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Challenges & opportunities due to **COVID 19** for credit intermediaries

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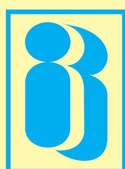

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ध्येय

संस्थान का ध्येय मूलत: शिक्षण, प्रशिक्षण, परीक्षा, परामर्शिता और निरंतर विशेषज्ञता को बढ़ाने वाले कार्यक्रमों के द्वारा सुयोग्य और सक्षम बैंकरों तथा वित्त विशेषज्ञों को विकसित करना है ।

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Mr. Biswa Ketan Das
Chief Executive Officer,
IIBF, Mumbai

We should not give up and we should not allow the problem to defeat us.

A. P. J. Abdul Kalam

The Novel Coronavirus Disease (COVID 19) outbreak, declared as a pandemic by the World Health Organisation (WHO) in March 2020, has been the biggest challenge the world has faced since World War II.

While several remedial measures and safeguards have been announced by all countries, it is also a fact that the pandemic has changed the way we function. Work from home, digitisation of the education space, are now considered the new normal. It is in this context the above quote by Dr. A. P. J. Abdul Kalam becomes all the more relevant. Despite several challenges, the world did not give up and finally, we see hope at the end of the tunnel.

The COVID pandemic has had a significant impact on the banking and finance sector. Business have suffered losses which have impaired their ability to repay bank loans. This made recycling of credit by banks difficult. Recognising that credit by banks play a catalytic role in the development of a country's economy, the Government and the Reserve Bank of India have announced several policy initiatives to bring the economy back on track.

In this light, the present issue of the Bank Quest is on "Challenges & opportunities due to COVID 19 for credit intermediaries". In this issue, the first two articles are on the theme.

The first article of this issue is penned by Mr. Deepak Pande, Independent Consultant, Former SVP, Axis Bank Limited; on "Economy & Banking during COVID-19 pandemic and way forward". This article discusses the impact of COVID 19 pandemic on Agriculture, MSME & the Banking Industry. The initiatives taken by the authorities concerned have also been dwelt upon. Mr. Pande has considered the COVID 19 as a "black swan event" and has recommended that banks may have to adopt modern technology for meeting the dynamic customer/consumer preferences which will result in rendering more efficient services to the customers.

The next article on the theme is an Hindi article on "बैंकिंग उद्योग में घर से कार्य: कितना व्यावहारिक, कितना चुनौतीपूर्ण?" written by Mr. Vijay Prakash Srivastava, Faculty, Institute of Banking Personnel Selection (IBPS). In this article, the author has explained his views about the challenges faced and practical aspects of working from home in the banking industry.

The third article in this issue is penned by Mr. Saurabh Sood, Ph.D. Scholar, National Law School of India University, Bengaluru on "Regulatory Limitations Thwarting Cross Border Mergers and Acquisitions in Indian Banking Sector: Policy Analysis." This article mentions the operative sections, rules and regulations and identifies eight key issues which have an impact on Indian banks willing to consolidate with their counterparts in different countries.

The Institute organises a Micro Research paper competition every year for its life members to provide them with a knowledge platform to present their original ideas, thoughts and best practices in the field of Banking & Finance. Apart from the above articles, we are also carrying the Micro Research articles which were awarded prizes in 2019-2020.

The fourth article of this issue was awarded the first prize under Micro Research, 2019-2020 and is jointly written by Dr. G. Bhaskar N. Rao, Faculty, Staff Learning Centre, Andhra Pradesh Grameena Vikas Bank and Ms. Rachel Alice Filbert, Regional Advances Manager, Andhra Pradesh Grameena Vikas Bank on “Debt Traps - A Risk Participative Approach for Reduction of Default Risk Using Game Theory.” The authors have presented a model using an analytical method to reduce default risks and have applied the same to arrive at an equilibrium as per NASH’s Game Theoretic Approach. Using numerical analysis, the model seeks to identify risk dependency reductions in tribal Microfinance.

