks. Private banks also provide to secure short-term loans and overdraft facilities. Moneylenders have also been reported one of the source of funds, although to a lesser extent. The trend of using formal sources or trusted informal sources seem to continue. Enterprises in this stage look out to pay off debts, for which they would require smooth day-to-day functioning with adequate availability of working capital for the same.

Growth stage:

Enterprises at this stage mostly seek working capital, collateral financing, and short-term loans. The source of working capital has been mostly public banks, personal and family sources. However, the funding has been to quite a less extent from private and co-operative banks. Collateral financing has also been obtained more from public banks, and to a lesser extent from cooperative banks. Private and cooperative banks are mostly used for obtaining short-term loans, although the use of moneylenders did find a mention. This observation indicates that enterprises were more focused on their specific financial needs and the sources required to fulfill them. The dominant use of public banks for collateral financing and the use of the banking system and family wealth to meet working capital needs are indicative of the role played by trust in securing this type of finance. As cooperative banks were also mentioned as a source to fulfill multiple financial needs of enterprises at this stage, it needs to be understood if these banks' policy framework is conducive to provide quick access to short-term finance needed by enterprises in the growth stage.

Sustenance stage:

Enterprises in this stage usually reach out to personal funds, cooperative banks, public banks, and private banks for the purpose of working capital. Cooperative banks also funded collateral financing and short-term loans. Working capital, collateral financing, and short-term loans seem to dominate the landscape of requirements of enterprises at this stage. This continues the trend, noted above, of using finance from sources that are perceived to be trusted by enterprises. An enterprise in this stage would choose to borrow from sources with which it has well-established relationships and those which could be trusted. Enterprises at this stage reach out to cooperative banks for working capital, collateral financing, and short-term loans, and it would be interesting to examine the reasons for this prevalence.

III. Environment of bank lending:

Banks are the most common source of external finance for many SMEs and entrepreneurs, which are often heavily reliant on traditional debt methods to fulfill their start-up, cash flow and investment needs. Traditional bank finance, despite being a common source of funding for these start-ups, however, is not a easy and viable method to obtain financing for the newer, innovative and fast-growth companies. This is majorly because they possess a higher risk return profile. SMEs and entrepreneurs, who seek to change their capital structure or de-leverage and improve their capital structure may face capital gaps at times. Thereby, making such financing method even more difficult.

Dependence of SMEs on debt:

As mentioned above, SMEs in different stages have been highly dependent on debt for their needs. The flow of debt from banks to theses start-ups/ventures has turned very cautious post-2008 crisis. On the other hand, for the SMEs, the need to strengthen capital structures and to decrease dependence on borrowing has become more urgent, in light of financial crisis, where many firms were required to increase leverage in order to survive.

Indeed, the problem of SME over-leveraging may have been exacerbated by policy responses to the crisis, which tended to focus on mechanisms that enabled firms to increase their debt (e.g. direct lending, loan guarantees). At the same time, banks in India and across the globe, have been contracting their balance sheets in order to meet more rigorous prudential rules.

Lending instruments for SMEs:

Following table describes various types of needs, extended by the SME sectors and the institutions providing such funding:

Products	Financial institutions	Tenure	Collateral	Sizing
Overdraft	Commercial banks	1 year; Revolving credit; renewed annually	Primary Security – Hypothecation of stocks in trade and receivables Collateral Security – A minimum value of the loan amount in the form of mortgage of immovable property and/ or liquid security	50-60% of the amount of receivables
Cash Credit	Commercial banks	3 months – 1 year revolving credit renewed annually	Primary Security – Hypothecation of stocks in trade and receivables Collateral Security – A minimum value of the loan amount in the form of mortgage of immovable property and/ or liquid security	50-60% of the amount of receivables
Short term loans	Commercial banks , NBFCs	3 months – 1 year revolving credit renewed annually	Mortgage of fixed assets such as land, building, factory	-
Long-term loan	Commercial banks, NBFCs	1-5 years	Mortgage of fixed assets such as land, building, factory	60-80% of the cost of collateral
Asset-based financing	Commercial banks, NBFCs	3-7 years	Secured by an asset (eg. Purchase order contract, accounts receivable, invoice, LC, inventory, machinery, equipment)	80-90% of the cost of the asset
Credit cards	Commercial banks	1-3 years	No collateral required	Maximum limit of INR 1 million
Letter of credit	Commercial banks, NBFCs	-	Letter of credit is extended to MSMEs, is mostly used by export-oriented MSME units, however importers too are increasingly making use of products like Buyer's credit'.	

Bank Guarantee	Commercial banks, NBFCs	-	Bank guarantee as extended for advance payment, tender money security deposit for getting orders for procurement of raw materials among others	

Asset-based financing

The most common method for financing used in India is asset-based financing. As mentioned, this method is mostly used for their working capital needs, to support domestic and international trade and partly for investment purpose.

Through asset-based finance, firms obtain funding based on the value of specific assets, including accounts receivables, inventory, machinery, equipment and real estate, rather than on their own credit standing. In this way, it can serve the needs of young and small firms that have difficulties in accessing traditional lending. Asset-based lending, which provides more flexible terms than collateralised traditional lending, has also been expanding in recent years, in countries with sophisticated and efficient legal systems and advanced financial expertise and services.

While bank-financing and asset-based finance remains one of the important medium for lending to the SME sector, it has been wide consensus to introduce newer instruments for lending to the SMEs.

Debt-instruments

The popularity of asset-based finance is unmatched by alternative forms of financing which include debt instruments, etc. This trend is observed even within the large-sized SMEs, which can viably use structured finance instruments like issuance of corporate bonds and could benefit from accessing capital markets, to invest and seize growth opportunities.

Alternative debt provides a wider class of investors, broad range of products within the same risk-paradigm, as provided by bank-lending, particularly for financing the SMEs.

Debt securitisation and covered bonds, which also rely on capital markets, also saw a rise in issuances, just before the global crisis, as an instrument for refinancing of banks and for their

portfolio risk management. However, during the crisis, these instruments came under increasing scrutiny and criticism, and markets plummeted.

The post-crisis deleveraging in the banking sector, however, has contributed to reviving the debate about the need for an efficient – and transparent – securitisation market to extend SME lending.

Crowd-funding

Crowdfunding or Peer-to-peer platforms are recently picking up shape in India. In light of embracing newer methods of funding, the regulator has also embraced such platforms and developed regulations for them. In developed economies, crowdfunding saw a rise since 2000s. However, it still occupies a very minor share of the funding business. One specificity of this instrument is that it serves to finance specific projects rather than an enterprise. It has been used in particular by non-profit organisations and the entertainment industry, where non-monetary benefits or an enhanced community experience represent important motivations for donors and investors.

Hybrid instruments

The market for hybrid instruments, which combine debt and equity features into a single financing vehicle, has developed unevenly in OECD countries. These techniques represent an appealing form of finance for firms mostly in their sustenance cycle and limited or no access to debt financing or equity, or the owners do not want the dilution of control that would accompany equity finance. This can be the case of young high-growth companies, established firms with emerging growth opportunities, companies undergoing transitions or restructuring, as well as companies seeking to strengthen their capital structures.

Government and international organizations programs:

The funding to SMEs, from Government and international organizations mostly happen through: i) participation in the commercial market with investment funds that award mandates to private investments specialists;

ii) direct public financing to SMEs under programs managed by public financial institutions;

iii) guarantees to private institutions that offer SMEs the financial facility and;

iv) funding of private investment companies at highly attractive terms.

Equity-based financing:

Equity based finance can be used by companies that seek long-term corporate investment, to sustain innovation, value creation and growth. Equity financing is especially relevant for companies that have a high risk-return profile, such as new, innovative and high growth firms. Seed and early stage equity finance can boost firm creation and development, whereas other equity instruments, such as specialized platforms for SME public-listing, can provide financial resources for growth-oriented and innovative SMEs.

Across developed and emerging countries, private equity investments have developed substantially over the last decades. This has contributed to offsetting the recent stagnation in public markets. However, following the global financial crisis, exit options have become more challenging also for private equity investors. Buyout is another form of investment in private equity markets. However, buyouts are less relevant to SME industry. Interest in upper-tier SMEs has increased in recent years, as investors look for yields and diversification within their portfolios. On the other hand, venture capital and angel investing have been providing new financing opportunities for innovative, high growth potential start-ups, mainly, though not exclusively, in high-tech fields. Their role has been increasing over the last decade, as the industry has become more formalised and organised, including through syndicates, associations and networks.

VCFs and angel investors organizations at times, are characterized by different motivations, targets, scale and operating models, but are highly complementary in the financing continuum for early stage firms. Angel investors need a well-functioning VC market to provide the follow-on finance that some of the businesses they support will require. At the same time, a well-developed angel market can create more investment opportunities and increase the deal flows for VCs.

Above mentioned instruments are at times being over-utilized (within regulatory paradigm) by specific companies, where as most of the small-scale firms and SMEs are missing out on usage of these instruments. Apart from that following factors contribute to dimming the scope of SME sector in India:

i. Limited awareness and understanding about alternative instruments
ii. Limitation oversight and strategic vision plan by the promoters
iii. Quality of start-up business plans and SME investment projects
iv. Risk-return parameters mapping
v. Lack of investor ready companies
vi. Inability to comply with investor due-diligence requirements
vii. Lack of entrepreneurial skills and training and mentoring

The regulatory framework is a key enabler for the development of instruments that imply a greater risk for investors than traditional debt finance. However, designing and implementing effective regulation, which balances financial stability, investors' protection and the opening of new financing channels for SMEs, represents a challenge for policy makers and regulatory authorities. This is especially the case in light of the rapid evolution in the market, resulting from technological changes as well as the engineering of products that, in a low interest environment, respond to the appetite for high yields by financiers.

Other key concerns of the regulator remain addressing information asymmetries and increasing transparency in the markets to boost the development of alternative financing instruments for SMEs. Information infrastructures for credit risk assessment, such as credit bureaus or registries or data warehouses with loan level granularity, can reduce the risk perceived by investors when approaching SME finance and help them identify investment opportunities. Reducing the perceived risk by investors may also help reduce the financing costs which are typically higher for SMEs than for large firms.

Contribution of NBFCs to development of SMEs:

As discussed above, Banks have been crucial players in funding mechanism to SMEs in India. However, post-2008 crisis, the flow of credit to SME space has increased manifolds via the NBFCs rather than banks. Because of inadequacy of bank-funds to the space, NBFCs have increased their foothold in the space.

Some of the key factors, that inhibit the flow of funds from banks to SMEs are as follows:

1. Inadequate capital
2. Greater risk-taking ability than banks
3. Timely and prompt supply of funds
4. Inadequate infrastructure for credit risk assessment
5. Inadequate infrastructure for Micro-assessment and rigorous follow-up procedures

Analyzing the growth

NBFCs are mostly seen as pseudo-banks in areas where credit disbursal via banks is limited. They are similar to traditional banks that accept deposits and advance loans. NBFCs can be categorized into categories, which mainly include entities like investment banks, insurance companies, credit institutions, development financial institutions, mutual funds, discount and guarantee house, leasing companies and venture capital companies. NBFCs can not only be credited with the growth of the SME sector, but also contributing to the economic growth. The economic growth has been majorly seen via growth of financial sector and flow of funds to the development activities in India. Major ways through which NBFCs have contributed to the economy are as follows:

Mobilizing funds from the unbanked:

The NBFCs have majorly contributed to the mobilization of resources from the unbanked segment of the country. This has contributed greatly to the balance between intra-regional income and asset distribution. They have led to the conversion of income to savings of the

unbanked segment in the country, leading to huge deposit mobilization. In absence of NBFCs, such mobilization would have been very difficult.

Long term credit

The risk management framework of the large banks is bit too complex to accommodate the needs of long-term credit to trade and commerce industry. This is because they hold only short-term repayable deposits which cannot be used for long-time lending purposes which are a mismatch of deposits maturity and long-term credit. Such needs are then catered by NBFCs, which extend their services to funding such initiatives for required tenure. NBFCs also are equally capable of keeoing engaged such initiatives via equity participation and flexibility in repayment of loans, which is quite difficult in case of banks due to rigid banking norms.

Employment generation

Increased entrepreneurship opportunities offered by start-ups, funded by NBFCs consequently are responsible for creating more employment opportunities in the country. NBFs are helping in achieving full employment in the economy by working with the government and disbursing funds to private sectors.

Increasing funding opportunities to large organizations

Development funding institutions aim at increasing the capital formation of a country by increasing the capital stock. These institutions are part of NBFCs and aim at increasing long-term capital formation of industrial and other sectors. The increase in the capital stock of a country results in employment, national income and GDP growth.

Development of financial market

NBFCs are an important part of financial markets of a country. These lending institutions underwrite public issues of corporations and provide the funds needed by the start-up companies as capital. They are the significant part of the financial market and are a source of liquidity.

Credit Scoring framework:

As mentioned above, NBFCs have greatly contributed to the development of the unbanked population and percolation of savings habits to this segment. One of the key factors for such development has been flexibility of these institutions to experiment with alternate credit scoring frameworks. The inhibition on account of unavailability of data has resulted in creating such tools which, more often than not have yielded better results than traditional methods for these segments. This section describes the alternate credit scoring frameworks that have been adopted by certain NBFCs.

1. Cash-based lending

In general, lending operations include appraisal, follow up of advances, annual review and renewal of limits, rehabilitation of sick units and recovery from borrowers. Such procedures have been issued based on the recommendations of the expert committees/ working groups appointed by the Reserve Bank of India. In addition, each bank has its own internal operational guidelines keeping in mind the broad guidelines of the Reserve Bank of India. Despite these initiatives, there need to simplify the existing systems and procedures in line with the requirements of the SMEs. In line with the changes in the industry, various methods for assessing working capital loans to SMEs have been described below.

There are three methods for assessment of working capital to SMEs:

i. Maximum Permissible Bank finance (MPBF)
ii. Turnover Method and
iii. Cash Flow Based Lending.

The first two have been used since long time. Major public sector bank has started adopting to cash-flow based lending recently.

Cash Flow Based Lending is more SMEs segment friendly. In this case, bank finance is sanctioned in the form of short term loan which may be repaid in suitable installments. This is well suited for SME units dealing in seasonal products / construction activities / order -based activities. The customer is assured of bank finance which is based on projected cash flows which are estimated

by him and approved by the bank. Hence, the Cash Flow Based Lending method is popular in developed countries.

One of the deterrents of cash-flow based lending is Credit risk, which is on the higher side due to heavy dependence on projected cash flows which can be over stated to avail of more bank finance. Therefore, banks are worried about lack of transparency on the part of entrepreneurs. Under the Cash Flow Based Lending, the end use of funds is ensured through the monitoring of cash flows i.e. actual cash flows to be compared with budgeted cash flows.

Credit Monitoring under cash-flow based lending:

As a part of cash-based lending mechanism, banks have started adopting the procedure of follow-up on advances and supervision as part of lending operations. The follow up and supervision aims at assessing the working of the units financed by them and ensuring the end-use of funds. This includes stock verification, study of ledger data, factory inspection, study of quarterly information system (QIS), discussion with the borrower, study of market report, etc. From the follow-up exercise, it is expected to obtain signals of incipient sickness in the units/irregularities in the borrower accounts and to take appropriate preventive action.

Alternative lending platforms:

Apart from cash-based lending model, the industry is evolving itself to adopt to alternate mediums to assess creditors' risk assessment. Information architectural designs such as artificial intelligence and machine learning are facilitating the borrower assessment for the new-generation NBFCs. The non-traditional sources of data are being utilized to assess such borrower habits and develop suitable algorithms for credit risk assessment. These nontraditional sources of data, coupled with advanced analytics, can be used to assess the creditworthiness of large and previously untapped customer segments, while also allowing for smaller loan ticket sizes. Different transaction-based lending models, especially those centered on peer-to-peer (P2P) lending are being rolled out in India in order to allow good applicants to demonstrate their quality.

The number of startups in the online consumer lending space has grown significantly from merely since 2013. These firms either operate as NBFCs, intermediaries for banks/NBFCs or serve as a P2P lending marketplace to connect individual borrowers and lenders directly. By using a wide variety of non-traditional data sources to evaluate credit risk, these start-ups can verify the identity of an individual and determine their intent and ability to repay a loan. In addition, the ability to scientifically match the appropriate borrower profile to the best suited lender leads to potentially higher chances of loan approvals and lower interest rates.

The business model of these players involves charging a registration fee (refundable in some cases) and earning a commission from both lenders and borrowers. Additionally, P2P firms also offer customers scope for negotiation of interest rates, enabling borrowers to obtain capital at a lower cost while providing investors an opportunity to earn lucrative returns. These firms also assist individuals and small businesses in obtaining personal, auto, working capital and other loans, and cater predominantly to millennials who might be either salaried or self-employed. These platforms offer simplicity, speed and convenience. Besides catering to the unbankable segment and providing them the timely credit, alternate lending firms provide numerous features and tools for an enriched and seamless customer experience. Features such as online tools/calculators, knowledge centers, live chats, ability to track application status, etc., offer customer satisfaction.

Alternate credit scoring mediums:

The rapid usage of mobile phones, internet and social media is proving to be a game changer. India already has over 462 million active Internet users and 153 million actively using social media platforms— 130 million out of which access them through their mobile phones. Availability of such data sets along with data on online payments and digital transactions has the capability to create alternate mode of credit risk assessment, specifically of retail customers.

A digital footprint is more relevant in this scenario, where, when a digital consumer browses the internet, makes a phone call and sends a message, leaves a digital footprint behind. Data from mobile phone records, mobile bill payments, mobile browsing, app download history or prepaid top-ups can be used to assess consumer risk and determine the creditworthiness of underserved

customers. Lenders can use the output of their credit scoring to offer unsecured, small ticket, short-term credit at a much lower cost than traditional loans.

Numerous lending startups or fintechs are seeking to capitalize on this opportunity, with many using proprietary "machine-learning" algorithms to sift and sort through thousands of data points available for each consumer. Banks and NBFCs are also assessing how they can gain advantage by partnering with the startups.

The early indications on such alternate mediums are quite promising. However, this still poses few challenges and concerns. Major concerns revolve around privacy and transparency. Collection of data from consumer usage is being viewed as an infiltration of privacy. The regulatory framework is in doldrum with regard to the extent of privacy infestation the consumer should allow to these innovative NBFCs. Apart from that, the privacy of the data is also questionable.

Then there are concerns about discrimination towards certain groups – Big data tools may risk creating a system of "creditworthiness by association" in which consumers' family, religious, social, and other affiliations would determine their eligibility for an affordable loan. Such discriminatory scoring may not be intentional but a result of sophisticated algorithms that generate insights of patterns. However, the implications are serious in terms of circumventing existing non-discrimination laws and systematically denying credit access to certain groups.

Knowledge about the functioning of the algorithms of these platforms is limited to the operating personnel, which poses as another problem. The reliability of such platforms has the probability to become questionable in this case, thereby attracting the attention of the regulators. Across the globe they are attempting to get a better understanding and to ensure that innovators proceed responsibly and have strong legal incentives to ensure that their scoring decisions are transparent, accurate, unbiased, and fair.

The next step for the traditional financial institutions' strategy teams is to consider such proposition but with a word of caution and carefully consider the distinct advantages and disadvantages inherent in each data source.

It is important to make the right call on which alternative data to leverage, especially given that there are significant operational and cost considerations of acquiring, maintaining and updating such data. They need to consider whether the compliance risks and costs, coupled with the uncertain predictability of alternative data, justify the potential return and benefits. As of now, it may be worthwhile for them to leverage the alternative data to augment the credit scores gathered from traditional means rather than using it as a complete replacement.

Also banks and NBFCs may consider using such data as analytics tool, to strengthen their credit risk assessment for their current set of customers. Predictive analytics are also being utilized to support the banking environment, where the banks are able to predict customer behavior on delinquency and thereby offer them suitable proposition which they are likely to accept.

A number of countries are considering the adoption of demographic and psychometric data as a part of credit scores, and the regulatory environment for credit modeling in India now needs to be ready for it as well. In fact, India has to catch up with the basic practices of data acquisition for an individual or firm. China is already using a much larger range of financial, demographic and social data points for credit risk assessment. In addition, the US has been using alternative data for evaluating potential borrowers, tenants or even employees.

One form of alternative financial data is the vast cache of transactional information that resides with financial data aggregation providers. Financial data aggregation essentially provides a platform to consolidate a customer's bank, credit card and investment accounts. Advanced capabilities even enable the aggregation of physical assets such as real estate. This data aggregation provides a holistic view of a customer's financial health as it takes into account all known sources of income along with assets and liabilities. Hence, aggregated financial data can provide lenders a whole different view while assessing loan applications.

The strongest driver for adoption of alternative data is the digitization of applications and services to enable businesses around the world to improve their customer experience. Leveraging data to develop personalized digital banking solutions is creating more customer engagement and loyalty.

Alternative Data:

In the developed world, large credit scoring firms like Equifax, Experian and TransUnion provide lenders with credit scores based primarily on loan applicants' past repayment data. While these traditional scores are highly predictive, they rely heavily on robust, centralized credit bureaus that are able to gather, store, and share accurate repayment history. Such kind of credit assessment infrastructure presents an imposing challenge in emerging markets, where credit history is often inaccurate or incomplete if not altogether unavailable.

In this regard, alternative data serves as an important medium to assess the credit-worthiness. Alternative data can mean anything and everything beyond the re-payment data gathered by banks and credit bureaus. However, three data sources have garnered particular attention from emerging market lenders recently: online, mobile and psychometrics. Below given table describes the framework for details on particular data.

	Online	Mobile	Psychometrics
What Is It?	• ***Digital footprints*** left behind by internet uses through social networking and e-commerce sites like Facebook and Amazon.	• Long trails of ***call and payment data*** that clients create when using their mobile phones. Typically categorized as ***Call Detail Records*** (CDR) and ***Transaction Detail Records*** (TDR)	• Analysis of one's ***ability and willingness to repay***, typically through a series of questions in a questionnaire.
What Does it Measure?	• Can be used to evaluate variables like ***stability, income, and size of professional networks***	• Can be used to measure ***the size and strength of one's network*** as well as ***financial stability***.	• Can be used to measure characteristics like ***confidence, autonomy, opportunism, numerical reasoning skills, and honesty***.
Who does It?	• The best known companies in this space are ***DemystData***, a data & analytics provider, ***Lenddo***, a lender using Facebook profiles for risk analysis, and ***Kabbage***, a lender using e-commerce histories from sites like Amazon for risk analysis.	• ***Tiaxa***, a rapidly growing Latin American firm, is helping MNOs leverage mobile data for direct sales of things like additional airtime. Other companies like ***Cignifi*** and ***First Access*** are also using mobile data to generate credit scores for lenders.	• Psychometrics have been used for pre-employment screening for decades, and a wealth of research has shown the relationship between psychometrics and entrepreneurial ability. Firms that have successfully leveraged psychometrics for credit scoring include ***EFL*** and ***Adam Milo***.

Usage of alternate data for lenders:

There are two metrics by which an alternative credit scoring data source should be considered*: availability and predictive power*.

Online Data

The percentage of people using the internet around the world has more than tripled in the last ten years, and as access grows so do individuals' digital footprints, capable of providing previously inaccessible risk insights. Furthermore, because online data is publicly available or obtainable through simple user authentication and permission, it is inexpensive to collect.

However, the fact remains that 60% of the world remains offline, and that 60% is heavily concentrated in developing economies. Furthermore, digital footprints are richer among the young, educated, and tech savvy, meaning in many markets online data will only apply to a small and skewed portion of the population.

Online Data is growing quickly and is inexpensive to gather, but still scarce in emerging markets and skewed towards the young and educated.

Mobile Data:

In the past decade, mobile phones have become nearly ubiquitous around the world. More than 90% of people have a mobile phone, and there are more cellular subscriptions in developing countries than in developed ones. As mobile phones become the essential mode of communication in emerging markets, the data that can be collected and analyzed from them becomes richer and more descriptive.

Unlike online data, however, mobile data requires significant up-front investment. Both Call Detail Records (CDR) and Transaction Detail Records (TDR) are owned by Mobile Network Operators (MNOs) which are rightfully protective of their users' data and privacy. Furthermore, some MNOs are becoming lenders themselves, making them less willing to share user data with lenders that may be competing for the same clients. Finally, in many countries, mobile users hold pre-paid subscriptions to multiple MNOs, making it necessary to amalgamate multiple data sources to build a comprehensive picture of an individual's mobile behavior.

Mobile Data is widely available. But privacy laws and fragmented markets imply large up-front costs for data collection and utilization.

Psychometrics:

Unlike online and mobile data which already exists, psychometric data is actively captured at the time of application. Psychometric scoring does not rely on retrospective information and therefore is not limited to small sub-sets of the population or dependent on third party information providers. Rather, psychometric data is collected through questions in a survey, and therefore can be made available for anyone, anywhere.

However, active data collection also means higher data collection costs. Lenders using psychometric data for loan decision-making often choose to administer psychometric credit applications in person, rather than remotely online, which requires time and energy on the part of both loan officers and loan applicants.

Psychometric Data is universally available and can be implemented easily, but it is actively captured and thus incurs higher marginal costs than the other data sources.

Measuring repayment risk:

Online Data

The predictive power from online data depends on the size and maturity of an individual's digital footprint. More extensive data sets provide more features for modelling and enable a more complete snapshot of one's online behavior. Usage of contemporary language medium such as slangs, is for example one of the ways of assessing the maturity of an individual, linking it to the ability to repay.