The fifth article included in this issue was awarded the second prize under Micro Research, 2019-2020 and is jointly written by Ms. Shikha, General Manager, National Bank for Agriculture and Rural Development (NABARD), Mr. Khyati Tanwar, Manager, NABARD and Mr. Mohammed Aarif Khan, Asst. Manager, NABARD on “Alternative Channels for Household Savings: Mobilizing Micro-savings.” This article proposes the introduction of an ‘Associate Member’ in the SHG group who could capitalize on the savings mechanism already in place within the model. The additional savings of the Associate Members would augment the corpus for intra-group lending leading to cross-subsidisation of loans while also enabling the group to access higher institutional credit. At the same time, the Associate Member would benefit by way of earning a fixed income on their micro-savings.

The sixth article of this issue was awarded the third prize under Micro Research, 2019-2020 and is written by Dr. Shromona Ganguly, Assistant Advisor/ Assistant General Manager, Reserve Bank of India on “Intellectual Property Based Financing in India: A Bridge Too Far?”. In this article, Dr. Ganguly has discussed the issues and challenges associated with the intellectual property right (IPR) based financing by the banks in a transition economy like India. The author also recommends creation of an adequate pool of banking professionals trained in the domain of IP valuation to open up new possibilities with regard to identification of base of the pyramid innovations in India and financing the same.

I hope you will find the articles featured in this issue quite enriching.

Suggestions for further improving the contents of the journal are welcome.

I also take this opportunity of wishing all the readers a Happy, healthy and a prosperous New Year 2021!

Biswa Ketan Das

Economy & Banking during COVID-19 pandemic and way forward

Deepak Pande*

Economic Impact

The spread of the COVID pandemic across the globe brought in a lot of uncertainties and implications on all aspects of business. Despite implementation of work-from-home measures, loss of employment and earnings deficit was anticipated. The extended lock-down resulted in waterfall moment as far as jobs are concerned though a revival is seen from June 2020 onward when economic activities resumed gradually. Though Government announced first relief package amounting to Rs. 170,000 crore, yet a large section of populace faced hardships. Additionally, State Governments, NGO, Self-help groups and Corporate enhanced the aid coverage, including daily distribution of free food. Although corporate earnings announced so far have been better than anticipated, yet the overall impact would be discernible only in the coming quarters. Another indicator of economic revival is GST collection, which has crossed Rs. 1 lakh crore in October 2020. Other economic indicators like Forex reserves have reached all time high of US$ 561 billion on the back of unabated FDI and FPI inflows. Retail inflation linked to Consumer Price Index was at 6.58 in February 2020 i.e. before commencement of pandemic, which has inched up to 7.34 in September 2020. Debt-GDP ratio of the Indian economy was around 66% at the end of FY19-20, which is likely to surpass 85% by the end of FY20-21.

There was an old saying about non-existence of black swans, until one appeared from nowhere. Black swan events are characterized as rare, impactful, of large magnitude and consequence, hard-to-predict, etc. Such events derail the financial markets including banking industry. Corporate and commercial banks would be playing a catalyst role to bring back economy on the revival path during the pandemic, and in facilitating an economic revival thereafter. One of the indicators of the major impact was contraction of US economy by a whopping 32.9% annual rate in April-June 2020 quarter followed by a strong recovery of 33.1% annual rate in July-September 2020 quarter, albeit, on a lower base. Indian GDP contracted for Q1FY20-21 at historic low of 23.9% YoY basis. Q2 FY2020-21 GDP data released on 27th November 2020 reflects a contraction by 7.5%. The economy has clawed back faster than expected. However, the economy has entered into a technical recession with two consecutive quarters of negative growth though reasons are obvious.

RBI is expecting GDP to contract by 9.5% in the current financial year whereas World Bank has predicted Indian economy to contract by 9.6%. Besides rise in unemployment, the other pain points would be supply chain stress, fall in tax collections, collapse of tourism and hospitality industry, gap in supply and consumer demand, and reduced fuel consumption. Subsequently, second relief package worth Rs. 2,000,000 crore announced, which was equivalent to 10% of India's GDP, with focus on self-reliant India mission. CLSA, capital markets and investment group, expects India's real GDP to contract by 15% whereas S&P, global rating agency, prediction revolves around 9.0% contraction. The GDP contraction estimates differ from institution to institution due to uncertain times ahead.

*Independent Consultant, Former SVP, Axis Bank Ltd.

Agriculture Sector

According to the published data, 44% of India's workforce is employed in agriculture and it is source of livelihood for 58% of country's population. Agriculture continues to be main pillar of Indian economy, which serves food consumption need of the entire country.

The set of challenges faced by the sector could be divided into two categories viz. labour scarcity and exports. The labour problem surfaced due to mass exodus of migrant labour to rural hometowns that has also affected supporting infrastructures in the form of storage units (go-downs, cold-storage, warehouses, etc.) and milk processing plants. The other challenge pertains to transportation of agriculture produce from one part of the country to other besides export challenges getting unfolded. Government announced relief package, part of overall package, amounting to Rs. 163,000 crores for agriculture and allied sectors with emphasis on strengthening infrastructure, logistics and capacity building.

MSME Sector

Many MSMEs had temporarily shut down their activities due to prevailing pandemic, according to a survey. The temporary closure was prominent among metro-cities and those in manufacturing and retail verticals. MSMEs have asked for tax discounts or exemptions or interest free/cheaper rates loans to tide over the crisis. Almost one-thirds of MSMEs have migrated to digital mode of business, enabling themselves with e-commerce functionality. Some of the MSMEs adopted video-conferencing and WhatsApp tools in an attempt to keep business running during these turbulent times. According to the survey, MSMEs often take assistance of web professionals to create website and take plunge into digital mode of transactions.

According to annual report of Department of MSME, there are 6.34 crore MSMEs in the country, out of which 55% are located in rural India, employing almost 11 crore people. Micro enterprises constitute 99.5% of the total MSMEs equally distributed in rural and urban areas. Since majority of micro enterprises are not registered, as they are just too small, leading to constraints in getting government aid. Majority of the MSME funding comes from informal sources, as lending institutions cater to one-thirds of their credit requirement. The total lock-down had raised a question mark on the survival of MSMEs due to scarcity of cash to wither out crisis. Another challenge was in the form of labour unavailability to resume operations though migrant labourers have resumed work gradually.

Government has announced 6 measures to support MSMEs for revival – Rs. 300,000 crore collateral free loans; Subordinate debt to the extent of Rs. 20,000 crores; Equity infusion to the tune of Rs. 50,000 crores; MSME definition revised to enhance coverage; Global tenders to the extent of Rs. 200 crore disallowed to foreign firms; pending payments to MSMEs released within 45 days, by Government. The latest report suggests that commercial banks have sanctioned Rs. 187,579 crores to approximately 50.7 lakh MSMEs, with disbursements reaching a level of Rs. 136,140 crore by first week of October 2020.

Banking Sector

Indian Banks have proactively formulated short term as well as medium term strategies to cope up with the ongoing health crisis, impacting banking industry. The foremost might be capital requirement - stronger public sector banks would be in a position to raise capital from market subject to Government holding not falling below 51% as per extant regulations. RBI asked all commercial banks not to declare dividend for the FY19-20, rightfully so, to conserve capital, in the first fortnight of April 2020, subject to review post 2nd quarter performance of all commercial banks during FY20-21. New generation private sector banks would find easier to access capital markets for raising capital whenever needed. The 6 months moratorium option availed on loans and advances by borrowers might result in surge of delinquent assets, requiring additional bad loan provisions though banks' are already keeping aside COVID-19 provision. Recently, Government of India (GoI) has announced waiver of compound interest to select categories namely, MSME loans, Education loans, Housing loans, Consumer durable loans, Vehicle loans and Credit Card dues, Personal loans to professionals, Consumption loans, and allowed ex-

gratia payment to the borrower accounts, those availed moratorium, which were standard assets as on 29th February 2020. The ex-gratia payment is allowed to the borrowers having sanctioned limits and outstanding amount not exceeding Rs. 2 crore in aggregate, who also continued regular payment of EMIs during moratorium period. If a borrower has liquidated outstanding loan during moratorium period then pro-rata relief amount to be credited in the account of the borrower. Rating agency CRISIL has predicted rise of bad loans to 11.5% level by March 2021. The Financial Stability Report of the regulator has estimated delinquent assets to reach a range of 12.5% and 14.7% by the end of FY20-21. RBI has accepted the recommendations of Kamath Committee for onetime restructuring of loans for medium and large Corporates, covering 26 worst affected sectors for advances of Rs. 25 crores and above, basis five mandatory financial ratios.