If implemented carelessly, however, online data can be misleading, as it is relatively easy to "game" over short periods of time. Users who know the attributes that lenders are evaluating can adjust their online behavior, for example using less slang leading up to their loan application. For this reason, it is all the more important to work with large, mature digital footprints, preferably across multiple platforms.

Mobile Data

CDR data sets provide intricate detail on a range of attributes including who you communicate with, how often and for how long, as well as account payment history. Methods such as average days between calls, continuity of account service, balance inquiry frequency, and call durations could be used to analyze such data.

Mobile phone data also has some practical advantages over online data, namely that it is easier to match to individuals because telephone numbers are unique. Like online data, lenders must be careful to limit their analysis to large, mature data sets in order to mitigate the risk of user manipulation.

Psychometrics

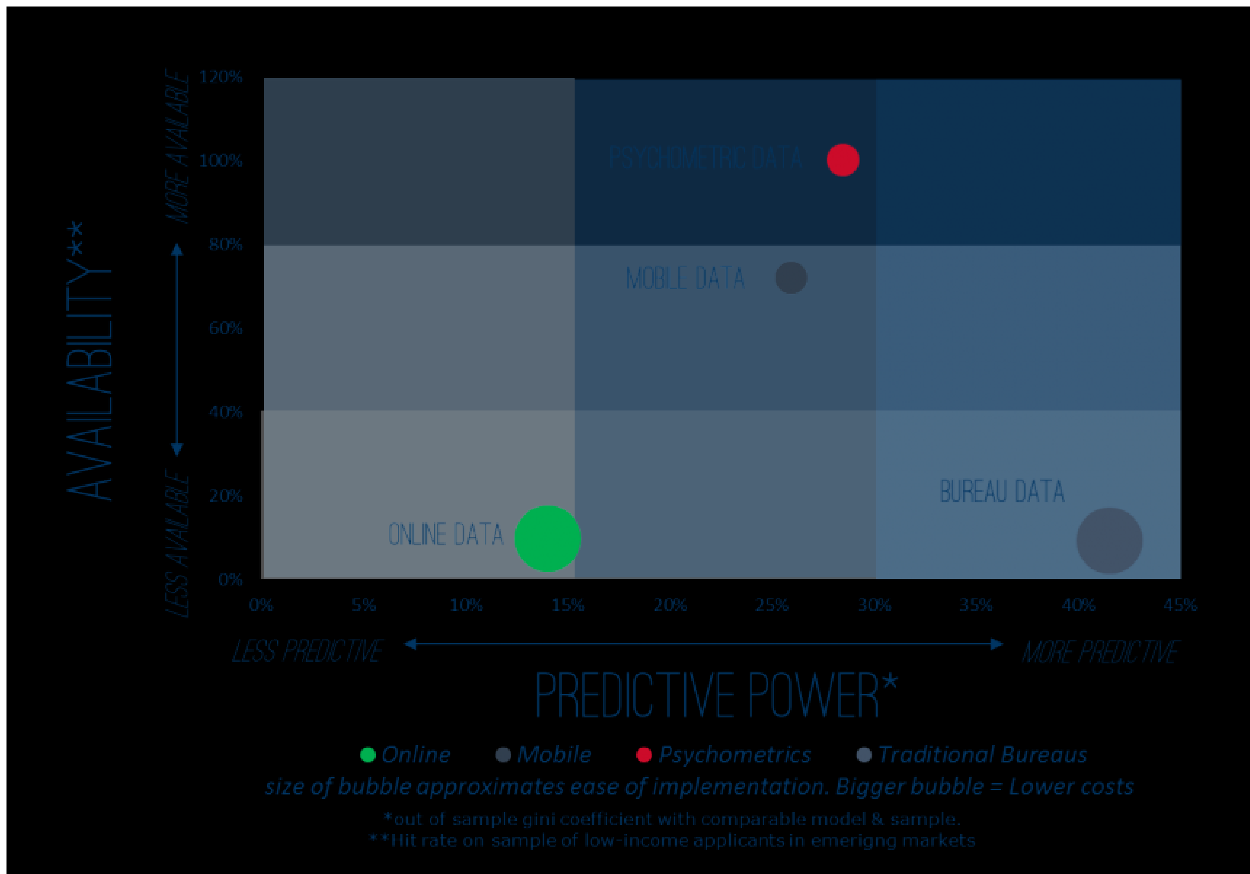
Psychometrics offer a broad variety of features for modeling, enabling a holistic view of an individual's character and willingness to pay. The ability of psychometrics to measure risk, however, is highly dependent on the quality of the questions asked. Factors like language, culture, age, and industry can influence one's survey responses, so care must be taken in crafting

questions that are impartial and universally applicable. Furthermore, particular attention must be paid to tracking and preventing user manipulation, as psychometric data is self-reported, rather than observed.

When implemented carefully, psychometrics offer robust predictive power. This is particularly true when the application is administered electronically, rather than on pen and paper, because it allows one to observe not just what an individual answered, but how they interacted with the application, i.e. how long they spent on each question, if they changed responses, and so on.

Taking Next Steps with Alternative Data

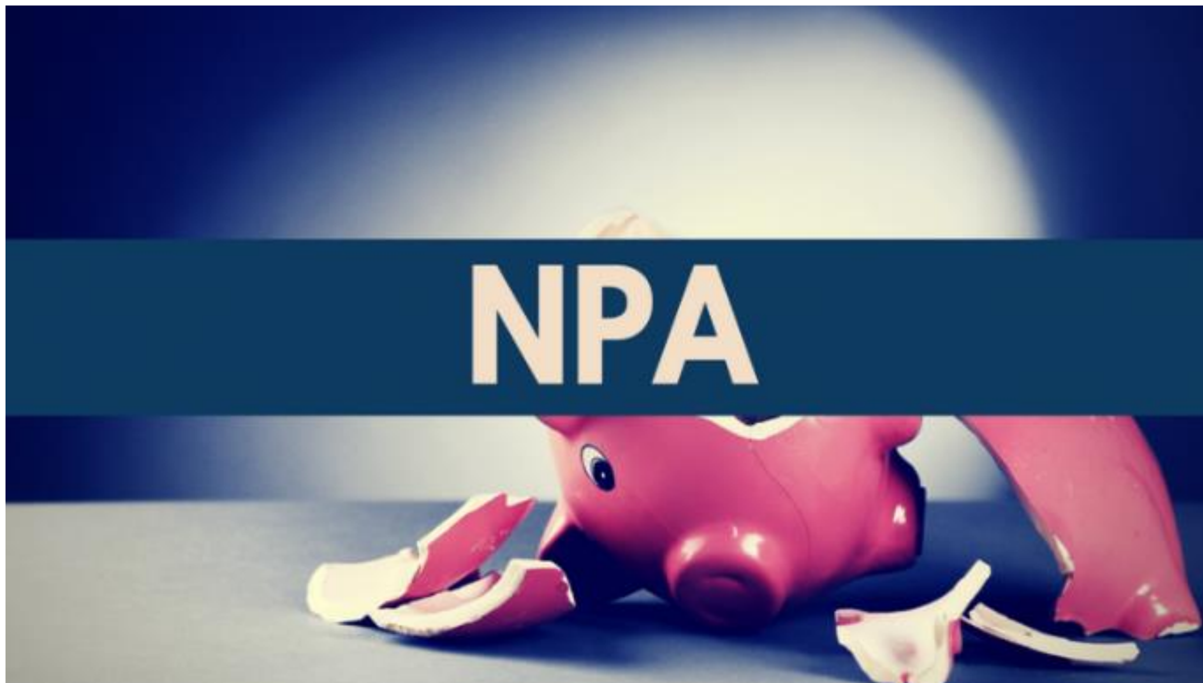
Alternative data has the potential to fundamentally change lending in emerging markets. Financial institutions looking to better understand their customers, grow portfolios and control risk should look to alternative data as a source of opportunity, but also be careful to consider the distinct advantages and disadvantages inherent to each data source.



As the figure above illustrates, the availability and predictive power of alternative data sources vary widely, and this may suit different needs for different lenders in different markets. Furthermore, financial institutions should recognize that credit scoring, based on alternative data or otherwise, is only one component of the lending process and therefore that a good credit score cannot guarantee strong portfolio performance. Finally, lenders should consider that in some cases these sources of data may be used as complements rather than substitutes, layered to provide a more nuanced understanding of credit risk and potential.

The section hereafter talks about state of NPAs in Indian banking sector and ratings methodology and access to data.

Non-performing Assets resolution environment



For the past 5 years Rising Non-performing assets (NPAs) in Indian Banks has become a perennial problem plaguing the entire banking system and thereby crippling the economic growth of the country. The recent statistics on NPAs as released by RBI in its Financial Stability Report paint a highly dismal picture as well. As per the report, the NPAs in the banking system stood at Rs 10.25 lakh crore as on 31 March 2018. The Quarter on Quarter (QoQ) growth of this NPA pile is disturbing growth of 16% from the Rs. 8.86 lakh crore as of December Quarter. The current NPA ratio stands at 11.6% of the total credit in the industry. FY18 itself comprised a growth of Rs. 3.13 lakh crore in the industry. It is further expected that GNPA ratio will further worsen to 12.2% in March 2019.

What's alarming is that the Public-Sector Banks (PSBs) which have a market share of close to 70% of the total loans given out in the industry, constitute the 90% bad loan portfolio in the system with rest taken up by the private sector banks. This clearly signifies that public-sector banks have inefficient lending systems and risk management practices that have caused such bad loans

increase to Rs. 8.97 lakh crore in March 2018 compared to Rs. 1.28 lakh crore of bad loans of private sector banks in March 2018. A key fact in this also is that gross non-performing loan ratio of the state lenders had reached 14.6 percent in the FY18.

The sluggish performance of the public-sector banks, which are thought to be bloated, inefficient and mismanaged is further evident through the fact that just two of the 21 public sector banks reported modest profits in FY 18 while the losses at the other 19 widened to Rs 873.5 billion. The highest NPA on the books is reported by IDBI Bank which has NPAs of close to 27% and is likely to be cured by Life Insurance Corporation of India with it acquiring a controlling stake of 51% in IDBI Bank. A further grave issue is that operating expenses are more than 90% of net interest income of major public-sector banks and this further place a key hurdle in their plans for expansion.

Furthermore, though the credit growth has picked up in the FY18, the deposit growth has remained sluggish. Moreover, the stressed assets situation indicates that they are close to 46 times the Budget of the ministry of health and family welfare, and 28 times our education Budget.

If we look at the NPA situation in India and compare it in a global context, the situation looks more troublesome. IMF data indicates that India is in the league of Top 5 nations in the world with the highest NPA ratio in their banking system.

Country	NPA(in %)
Greece	45.57
Italy	16.35
Portugal	13.30
India	11.60
Ireland	11.46
Russia	10.00
Romania	7.96
Spain	4.46
Brazil	3.59

France	3.41

It is shocking that India features among the list of PIIGS group (Portugal, Ireland, Italy, Greece and Spain) which epitomised the euro crisis of 2010. Spain has moved away with a ratio of 4.5 per cent, and even Ireland is placed below India, while the rest of the nations are still struggling to contain the issue.

Another disheartening situation in the Indian Banking system is the return ratios that they are offering to the shareholders is also amongst the lowest among several emerging and developed nations.

While Argentina has the highest ROA (Return on Assets) and ROE (Return on Equity), India has amongst the lowest return ratios with it being in the bottom half of the 20 nations of the featured countries in terms of the return ratios.

Top 5 in the list of 20

Country	ROA	ROE
Argentina	4.49	38.73
Turkey	2.04	18.85
Hungary	1.93	19.67
South Africa	1.7	19.78
Brazil	1.47	13.90

Bottom 5 in the list of 20

Country	ROA	ROE
US	0.34	2.93
India	0.33	4.51
Japan	0.33	8.11
Portugal	0.32	3.44
Greece	-0.17	-1.30

The return on assets at 0.33 per cent for Indian banks is comparable to those of the very developed countries. But, the growth dynamics, demography and the current development situation of these countries is vastly different from India which puts India on a sticky footing as compared to them.

The rapid expansion of the banking sector over the past few years is still negatively affecting the income statements and balance sheets of Indian banks. The investments made in expansion by opening new branches, even though decreasing, are still burdening the financials of the banks and there is a long way to go before they start generating stable returns. Despite the significant efforts of the government to educate the population about financial services and to ensure a bank account for every family, there are still many dormant accounts, which are not bringing any profit to the banks.

The ongoing struggle to decrease the level of NPAs, especially in the state-owned banks is not yielding the expected results and remains a challenge that is yet to be addressed. All these factors are resulting in worsening return ratios in the sector.

This indicates that all efforts so far are hopeless and the profitability in the financial sector is steadily decreasing with all three of the main profitability indicators going down over the past three fiscal years.