The other major factors impacting banking industry are **liquidity** and **risk** management. Though enough of liquidity has been released by RBI (Rs. 5.66 lakh crore till May 2020) yet, the primary focus of the central bank revolved around liquidity measures. The risk factors which need careful assessment include credit risks, operational and liquidity risks. Liquidity is key element of business continuity or going concern capacity of lending institutions during pandemic period. The Q1FY20-21 results announced by private sector as well as public sector banks have been better than expectations. The Q2FY20-21 results announced during October/November 2020, by leading new generation private sector banks have exceeded expectations so far. However, the real impact would be visible by the end of the year when moratorium payments become due.

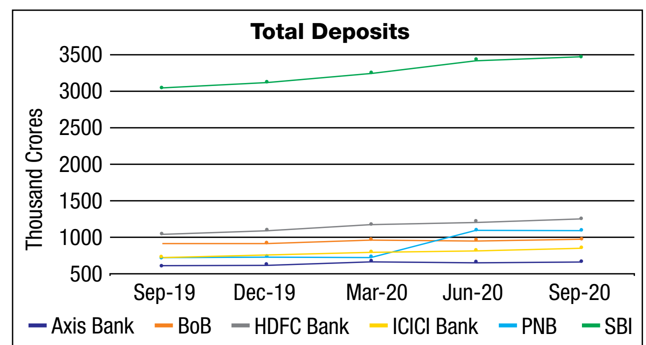
The drop in consumer lending demand is likely to affect retail loan growth during this year whereas MSME lending could witness a normal growth due to guaranteed MSME relief package of Rs. 300,000 crore announced by the Government. Banks are negotiating for reduction in rentals of existing leased premises to bring down operating expenditure; dwindling interest rates are likely to squeeze net interest margins; credit costs would surge on account of additional provisioning; demand for non-loan banking services would recoup gradually; customer trust might have shifted to renowned and trusted brands; consolidation/privatization of weaker banks; deposit and advances interest rates have touched new lows; branch, expansion exercise has slowed down; and last but not the least banks started exploring adoption of modern technology to enhance digitalization process. While banking sector is likely to go through unprecedented uncertainty about the economic outlook, the present environment continues to encounter, in particular, challenges and disruption, which could impact banking industry as a whole.

Table I - TOTAL DEPOSITS (Rs. in Crore)

Bank Name	Sept 2019	Dec 2019	March 2020	June 2020	Sept 2020
Axis Bank	583958	591676	640105	628150	635454
BoB	*894130	896162	945984	934461	954340
HDFC Bank	1021615	1067433	1147502	1189387	1229310
ICICI Bank	696273	716345	770969	801622	832936
PNB	695782	708544	703846	**1074917	1069747
SBI	3033396	3111229	3241621	3419363	3470462

***Vijaya Bank and Dena Bank merger with Bank of Baroda (BoB) became effective from 1st April 2019**

****Amalgamated figures with United Bank and OBC effective 1st April 2020**



On an analysis of deposit growth pattern during last 12 months, it is observed that growth of top 6 banks - 3 from public sector and 3 from new generation private sector – from October 2019 to September 2020 has been in the range of 9% and 20% except PNB where figures are not comparable due to merger of 2 banks with it effective 1st April 2020. If deposit growth during pandemic period is considered, then