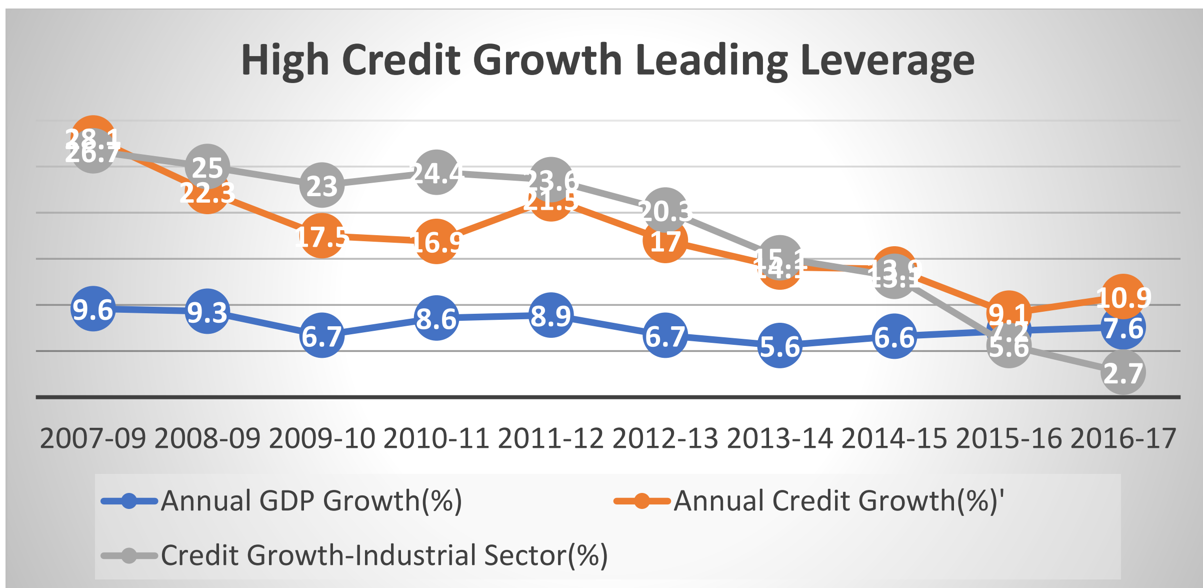
The continuous growth of the NPAs, the expansion of the credit and the relatively sluggish deposit activity in the banking sector are putting a lot of pressure on the lending capabilities of all financial institutions. The liquidity gap is narrowing and there are fears of future default if the government fails to act decisively, especially regarding state-owned banks.

With the recent change in RBI management, there are concerns that the new governor will not be willing to decisively step up against some of the malicious practices leading to the increasing total value of NPAs and will give the government-owned banks some more breathing room. The private financial service companies have been making efforts to break the dominance of their state-owned counterparts through increased market penetration in the rural areas and introduction of easily accessible electronic services, but so far, they only have marginal success in the banking sphere, and little or none in the insurance and asset management.

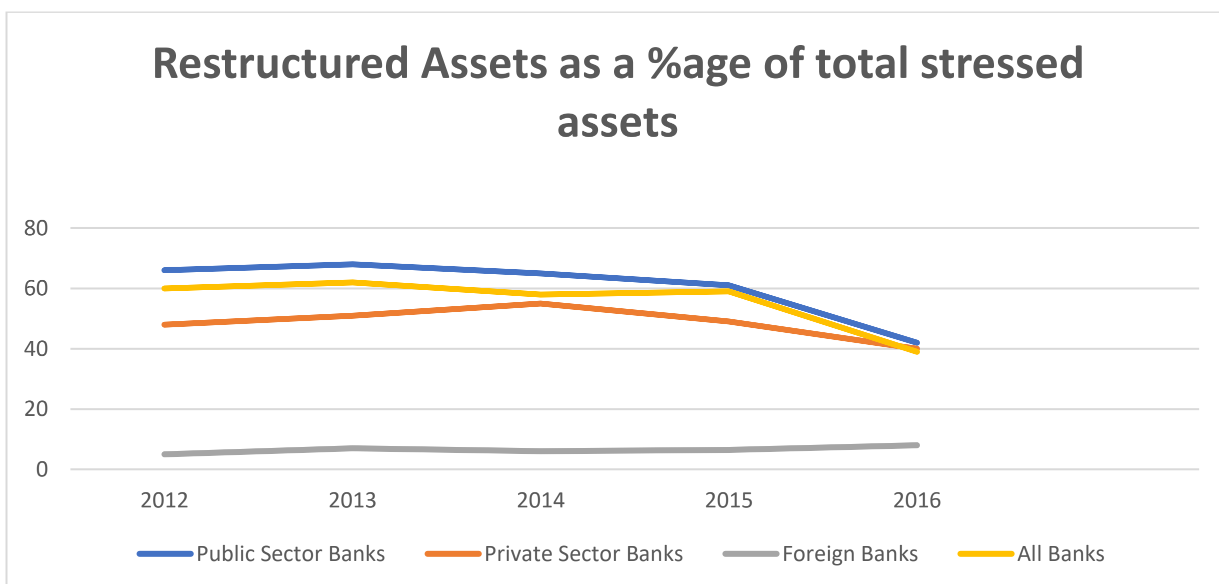
Causes Behind Rising NPAs in India

If we deep dive into the reasons behind the rising NPA situation in India, it helps us get a clear perspective into the root cause analysis of the situation and what things to focus on to resolve the situation.

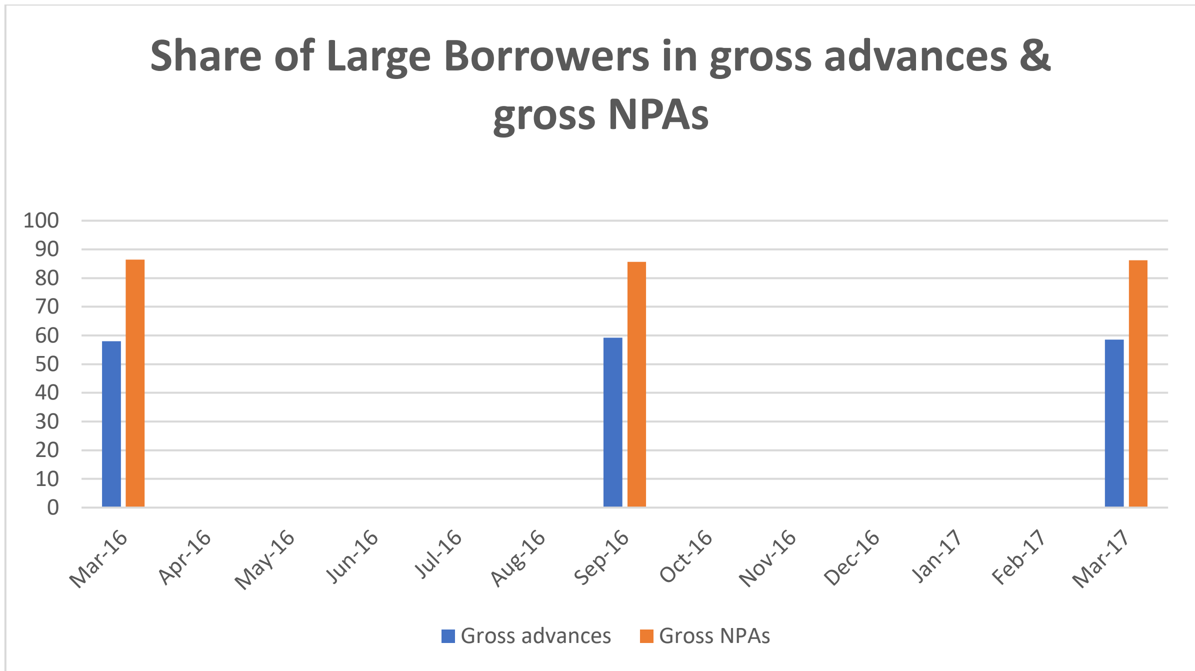
- Increasing bank debt fueled corporate leverage more prominent and observable in Industrial sector

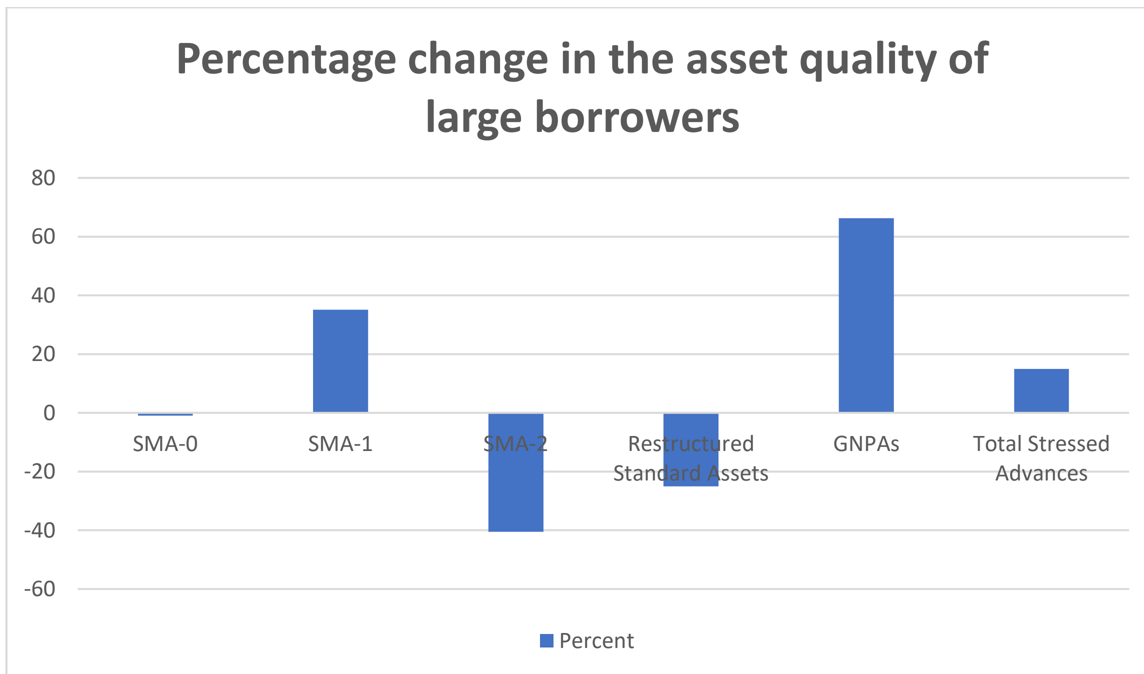


- Restructuring of loans has been done in many cases to postpone recognition of non-performance



- Weak underwriting system in credit risk management
- Higher stress loans and high leverage in large borrowers' accounts





- Poor projections system and credit risk assessment while issuing even large loans

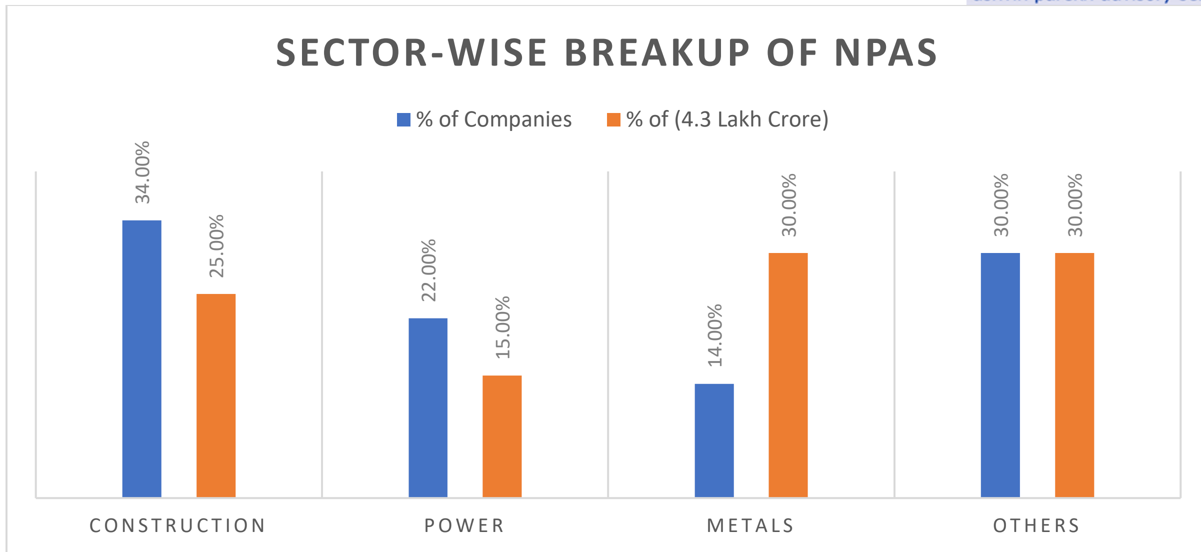
- Excessive liberality in waiving sanction terms and laxity in post sanction supervision