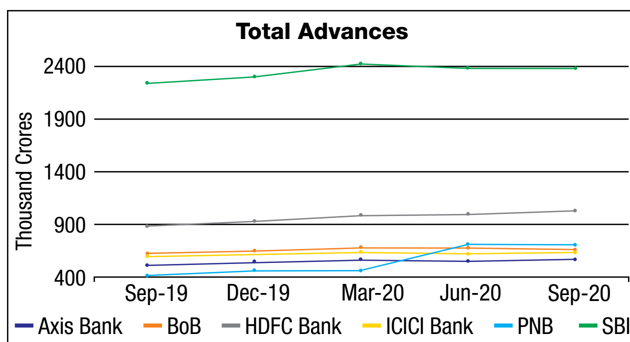
SBI, HDFC Bank and ICICI Bank have grown by 7% approximately. BoB has registered deposit growth of 1% whereas Axis Bank recorded de-growth of 1%. In terms of total deposits, SBI is far ahead of all other banks as depicted in graph.

Table II - TOTAL ADVANCES (Rs. in Crore)

Bank Name	Sept 2019	Dec 2019	March 2020	June 2020	Sept 2020
Axis Bank	521594	550138	571424	561341	576372
BoB	*637340	654465	690120	686672	669851
HDFC Bank	896984	936030	993703	1003299	1038335
ICICI Bank	613359	635654	645290	631215	652608
PNB	427903	471356	471828	**721695	716924
SBI	2248313	2301669	2422845	2385639	2383624

***Vijaya Bank and Dena Bank merger with BoB became effective from 1st April 2019**

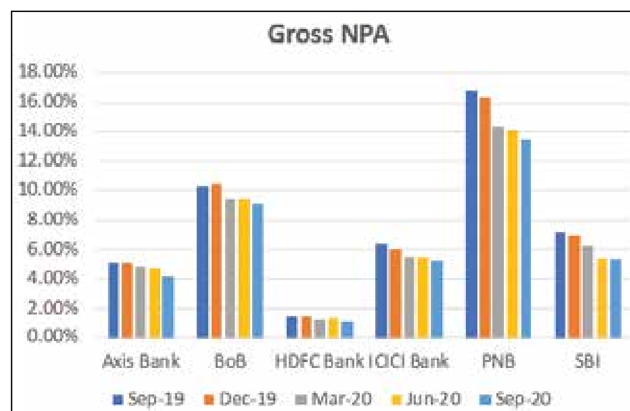
****Amalgamated figures with United Bank and OBC effective 1st April 2020**

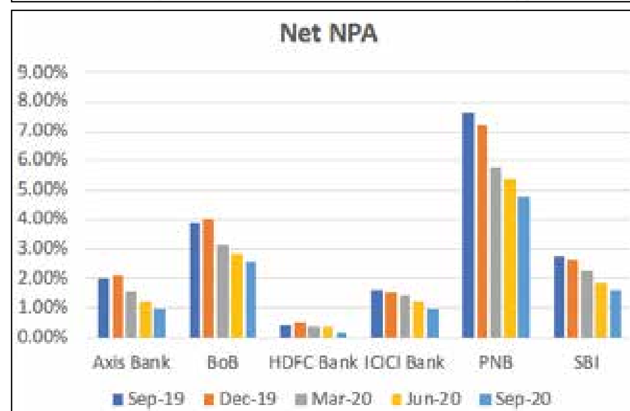


On a closer look at credit growth during last 12 months, it is noticed that growth has been in the range of 5% and 16%, with HDFC Bank emerging as leader in this segment. PNB figures are not comparable due to amalgamation of 2 banks with it effective 1st April 2020. During pandemic period, HDFC Bank comes out as leader with around 5% growth whereas Axis Bank and ICICI Bank registered credit growth of barely 1%. BoB and SBI recorded de-growth in advances level. Lower credit growth or de-growth during pandemic period could be attributed to poor or no demand for funds from retail as well as corporate sector due to lockdown, enhanced unemployment and temporary suspension of manufacturing activities. SBI is much better placed when it comes to total advances as compared to all other banks.