Consequences of Rising NPAs

- Adverse impact on the banks stock price and market capitalization
- Tectonic shift to other loan segments would be highly likely given the high concentration risk
- Possibility of widespread malfeasance in lending as well as in KPIs
- Banks will become risk averse thereby limiting lending
- Drain profitability and capital adequacy of the banks

Some Key data points on NPAs

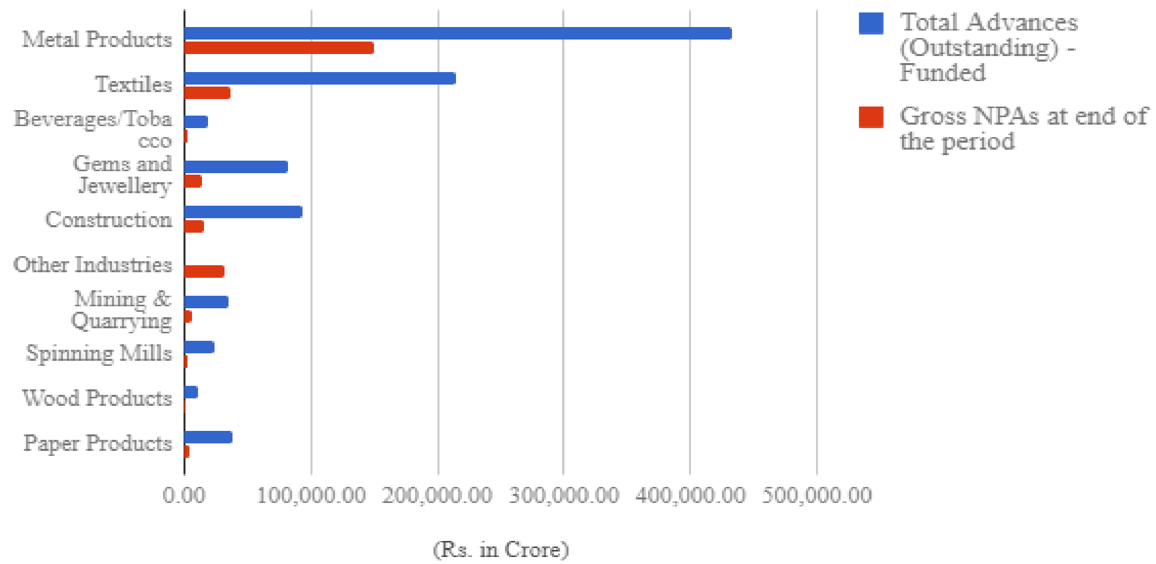
- Top 50 stressed assets account for Rs. 4.3 lakh crore



- Top sectors Concentration: Construction, Power and Metals
- Metals comprise 14% of these 50 stressed assets, but account for 30% of NPAs
- Others sector includes automobiles, textiles, gem & jewellery etc

Sector	Number of Companies	% of 4.3 Lakh Crore INR
Construction	17	25
Power	11	15
Metals	7	30
Others	15	30

Top 10 Sectors Having Highest NPAs for Scheduled Commercial Banks



Actions Taken by the Government and RBI

RBI and the government have over the past few years taken measures to lessen or resolve the NPA issue. The following are the measures they have undertaken in the recent past-

Joint lenders Forum

In April 2014, RBI came out with a measure to tackle the stressed assets under which as soon as interest payments on a loan are delayed by 60 days, a Joint Lenders Forum (JLF) comprising all lenders must be put in place.

- JLF was constituted to tackle stressed loans but progress was slow because of difference in opinions among creditors on how best to resolve the issues.
- Under JLF, within a period of 45 days, a corrective action plan (CAP) must be formulated and decision must be taken whether the debtor needs assistance, or the forum should opt for debt restructuring or recovery.
- JLF was introduced in place of the existing corporate debt restructuring (CDR) platform, but banks were far from convinced.

- The debate in the JLF got heated up as the NPAs of the banks rose followed by **a** sharp rise in their provisioning leading to a decline in their profits
- Under the JLF framework for revitalising distressed assets in the economy, even before a loan account turns into an NPA, the new system helped identify the stress by segregating the accounts into three categories —

  Special Mention Accounts (SMA)

  - SMA-0 --> if <30 days + sign of incipient stress
  - SMA-1 --> loan overdue for 31-60 days
  - SMA-2. --> if >60 days

Criticisms of the JLF

- Getting to consensus among the consortium of creditors was a major bone of contention for the JLF, which in turn reduced the effectiveness of the forum to resolve the issues.
- The presence of bias among the lenders in the JLF was to restructure and extend the debt package rather than start recovery, resolution or rectification processes when the first default happened, and this led to the evaluation only when the initial restructuring fails, by when significant value in the business had been destroyed.
- Major lenders didn’t get support, assistance and cooperation from smaller lenders and at the same time smaller lenders perspective and interests were also not considered appropriately which led to the lack of coordination and failure to revive the projects
- The root cause of the problem in the delayed decision making was that the committee was not empowered to plan and execute the decisions.
- Other issues included backtracking by the banks, lenders taking the safest route of restructuring again and again, lack of clarity and slow execution that crippled the banking system to take adequate steps.

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Strategic Debt Restructuring (SDR)

In June 2015, SDR was Introduced to help banks recover their loans by taking control of the distressed listed companies.

Key features

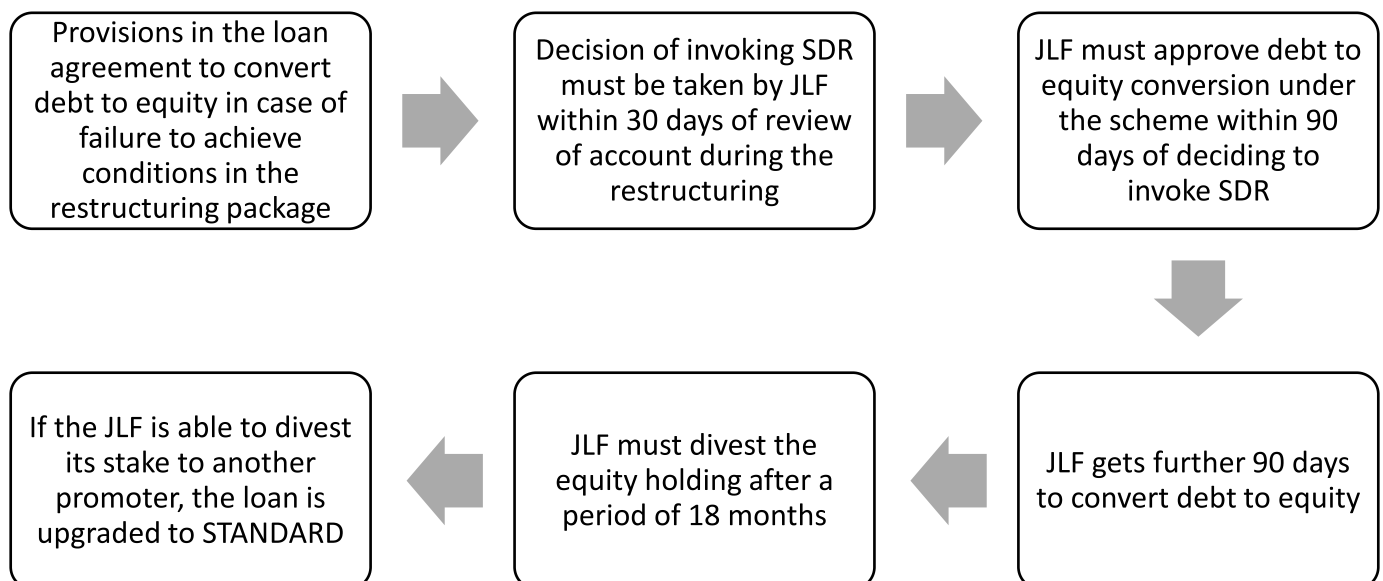
- Helps minimize the chances of insolvency for the company, albeit at the cost of management control of the original promoter
- Allows debt-for-equity swap in the event of failure of other restructuring exercises
- Gives creditor a controlling equity stake in the borrower company in exchange for full or partial cancellation of its debt claims against the company
- **Who is Eligible? -** Conversion of outstanding debts can be done by a consortium of lending institutions known as the Joint Lenders Forum (JLF)
- **Valuation for Conversion of Debt to Equity**

  At 'fair value' which will not exceed-

  1. Market price for listed companies

  2. Breakup value per share for unlisted companies

Process of SDR:



Criticisms of SDR

- Inability of lenders to sell their stakes in the ailing company after 18 months
- Time span of 18 months is too short for turnaround
- SDR Rules mandate banks to sell entire stake in the company to a new borrower
- In most cases banks are currently using existing management to run the company and resort only to external monitoring and oversight
- Management change may not cure structural problems

S4A (Scheme for Sustainable Structuring of Stressed Assets)

In June 2016, RBI introduced (S4A) for the resolution of stressed assets of large projects. This was aimed at consolidating the lenders' ability to deal with bad loans by provision of an avenue to rework the structure of companies facing genuine financial difficulties.

Key Features

- Eligible Accounts

  - The project must be operating and already generating cash

  - The total loans to the entity should be ₹500 or more

  - The lending banks are required to hire an independent agency to evaluate how much of the debt is 'sustainable.

  - Test of Sustainability: A Techno-economic viability (TEV) study by the bank/ Joint Lenders Forum/consortium of lenders should assess the debt level as sustainable.

  - For loan to be eligible for S4A, at least 50 per cent of it should be 'sustainable

- Resolution plan

  - That level of debt, which can be serviced by existing cash flows levels are allowed to continue as debt is known as part A and remaining portion of the loan i.e. part B is converted into equity

  - Part B shall be converted into Equity. In case there is no change in promoters, then bank can convert into Optionally Convertible Debentures also.

- Post Resolution Ownership:

  - The current promoters continue to hold majority shares or manage the company

  - The current promoter is replaced by the new promoters either through SDR mechanism

  - Lenders acquire majority shareholding and (a) allow the current management to continue or (b) hand over management to professionals

- The entire process of credible resolution plan is carried out by OC set up by IBA in a transparent and prudent manner
- Banks can allow existing promoter to continue in the management even while being a minority shareholder
- Lenders have an option of holding optionally convertible debentures instead of equity
- Entire corporate debt need not be classified as non-performing assets, and existing promoters can also continue

Criticisms of S4A

- Applicable only to operational projects and not to projects under construction
- Does not allow for any rescheduling of original tenure of repayment or re-pricing of debt
- Sustainable debt classification does not factor in incremental cash flows that could accrue as the external environment improves

Revolutionary Law- Insolvency and Bankruptcy Code?

The above mentioned procedures have been scrapped now and replaced with Insolvency and Bankruptcy code (IBC) 2016. The Insolvency and Bankruptcy code (IBC) 2016 is the bankruptcy law in India passed to address the issues of insolvency and bankruptcy by creating a single law and consolidating all the laws preceding it. The law was introduced in the Lok Sabha in December 2015 and passed on May 2016 with the President giving his assent on 28 May 2016. The two terms in the law Insolvency and Bankruptcy are quite closely linked but are separate entities. Insolvency is defined as a condition when the debtors, individuals and corporates are unable to

pay off their debts or in accounting terms, it means a person or a firm's total liabilities exceeds its total assets. Bankruptcy, on the other hand, is an actual court order showing how an insolvent person or business pays off his creditors. So a person can be insolvent without being bankrupt but the insolvency can lead to bankruptcy. At the core of its formation, the IBC recommends setting up of a regulator in the form of an Insolvency and Bankruptcy Board (IBBI) which would basically regulate the system of insolvency professionals (IPs), IP agencies, information utilities (IUs) and resolution procedures.

Why the need for an Insolvency Law?

The Insolvency and Bankruptcy Code (IBC) basically seeks to consolidate the numerous bankruptcy laws and their conflicting situations which had made it difficult for the banks to recover their dues. The various laws used to complicate the matter by causing obvious inefficiencies and delays. About to the statistics, India was ranked 130 in the World Bank's Ease of Doing Business before the enactment of this law in 2017. After its passage, India has been ranked 100th which has been primarily due to the reforms ushered in resolving insolvency which is an important parameter when calculating the Ease of doing Business index. However, the most important reason for the enactment of IBC is the huge problem of NPA's or non-performing assets which as of December 2017 stood at Rs 840958. The NPAs are because of the stressed firms which have been under extreme financial stress and have become a drag on the economy. According to the CMIE database there are about there are about 1039 firms where there is not enough cash (PBIT) to pay interest and the data may be much more than being reported. The exit of all these stressed firms will free up capital and labour for the utilization by healthy firms. The RBI and the government have already put up a list of 12 big defaulters into the IBC and made the list public. These NPA's have already sucked out the liquidity in the market and made credit dearer. This has resulted in a ripple effect on the economy and effected the overall growth of the economy.

Key Features

Some of the key features of the code are as follows: -

- It requires setting up of an insolvency and bankruptcy board (IBBI) which would act as a regulator.
- The bill proposes to set up a system of insolvency professionals and agencies which would develop professional standards, code of ethics and exercise a disciplinary role to the insolvency process.
- The code provides for the setting up of information utilities which would collect, collate and authenticate as well as disseminate financial information from listed companies as well as financial and operational creditors of companies.
- In case of the adjudicating authority over Insolvency the National Company Law Tribunal (NCLT) shall be the Adjudicating Authority with jurisdiction over companies and the limited liability entities (including LLPs.) whereas the Debt Recovery Tribunal (DRT) shall be the adjudicating authority with jurisdiction over individuals and partnership firms other than Limited Liability Partnerships (LLPs).
- There will be a moratorium period during which all the creditor action will be stayed.

Criticisms

- One of the most important criticisms of the law pertains to the real estate sector and its treatment of homebuyers. In the initially drafted bill homebuyers were to be treated at the lowest priority of creditors and hence did not have much say in the proceedings.

- As this law was passed the first 6 months saw 75% of the insolvency proceedings being filled by the unsecured operational creditors and not by financial creditors.
- There is the uncertainty of regulatory norms for banks and fear of scrutiny by anti-corruption investigation agencies and other bodies among bank management.
- The law doesn't have any provisions regarding synergy among Indian and foreign courts over the issue of overseas insolvency proceedings.
- The law favours excessive government checks as has been seen regarding appointment, termination, and scrutiny of Insolvency professionals.

Sashakt Plan-AIF

Sashakt Plan is the most recent resolution plan introduced in July 2018 by the bankers' committee and has been accepted by the government of India. This plan involves setting up of an asset reconstruction company which will be partly promoted by the banks and will raise alternative investment fund from banks and other investors which will create market for this and buy the stressed assets. The key objective or the outcome accepted by the bankers or the lenders is that it will help in price discovery of the bad loans and deleverage the balance sheet of the banks.

Key Features

- There would be an establishment of an Asset Reconstruction company (ARC) which would involve industry specialists on the board
- The ARC would be involved in managing an Alternative Investment Fund (AIF) in which the investors would include domestic and global distressed asset investment funds apart from Indian banks.
- The ARC would conduct in depth due diligence of the distressed asset and recommend a floor price for the sale which the investors would have to meet
- Before the approval of the floor price, it would be evaluated by the investment committee of the AIF, which will provide for the 15% of the floor price in cash.

   - Swiss Challenge auction method would follow once the AIF approves the floor price. This would be followed by bids from outside ARCs and stressed asset funds who will be bidding at a price greater than the floor price.
   - The party whose bid will be accepted will pay the banks and also pay the AIF the 15% paid by it.
   - ARC will keep holding the asset in case there is no other bidder for the asset in the auctioning

Key Challenges and criticisms

- Implementation is a challenge since firstly, it would be difficult to find industry specialists that would compose the board of the ARC.
- Capital raise for the ARC and the AIF will be a hurdle. On top of that whether a large AIF can be raised in a short span and returns expectations of investors can be adequately met.
- The pricing and debt aggregation challenge remains since there will have to be an inter-creditor agreement in this despite the fact that the amount of haircut determination on the stressed assets will be decided by the board of the ARC and the investment committee of the AIF because there is a lack of adequate regulatory clarity on the mechanism
- The size of the stressed asset accounts has increased in the recent past have increased exponentially with the recent quarter numbers indicating Rs. 11.6 lakh crore as the GNPAs on the banks' balance sheet. However, the quantum of loans that have been so far sold to the ARCs is not even 20% of the amount present on the loan books of the bank.

Prompt Corrective Action (PCA)

RBI introduced PCA framework in April 2017 to prevent banks from going bust and undertake prompt measures to put the banks in order who cross certain risk threshold of certain key parameters. As per the RBI circular following are the key parameters/ triggers that are taken into consideration for putting the banks under PCA framework.

- Capital to Risk weighted assets ratio (CRAR)

- ✓ CRAR less than 9%, but equal or more than 6% - bank to submit capital restoration plan; restrictions on RWA expansion, entering into new lines of business, accessing/renewing costly deposits and CDs, and making dividend payments; order recapitalisation; restrictions on borrowing from inter-bank market, reduction of stake in subsidiaries, reducing its exposure to sensitive sectors like capital market, real estate or investment in non-SLR securities, etc.
- ✓ CRAR less than 6%, but equal or more than 3% - in addition to actions in hitting the first trigger point, RBI could take steps to bring in new Management/ Board, appoint consultants for business/ organizational restructuring, take steps to change ownership, and also take steps to merge the bank if it fails to submit recapitalization plan.
- ✓ CRAR less than 3% - in addition to actions in hitting the first and second trigger points, more close monitoring; steps to merge/amalgamate/liquidate the bank or impose moratorium on the bank if its CRAR does not improve beyond 3% within one year or within such extended period as agreed to

- ➢ Net NPAs

    - ✓ Net NPAs over 10% but less than 15% - special drive to reduce NPAs and contain generation of fresh NPAs; review loan policy and take steps to strengthen credit appraisal skills, follow-up of advances and suit-filed/decreed debts, put in place proper credit-risk management policies; reduce loan concentration; restrictions in entering new lines of business, making dividend payments and increasing its stake in subsidiaries.
    - ✓ Net NPAs 15% and above – In addition to actions on hitting the above trigger point, bank's Board is called for discussion on corrective plan of action

- ➢ ROA less than 0.25% - restrictions on accessing/renewing costly deposits and CDs, entering into new lines of business, bank's borrowings from inter-bank market, making dividend payments and expanding its staff; steps to increase fee-based income; contain administrative expenses; special drive to reduce NPAs and contain generation of fresh

NPAs; and restrictions on incurring any capital expenditure other than for technological upgradation and for some emergency situations.

Presently, 11 out of 12 Public Sector Banks have been put under PCA, which as mentioned above have kicked in because they have breached regulatory norms on minimum capital, amount of NPAs and Return on Assets. In summary, PCA framework puts restrictions on the banks on expansion of number of branches, new staff recruitment, increasing the size of their loan book, credit disbursal only to the companies who are above investment grades, higher provisioning for NPAs and so on.

Criticism of PCA framework

- Since majority of the public-sector banks still command a lion's share of the banking sector and the fact that more than half of the public-sector banks have been put under PCA framework, this is likely to affect the credit growth in the country especially to the corporate sector
- Within the corporate sector, the companies that are likely to be greatly affected by this are the Small and Medium Enterprises (SMEs) and Micro and Small and Medium Enterprises (MSMEs) since large companies can still access the corporate bond market and get credit but SMEs and MSMEs only have banks to turn to for their working capital and capex expansion plans (long term borrowings)
- Recent data also shows that credit growth in the micro and small-scale industries though has improved from the last year, but it remains measly in the low single digits of 4.6-6.9% in the last quarter
- Similarly, the medium scale industries are also facing the pressure and net credit growth is negative and the gross credit growth has been just over 8%.
- In case the CRAR falls below 3% in the PCA framework then the situation of merger or amalgamating will be tough to execute since these are the public sector banks and there is stickiness to a complete takeover of these banks by private sector banks as the government has an important role to play in this and many political implications can delay in implementation of the merger or acquisition by public sector banks and therefore they will have to rely primarily on public sector funding for the acquisition.

Recognition of NPAs

To ensure improvement in performance of PSBs, RBI has a critical role to play to ensure that banks take necessary steps towards recognition of stress in their accounts as well as towards implementation of resolution practices. Since 2015, RBI has been amending the provisioning norms in a strict manner so that there is minimal divergence in the accounting of the recognition and provisioning of bad loans. RBI is doing as best as it can to make sure that the provisioning norms are as objective as possible and these can be summarized as below-

Type of Asset	Secured	Unsecured	Time Period
Standard Asset	0.40%	0.40%	
Sub-Standard Asset	15%	25%	between 3-12 months
Doubtful			
D1	25%	100%	1 year
D2	40%	100%	1-3 years
D3	100%	100%	>3 years
Loss	100%	100%	

Furthermore, the banking system's transition from Basel 2 norms towards **Basel 3 norms** which would include adoption of **expected loss model** from the current **incurred loss model** would do a great benefit towards early recognition in the stressed accounts under the special mention accounts category SMA0(Non-payment up to 30 days), SMA1(Non-Payment up to 60 days), and SMA2(Non-Payment up to 90 days) and until it becomes NPA (Non-payment for more than 90 days).

2017 recapitalization scheme:

In October 2017, the government announced recapitalization plan which will include the capital infusion of Rs 2.11 lakh crore in Public Sector Banks.

Key Features

- The government will buy Rs. 18,000 crores worth shares of public sector banks

- Furthermore, public sector banks will need to go raise Rs. 58,000 crores from the market
- Moreover, the government will issue bonds called "Bank Recapitalization Bonds" for Rs. 1,35,000 crore that will be used to buy additional shares in public sector banks.
- In FY18, as per the plan, the 11 public sector banks put under PCA framework will receive around Rs. 53000 cr. In the form of recapitalization and other state-owned banks will get around Rs. 36000 cr.
- The infusion in FY18 will be done partially through the recapitalization bonds of Rs. 80000 Cr. and budgetary allocation of Rs. 8139 Cr.
- So far, the following has been the status of the PSU banks recapitalization.

Banks	Recapitalization amount (INR Cr.)
IDBI	10610
Bank of India	9232
UCO Bank	6507
Central Bank	5158
IOB	4694
OBC	3571
Bank of Maharashtra	3173
Dena Bank	3045
United Bank of India	2634
Corporation Bank	2187
Allahabad Bank	1500
SBI	8800
PNB	5473
Bank of Baroda	5375
Canara Bank	4865
Union Bank	4524
Syndicate Bank	2839
Andhra Bank	1890
Vijaya Bank	1277
Punjab and Sind Bank	785

- Time frame until which the capital infusion of Rs. 2.11 lakh cr. is 2 years

- The nature of the recapitalization bonds would be determined by the type of the bonds and the issuing authority. In India, the recapitalization plan will be included in the fiscal deficit calculation even though globally it is not done so.
- The recapitalization bonds are used as the payment for shares to raise the capital of the banks facing issues.

There are also global cases of recapitalization present and include the following-

United Kingdom: Capital injections of more than £20bn were done in the Lloyds Banking Group (LBG) and over £45bn in the troubled Royal Bank of Scotland (RBS).

United States of America: After the financial crisis in 2008 banks in US, a Toxic Assets Relief Programme (TARP) was formed under which $700 billion allocation was done to major financial institutions like AIG, Bank of America, Citigroup etc as well as non-financial institutions like General Motors, Chrysler etc. for their bailout by the government.

Ireland: During the recent Euro Crisis period, the government of Ireland took preference shares worth €2 billion in each of the Bank of Ireland and Allied Irish Bank as well as €1.5 billion in Anglo Irish Bank.

Eurozone: European Stability Mechanism (ESM) was undertaken under which €41.3 billion was provisioned to the Spanish government in 2012–2013 and €1.5 billion to Cyprus in 2013. Furthermore, Greece was recapitalized with a little over €5.5 billion by ESM.

Thus, recapitalization has had a significant impact on the American and European continents.

Advantages of Recapitalization

- Firstly, the government would not need to raise immediate tax revenues to fund the huge bill on bank recapitalisation, which means relatively less burden on the taxpayer.
- Secondly, by borrowing directly from the banking system instead of the markets, the Centre can avoid the adverse impact on private borrowings or fluctuating the market

yields. The fact that such adverse impact is mitigated, this can also help in assessing whether this can be left out of the fiscal deficit calculations.

- Thirdly, as the Centre possesses the sovereign bond rating and flexibility, it can borrow at significantly cheaper rates than the stressed banks, which would make it a sound economic case for it to do so.

Criticism of Recapitalization Plan

- Since this recapitalization practice has occurred in the past, this gives an indication that whatever code of conduct the public-sector banks follow in their day to day working government of India is there to bail them out and prevent adversities.
- The recapitalization strategy curbs the burden on the public-sector banks to improve their lending practices, their credit underwriting policies, risk management frameworks and prevention of inefficient operational and audit activities as well as the governance in these banks, which if improved might bring down the NPA levels at these banks and improve their return ratios.
- Furthermore, the recapitalization amount so far allocated is just sufficient to cover up the distressed assets or non-performing loans in some troubled banks. This amount still is insufficient to infuse credit growth in these banks.
- Since this is a fiscal measure it is necessary that the government doesn’t thoroughly rely on this to make wonders to the India growth story. It is also essential that this measure is coupled with sound monetary policy of accommodating the balance between inflation and economic growth to help stabilize the banking system and improve macroeconomic conditions.