Table III - GNPA & NNPA QUALITY (Unit is percent)

Bank Name	Sept 2019	Dec 2019	March 2020	June 2020	Sept 2020
Axis Bank	5.03 1.99	5.00 2.09	4.86 1.56	4.72 1.23	4.18 0.98
BoB	10.25 3.91	10.43 4.05	9.40 3.13	9.39 2.83	9.14 2.51
HDFC Bank	1.38 0.40	1.42 0.48	1.26 0.36	1.36 0.33	1.08 0.17
ICICI Bank	6.37 1.60	5.95 1.49	5.53 1.41	5.46 1.23	5.17 1.00
PNB	16.76 7.65	16.30 7.18	14.21 5.78	14.11 5.39	13.43 4.75
SBI	7.19 2.79	6.94 2.65	6.15 2.23	5.44 1.86	5.28 1.59



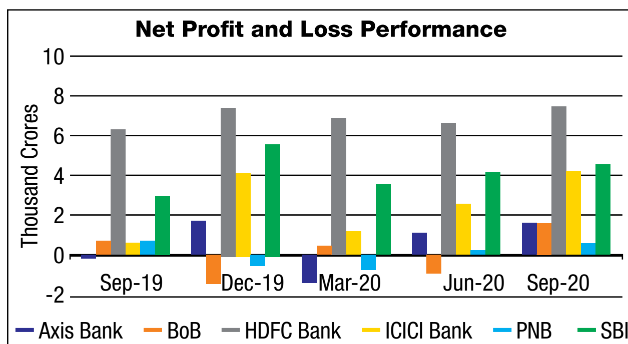


Asset quality of all the top 6 banks has improved significantly during last 12 months due to full disclosure of delinquent assets and adequate provisioning for non-performing assets. These banks have also made additional Covid-19 provisioning to take care of additional delinquent assets arising out of moratorium period of 6 months offered to the borrowers. Since honourable SC has banned declaring assets as

NPA from 1st April 2020 onwards, the asset quality improvement during pandemic period is obvious. RBI has approached honourable SC for lifting NPA declaration prohibition. On 3rd September, 2020, the apex court has issued an interim order against declaring an account NPA which was categorised as Standard as on 31st August 2020 (the date when moratorium period ended). Since we are already in the third quarter FY'21, there is a fear that all the new NPAs may be pushed to the fourth quarter FY'21. The bad loan recovery has dropped to one-thirds in the June quarter with hardly any progress in IBC cases and sale of bad loans to ARCs has dried up due to uncertainty. Banks' will have to ensure that standard loans don't slip into sub-standard category as far as possible.

Table IV - NET PROFIT/LOSS PERFORMANCE (Rs. in Crore)

Bank Name	Sept 2019	Dec 2019	March 2020	June 2020	Sept 2020
Axis Bank	-112	1757	-1388	1112	1683
BoB	737	-1407	507	-864	1679
HDFC Bank	6345	7417	6928	6659	7513
ICICI Bank	655	4146	1221	2599	4251
PNB	757	-492	-697	308	621
SBI	3012	5583	3581	4189	4574



Net profit figures of HDFC Bank, ICICI Bank and SBI have been consistent during last 5 quarter by recording surplus every quarter whereas Axis Bank, BoB and PNB profitability has been erratic during last 5 quarters where it suffered losses during 2 of the 5 quarters perhaps on account of provisioning on delinquent assets. It is quite heartening to note that all these 6 banks have registered profits during last quarter, which is a good sign of revival during pandemic period. Unlike IT companies, Banks' doesn't post sequential rise in net profit, rather YoY growth is seen as a measure of profitability performance.

Capital & Operating Expenditure

In the absence of usual branch outlet expansion, Banks' would be in the process of finding out innovative ways to extend customer services through branch channel, enhancing semi-urban and rural coverage, payments processing and upgrading digital migration. Relationship Managers and Customer Interfacing Officials should manage customer relationships virtually besides promoting subsidiary businesses. Therefore, judicial investment in technology, artificial intelligence, robo-advisory and paperless or less paper banking may be resorted to. Since business hours of the banks functioning during pandemic period stand reduced to 4 hours, call centre volume might witness a spike leading to additional costs. Customer handling costs are likely to go up in the short run as operating expenditure viz. employee costs, rent, electricity, stationery, etc. are likely to remain unchanged. The enhanced expenditure is going to be partially offset by variable sales and marketing costs. Enhanced digitalization would result in surging cyber security issues. Well-designed training programs would provide practical input to the customer interfacing officials. Banks are likely to offset increased costs by enhancing locket rents, service charges, transaction charge, cash deposit charges, and penal charges.