Ratings Analysis for SMEs and MSMEs

Rating is an alphabetical/alphanumeric symbol to the credit worthiness of
the company i.e. its ability to meet its debt obligations. Typically, this rating scale differs across different agencies, different instruments and tenors.

Broadly, there are 2 types of ratings that several rating agencies cover-

1. Issue Rating – This type of rating is given to debt issue such as bonds, debentures, long term loans, short term loans, etc.
2. Issuer Rating- This type of rating is given to companies on the strength of their financials.

While classifying the credit rating, several rating agencies also give their watchlist i.e. the opinion on the future possible rating on the company. This can be categorized as follows-

A) Negative watch- This indicates that the rating agency feels that the rating issued to the corporate is likely to deteriorate by the next review of the rating agency.

B) Positive watch- This indicates that the rating agency feels that the rating issued to the corporate is likely to improve by the next review.

Nowadays, banks are not just relying on the ratings issued by the credit rating agencies while evaluating the loan proposition to the borrowers, but they have also started doing their independent credit risk assessment as well. This is just to avoid the pitfalls and the criticism prevalent towards the rating agencies due to the conflict of interest present in the rating agencies when they are evaluating the borrowers.

While issuing the ratings the rating agency or the bank itself conducts an in-depth credit risk assessment so as to ensure that the Non-Performing assets (NPAs) are minimized to as much extent as possible. In doing that assessment the agencies/banks evaluate the borrower on 2 broad parameters i.e. the ability to pay and the willingness to pay.

While doing the credit assessment to minimize the risk, the agencies/banks undertake the following measures- For eg. The due diligence required for appraisal required in the case of SMEs and MSMEs is much higher as compared to the large corporates. Moreover, evaluating some specific instances such as unsecured working capital limits sanctioned from banks is not acceptable for the SMEs and MSMEs but are acceptable for large corporates. Furthermore, banks/agencies are usually accommodative in considering subjective factors which might include adverse observations about the borrower in case of large corporates but less so in case of SMEs and MSMEs.

The Credit rating model of the agencies/banks include the following risk assessment criteria in getting to the root of issuing the rating to a borrower-

1. Economic analysis
2. Industry analysis
3. Company analysis
4. Management analysis

5. Financial analysis

Economy analysis

Economic cycles are referred to as the fluctuating in the economic health that many economies go through in every few years. These are the economy-wide fluctuations in production or economic activity that take place over several months or years.

These cycles are not a part of credit analysis on an ongoing basis however, in an economic downturn, risk scores and ratings tend to be negatively impacted as the uncertainties increase.

Industry analysis

Several industries have different characteristics. These characteristics could be impacted by the cycles of the economy. These are broadly categorized as-

Non-Cyclical – Non-cyclical industries include Pharmaceuticals, consumer non-durable goods and services, Utilities etc. Even if the economy is under performing, these are the basic necessities and are therefore not subject to fluctuations in the economic cycles.

Cyclical- Cyclical industries include Steel, Construction, cement, metals, durable commodities etc. Consumption in these industries reduce during the recession or in bad economic conditions but when the economy starts performing well they start exhibiting good performance.

In doing the industry analysis one can follow different methodologies one of the most popular one of which is-

Porter's Five Forces Analysis

Porter's five forces analysis is generally used to analyse the shape of the industry, the current performance of the industry and whether the industry is attractive or unattractive to operate in. This impact a company's ability to compete in an existing market. These five forces are given below-

1. Competitive Rivalry- Rivalry among existing firms in the industry
2. Bargaining Power of Suppliers - Suppliers exert power in the industry by threatening to raise prices or to reduce quality.

3. Bargaining Power of Buyers - Buyers compete with the suppliers by negotiating down prices, demanding higher quality etc.
4. Threat of Substitutes - Products with similar function limit the prices firms can charge.
5. Threat of new Entrants- The threat of potential new entrants may be economies of scale, product differentiation etc.

In addition to the Porter's five forces analysis, there is also a need for further industry in depth analysis to understand the risks reward potential in the industry and the current performance of the industry in quantitative terms so as to evaluate the borrower's positioning in the industry. The following criteria should be kept in mind while doing it-

A) Industry Outlook-

A study should be conducted to know the Average industry capacity utilization and the Demand & Supply situation in the future i.e. up to 5 years based on which you can arrive at the industry outlook in which the company is operating in and thereby the risk profiling or risk score of the company

B) Key features of the Industry

Following are the key features that should be looked into while doing the industry profiling-

- No. of players in the industry
- Product range of the industry
- Demand Drivers for the industry
- Market Share of key players
- Average operating margin of players
- Average net profit margin of players
- Key concerns affecting the entire industry

C) Regulatory changes in the sector-

Sensitivity analysis must be done while preparing financial projections of the company based on the impact of change in government policies and regulatory changes in the sector as any company is significantly impacted by these changes

Company Analysis

To arrive at an appropriate credit risk score of the company, it is important to evaluate subjective and qualitative parameters that might create default risk for the lenders though they can be further defined quantitatively to arrive at the risk score

These include-

1. **Business Profile**

It is important to study the business profile of the company covering the business and revenue model of the company, the production capabilities, product strength, utilization, realization and thereby operational performance of the company.

2. **Concentration exposures**

There are 3 types of concentration exposures that a company might be facing which include- customer concentration, supplier concentration and the geographic concentration. This indicates that the company might be too dependent on certain set of customers, suppliers or geographies and hence might expose itself to certain risks that might impact its financial performance.

3. **Cost Component analysis**

It is critical that it is understood how the company controls its costs and the past trends of that. Important cost benchmarking and trend analysis needs to be done in this regard to understand how the company is able to utilize the money allocated to costs efficiently and effectively.

4. **Competitive Analysis**

In contrast to the qualitative and in-depth analysis done in the industry analysis for the competitors, this is a brief analysis involving businesses with similar business models by looking at the operations and financials of the key competitors of the company.

5. **Value chain analysis**

While doing the risk profiling in the company analysis it is important to understand the key strengths, weaknesses, opportunities and threats to the company and in doing that it is important to consider the following parameters-

- Customer relationships

  Customer relationships that are strong and have been steady over

  time are intangible but important assets to any company. These need to be evaluated and the company rated on its ability to form and consolidate customer relationships.

- Backward integration

  Extensive supply chain management requires that these relationships have to managed delicately to ensure robustness in the system so as to have a longer-term relationship because any hampering in these relationships are likely to cause issues in the procurement and purchase of the materials and thereby impact the cost and the financials of the company.

- Forward integration

Similar to the relationship with suppliers, it is important that the risks in the distribution relationship of the company be evaluated so that it doesn’t impact the movement of goods after the production and hence impact the delivery of sales in th4e last mile distribution network and therefore, risks present here can impact the sales and thereby the financials.

Management Analysis

The management competency of the company is one of the most important factors in deciding how the company fares over the upcoming few years.

Key Parameters to be looked into while doing that include what is the past track record of the management, how much is their ownership in the company, what is the number of years of experience of the management, and what are the professional qualifications of the management. In addition to looking at the management, one should also look into the background of the promoters as well as they are the key decision makers in the projects. While looking at the promoter's profile the following things should be looked into-

a) Promoter Shareholding
b) Promoter's reputation

Furthermore, one should also look at the following attributes of both the promoters and management while conducting their assessment-

- Integrity
- Competence
- Risk Appetite

Financial Analysis

The major component in the ratings allocation for any company involves the financial risk analysis.

While undertaking that each rating agency has its own process but follows almost similar methodology in doing the financial risk assessment. Broadly, given below are the few ratios or parameters that rating agencies look into-

Capital Structure

Capital structure is referred to as the extent of leverage in the company's funding mix and is denoted as debt to equity ratio or the leverage ratio. Debt obligations include the interest and the principal component while Equity includes the capital employed by the shareholders of the

company in expectations of the returns involved in the business. While the upside to equity shareholder returns is unlimited while the upside to debt obligations is limited to what has been agreed in the form of interest and principal component with the borrower.

Leverage ratio indicates the extent of financial risk taken by a company the larger the quantum of debt, the higher the gearing, and the more difficult it will be for the company to service its debt obligations.

Interest service coverage ratio

The interest coverage links a company's interest and finance obligations to its ability to service them from profits generated from business operations. It denotes the company's ability to service its debt obligations in a timely manner.

It takes into consideration the adverse circumstances under which the company's business, revenue and profitability prospects and thereby whether those circumstances will affect the company's ability to meet its debt obligations. default. Interest coverage is a consequence of a company's profitability, capital structure, and cost of borrowings.

Interest coverage ratio is given by-

EBITDA(Earnings before Interest, depreciation, tax and amortization)/Interest

Debt-service coverage ratio

The debt service coverage ratio (DSCR) signifies the entity's ability to service its debt, both principal and interest charges, through income generated from its operations. DSCR assumes that debt repayment gets higher priority over working capital expansion. However, in practice working capital funding gets priority over debt repayment. Therefore, there is a need to include working capital funding into consideration while making ratio computations of DSCR.

So, with this inclusion the modified DSCR is given by-

{PAT(Profit after tax) + Depreciation + Interest charges – 25% of incremental Net working capital} / {Debt payable within one year + Interest and finance charges}

Net worth

A company's net worth represents shareholders' equity that do not have fixed servicing obligations, and thus provides a safety against adverse conditions. The net worth represents the shareholder's equity that is available for temporary financial adversities or for withstanding losses.

A significant net worth indicates the entity's financial agility and the ability to access capital markets. It also reflects the company's strength in the market positioning and the economies of scale that it possesses.

Profit margin

Profit margin broadly indicates a company's competitive positioning in an industry, and the industry's characteristics in terms of the strength of competition, demand-supply scenario, regulations and pricing flexibility. From a rating point of view, the profit after tax (PAT) margin, that is, the ratio of PAT to operating income is an important profitability ratio. It is an indicator of the fundamental financial health of the company.

A high PAT margin signifies the company's higher ability to withstand the financial and business risk and therefore improves the credit rating of the company. However, like other ratios, it differs from industry to industry and therefore proper benchmarking needs to be done to evaluate the efficacy of the profit margin.

PAT margin ratio is given as below-

PAT margin = Profit after tax / Operating income

Return on capital employed

Return on capital employed (ROCE) signifies how well the company has generated the returns on the capital i.e. both the debt and equity component employed in the business. It also indicates whether the company has been managed effectively irrespective of the nature of the industry or the gearing.

A low ROCE indicates the poor sustainability of the business in the long term.

ROCE= EBIT (Earnings before interest and Taxes)/ {Total Debt+ Shareholder's equity}

Current ratio

Current ratio is one of the liquidity ratios of the company. It is used by the lenders in assessing the amount of working capital sanction to be given to the company.

A high current ratio indicates that all long-term assets and a portion of the short-term assets are funded using long-term liabilities, indicating adequate liquidity for the company's day to day operations.

Current ratio is given by-

Current ratio = Current assets that including marketable securities/Current liabilities that includes current portion of long-term debt

In addition to this it is also necessary to compute the receivable days, payable days, inventory turnover days, working capital turnover days, etc to get a sense of the collection and payments period of the company. Also, current assets days is also an important parameter to compute the working capital intensity of the company.

Brief snapshot on Financial Analysis

Although the aforementioned parameters indicate the credit quality of the company to a larger extent in terms of the financial performance of the company, but this list is far from comprehensive in terms of assessing the financial performance of the company.

One should also take into account the company's past performance and projections on several other financial parameters. Poor financial performance in terms of the ratios can be offset by stable cash flows, ability to access capital markets, and strong financial flexibility. Furthermore, a company's strong financial profile may be overshadowed by a weak or declining business profile.

Thus, while putting forth a rating assessment, rating agencies takes a lot of factors into consideration and there is subjectivity involved and it is quite complex and involves not only financial analysis but other parts as well such as business, project, management, parentage and so on.

Given below is the sample of the credit rating assessment system model practised by a bank-

Borrower Rating Model

Parameters	Maximum % Score
(A) Financial Risk	60%
(B) Business & Industry Risk	25%
(C) Management Risk	15%
(D) Qualitative Parameters (External Rating)	(+5)%
(E) Aggregate Score under (FR + B&IR + MR)	100%
(F) Borrower Rating based on the above Score	Rating
(G) Country Risk (CR)	Rating
(H) Final Borrower Rating after CR	Rating
(I) Financial Statement Quality	Excellent / Good / Poor
(J) Risk Score / Risk Transition Matrix	Qualitative Comments

A. Financial Risks –Ideal Ratio and Score

FR Parameters	Ideal Ratios	Maximum % Score	Plot X Co.'s Score	Discussion Point with Client
(i) Total Outstanding Liabilities / Total Net Worth	< 2.5	9.00%		
(ii) Current Ratio	> = 1.35	6.00%		
(iii) ROCE (= PBDIT / Total Assets)	> = 10	6.66%		
(iv) Retained Profits / Total Assets	> = 7.5	3.33%		
(v) PBDIT / Interest	> = 3	6.66%		
(vi) PAT / Operating Income	> = 8	6.66%		

(vii) Net Cash Accrual / Total Debt	> = 20	3.33%		
(viii) Average Yr to Yr growth in Net Sales in last two quarters	> = 15	1.66%		
(ix) Financial Flexibility		1.66%		
(x) Group Risk		1.66%		
(xi) Forex Risk		1.66%		
(xii) Future Prospects (Projected Ratios)		6.66%		
(xiii) Gross avg DSCR (for TL) or Turnover Ratios (for WC)	> = 2 (TL) & = < 60 days (WC)	5.00%		

Total Business & Industry Risks Maximum Score		60%		

B. Business & Industry & Industry Risks

B&IR Parameters	Maximum % Score	Discussion Point with Client
(i) Competition and Market Risk	4.50%	
(ii) Industry Outlook	3.50%	
(iii) Industry Cyclicality	1.00%	
(iv) Regulatory Risk	1.75%	
(v) Business Environment	0.75%	
(vi) Technology and Vulnerability to Technological change	2.00%	
(vii) Vulnerability to macro-economic environment	2.00%	
(viii) Access to Resources	1.75%	

(ix) User / Product profile	1.75%	
(x) Capacity utilization and Flexibility in operation	2.25%	
(xi) Consistency in Quality	1.25%	
(xii) Research and Development / Innovation	1.00%	
(xiii) Distribution Network	0.50%	
(xiv) Restructuring	0.50%	
(xv) Level of Integration	0.50%	
Total Business and Industry Risks –Maximum Risks	25%	

C. Management Risks

MR Parameters	Maximum % Score	X Co's Score
(i) Integrity	2.00%	1.30
(ii) Track Record / Conduct of Account	2.00%	1.30

(iii) Managerial Competence / Commitment / Expertise	2.00%	1.30
(iv) Payment Record	1.50%	0.98
(v) Structure & Systems	1.00%	0.65
(vi) Experience in the Industry	0.50%	0.33
(vii) Strategic Initiatives	0.50%	0.33
(viii) Length of relationship with the Bank	1.50%	0.98
(ix) Credibility: Ability to make Sales / Profit Projections	0.50%	0.33
(x) Past Success in introducing new products	0.50%	0.33
(xi) Ability to manage change	1.00%	0.65
(xii) Risk Appetite level	1.00%	0.65
(xiii) Succession Plan / Key Person	0.50%	0.33

(xiv) Adherence to covenants of sanction	0.50%	0.33
Total Business & Industry Risk -Maximum Score	15%	9.75%

Facility Rating Model

Working Capital Facility or Non-Fund Based Facility like Letter of Credit Bank Credit (except Capex)

Parameters	**Maximum % Score**
(a) Risk Drivers for Loss, Given Default	
(i) Current Ratio	8%
(ii) Nature of Charge	3%
(iii) Industry	5%
(iv) Geography	3%
(v) Unit Characteristics	7%
(vi) Macro-Economic Conditions	6%
(vii) Total Security (Primary + Collateral)	60%

(b) Risk Drivers for Exposure at Default	
(i) Nature of Commitment (Revolving/Non-revolving)	1%
(ii) Credit Quality of the Borrower	4%
(iii) Tenor of Facility	3%
Total Score	100%
Facility Rating based on the above Score	

Facility Rating Model

TL Facility or NFB Facility for Capital Expenditure

Parameters	Maximum % Score	X Co's Rating
(a) Risk Drivers for Loss, Given Default		
(i) Project Debt / Equity	7%	
(ii) Nature of Charge	3%	
(iii) Industry	6%	

(iv) Geography	3%	
(v) Unit Characteristics	5%	
(vi) Macro-Economic Conditions	7%	
(vii) Total Security (Primary + Collateral)	60%	
(b) Risk Drivers for Exposure at Default		
(i) Nature of Commitment (Revolving/Non-revolving)	2%	
(ii) Credit Quality of the Borrower	4%	
(iii) Tenor of Facility	3%	
Total Score	100%	

Rating Scale

Borrower Rating	Range of Score for Borrower Rating	Facility Rating	Range of Score for Facility Rating - Illustrative
1	94-100 (Virtually Zero Risk)	FR1	94-100 (Virtually Zero LGD)
2	90-93 (Lowest)	FR2	87-93
3	86-89 (Lower)	FR3	80-86
4	81-85 (Low)	FR4	73-79
5	76-80 (Moderate with Cushion)	FR5	66-72
6	70-75 (Moderate)	FR6	59-65
7	64-69	FR7	52-58
8	57-63 (Average)	FR8	45-51
9	50-56	FR9	38-44
10	45-49 (Acceptable) (Risk Tolerance Threshold)	FR10	31-37 (Safety Threshold)

11	40-44	FR11	24-30
12	35-39	FR12	17-23
13	30-34	FR13	11-16
14	25-29	FR14	5-10
15	<24	FR15	1-4
16	-	FR16	0

Effective Interest Rate

CRA Rating	Rates Effective from Date(Base Rate ~ 11.75% p.a.)	
	For Term Loan	For Working Capital
1 to 2	13.00% p.a.	12.50% p.a.
3 to 5	13.75% p.a.	13.25% p.a.
6 to 7	14.25% p.a.	13.75% p.a.
8 to 16	14.75% p.a.	14.25% p.a.

Enterprises Classification

Classification of enterprises based on their scale and sector is given below-

Classification	Manufacturing Enterprises	Service Enterprises
Micro	<=25 lakh	<=10 lakh
Small	25 lakh < x < 5cr.	10 lakh < x < 2cr.
Medium	5cr. < x < 10cr.	2cr. < x <5cr.

Key Challenges faced by SMEs and MSMEs in getting access to credit

- **Expansion and growth of the business**

Without the right form of financial backing at the right time these enterprises find difficulty in meeting their working capital needs such as credit to buyers, payment of salaries, purchase of raw materials and keeping sufficient inventory. Furthermore, without access to sufficient capital there is also hindrance to the capex plans in the form of purchases of fixed assets such as plant, land, building, furniture, machinery, etc.

- **Compliance burden in the form of documentation and financials- a key hurdle in securing of a loan**

Since most of the SMEs and MSMEs are running as family businesses or unorganized companies, they don't have the wherewithal to maintain strict compliance frameworks to meet the criteria of securing loans from banks due to inadequate documentation and insufficient credit history, which creates roadblocks in securing loans from the lenders or the banks.

- **High amount of collateral asked by the banks**

While getting access to the credit from the banks due to the high-risk perception by the banks in offering credit to these enterprises, a high amount of collateral is asked by the banks because

they are not able to do the risk assessment properly because these enterprises have informal structure of working and operations. As a result of this situation, errors conjure up in the process leading to a situation in which the borrowers are not targeted properly since they might have the willingness and the ability to repay through the cash flows generated by their business, but the high amount of collateral asked by the banks discourages them from entering into the loan agreement and hence the disbursal of the loan. Because of this, the borrowers who might have high collateral but might be lacking the ability and willingness to pay based on their day to day operations might come into the foray and hence if their loans become non-performing then it tarnishes the image of the entire SME/MSME sector in the eyes of the lenders.

- **High Interest rate charged by the banks**

Since the banks are unable to assess the risk of the SMEs and MSMEs properly so instead of being aware of the taxation avoidance issues that these firms play into there has to be high amount of subjectivity involved into the assessment of the business situation rather than objectively looking at the financial condition of the business since these businesses might be generating high amount of cash flows in the business but might be reluctant to show that but while visiting the business sites and doing their factory visits the bankers might be able to assess the risk properly and charge an interest rate that is feasible to both the lender and the borrower rather than keeping it exorbitantly high that proves to be a deal breaker for both.

Government/RBIs measures to improve access of credit

- **Priority Sector lending**

Under this initiative commercial banks (public and private) are directed to lend at least 40% of their Net Bank Credit (NBC) and foreign banks are required to lend 32% of their NBC to the priority sectors under which SMEs and MSMEs fall in this category.

If the banks fail to meet this requirement, then the shortfall is to be deposited in Small Enterprise Development Fund (SEDF) that is maintained with Small Industries Development Bank of India (SIDBI). Small businesses can make use of this opportunity to get loans from banks. In Addition

to this, the banks will need to deposit the shortfall amount by purchasing bonds of RIBF and NABARD which yields only 2-3% and is therefore highly penalizing.

It is expected that this initiative is likely to increase access to SMEs and MSMEs through formal banking channels.

- **Government schemes**

Given the huge contribution of the SME sector towards the Indian economy, the government has taken some steps to give the boost to this sector. Several schemes have been announced by the government that offer fiscal and monetary incentives for small businesses to grow and flourish. One example of a scheme is the Credit Guarantee Fund Scheme in which the objective is to make available MSME loan without collateral.

- **Digital India**

Digital India is an initiative taken by the Government of India. It sets an ambitious target of bringing digitalization into every aspect of business. This move is expected to benefit small businesses by enabling cashless transactions and e-commerce; especially those firms that are in rural areas. Connectivity will help those businesses in rural areas to gain benefit of government subsidies effectively and instantly and fulfil the government's push towards financial inclusion. It will also help SMEs reach out to customers online and build their brand across the country, and not just locally.

Through this initiative small businesses need not worry about getting access to credit. Our SME business loans are tailor-made to match their diverse requirements. Now they can be offered loans up to 30 lakhs without the need for any collateral.

- **Establishment of Small Finance Banks and GST implementation**

The implementation of Goods and Services Tax (GST) in July 2017 will help introduce MSMEs into the formal business and create digital trails. For instance, an MSME registered under GST files documentation that reveals their sales trajectory, cash flows, income sources, inventory sold,

credit cycles etc. which will help the lenders assess the credit risk properly and assign them credit rating appropriately.

Recent steps like setting up small finance banks (SFBs) like Ujjivan, Equitas, AU etc., will provide basic banking service of acceptance of deposits and lending to sections of the economy not being served by other banks, such as small business units, small and marginal farmers, micro and small industries and unorganised sector entities such as SMEs and MSMEs.

Key Trends and insights on SME and MSME Financing

There are close to 51 million MSME units in the country that employ about 117 million people across various sectors, constituting 40% of the workforce. The MSME share to the total Gross Domestic Product (GDP) is about 37% and they also contribute to 43% of exports based on the data of Ministry of Commerce.

The overall NPAs range has remained between 8% to 11% during the last 2 years while the NPA range of large corporates extends to around 17%. There has also been an exponential increase in the new SME and MSME borrowers in the formal sector as they have reached close to 4 lakhs in 2017 from 2.5 lakhs in 2016.

The SME/MSME sector is vastly underpenetrated in the organized lending segment with just 5 million out of 51 million units having access to formal credit. GST implementation and Digital India push is likely to enhance their credit coverage and higher formalization.

There is a need to appropriate targeting and servicing in this sector to also lower the risk for the commercial banks as this sector has so far shown low NPAs compared to large corporates and with regulatory and government support and push it is likely to act as a catalyst for growth of financial lending to this sector from banks and financial institutions.

Some of the notable trends that have led to increase in the access to credit for these enterprises include-

- **New Age lending platforms coming to the fore**

Nimble new-age start-ups like peer to peer lending platforms and others saw the existing gap in the market and have evolved a technology-driven solution based on Artificial intelligence which has helped India's MSMEs access legitimate credit easily. Today, several MSME founders and

owners are leaning on these platforms for credit, with NBFCs already accounting for more than 16% of the credit extended to MSMEs. According to the ICRA, the share of lending by NBFCs to MSMEs is projected to rise to 22-23% by March 2022. These start-ups are likely to play a critical role in enhancing the amount of credit being disbursed.

These start-ups have been able to overcome the credit gap because instead of a bureau and bank account-based credit score, they collect data from numerous sources and use cutting-edge AI-driven algorithms to create a credit score for applicants. These credit scores are more comprehensive and provide a more detailed perspective and are likely to be substantially more accurate than the existing credit scores. These new-age lenders have also made great use of regulatory developments such as Aadhaar and India Stack.

- **Venture capital funding also coming to the rescue**

MSME sector has started receiving funds from Venture Capital funds who have experience in providing seed funding. It is a means of equity financing for rapidly growing, SMEs, MSMEs and provide funds after carefully evaluating these projects. They provide financial assistance through equity-linked capital investment rather than debt or borrowings. It also offers a mentoring support to enable funded organizations to accomplish fast growth and continue to maintain their competitive edge in national markets.

The venture capitalists consider the following parameters before offering financial assistance to these enterprises:

- High growth potential
- A robust, committed team with good integrity.
- long-term competitive advantage in the sphere or scope of business.
- Sustainable business and financial plan
- A precise exit plan for these investors

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