Upgrading Technology

Dynamic customer/consumer preferences and digital platform promotion initiatives taken by the GoI have opened up doors for technical giants namely, Amazon, Facebook, Apple and Google to firm up their footsteps into the Indian Financial Sector, thereby launching innovative products/services benefiting customers/consumers. Payment platforms like Amazon Pay, Google Pay (facilitator only), Apple Pay and proposed WhatsApp payment services would pose a greater threat to the Banks in that field. More than 200 million Indians are already using WhatsApp messaging services, which will make it a prominent player in the Payment space. Usage of big data in analysing consumer behaviour patterns could aid

these tech giants to work on vital aspects of consumer delight, uniform customer experiences and financial inclusion. When adopting modern technology, banks will have to ensure simultaneously mitigation of risks associated with cyber security, operations, business continuity and data management. Another opportunity during pandemic would be to move towards paperless banking for account opening, loan applications, appraisal, documentation and investment advisory. Indian Banks' have to prepare a contingency plan - using artificial intelligence, block-chain technology, chatbots, business intelligence, promoting Fin-tech start-ups and advanced machine learning when Fin-tech giants namely, Amazon, Apple, Google and Facebook firm up their plans to enter Financial Sector in India.

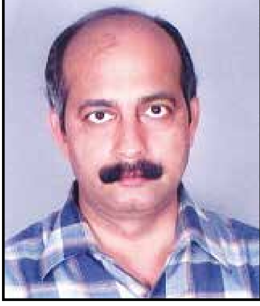
Coronavirus, a black swan event, has devastated the economies across the globe, resulting in contraction of GDP during 1st and 2nd quarter of the FY 20-21. As a consequence, the financial markets got derailed where a large gap is witnessed in demand and supply of goods and services in certain sectors though IT services, Pharma Companies, FMCG sector continued to do well. The deposit and advances growth of Banks have slowed down and profitability has been erratic during the last 5 quarters yet NPA levels have seen an improvement, albeit, moratorium has contributed to a certain extent. Banks have been making additional NPA provisioning for last 3 quarters yet full impact of pandemic will be known when the true picture gets revealed post March 2021. Government has allocated sizeable funds for revival of Agriculture and MSME sectors where Banks have been provided guarantee for lending to MSME sector. Considering slowdown on the branch expansion front, banks will do well to adopt modern technology for rendering efficient services to the customers.

Bank Quest Articles - Honorarium for the Contributors

S.No.	Particulars	Honorarium Payable
1	Invited Articles	₹7000
2	Walk-in Articles	₹4000
3	Book Review	₹1000
4	Legal Decisions Affecting Bankers	₹1000

Bank Quest included in UGC CARE List of Journals

IIBF's Quarterly Journal, Bank Quest has been included in the Group B of UGC CARE list of Journals. The University Grants Commission (UGC) had established a "Cell for Journals Analysis" at the Centre for Publication Ethics (CPE), Savitribai Phule Pune University (SPPU) to create and maintain the UGC-CARE (UGC – Consortium for Academic and Research Ethics). As per UGC's notice, research publications only from journals indexed in UGC CARE list should be used for all academic purposes.



बैंकिंग उद्योग में घर से कार्य : कितना व्यावहारिक, कितना चुनौतीपूर्ण?

विजय प्रकाश श्रीवास्तव*

विश्व सभ्यता को बड़े-बड़े संकटों से गुजरना पड़ा है, पर वर्ष 2020 के पूर्वार्ध से दुनिया को जिस संकट से जूंझना पड़ रहा है उसकी तुलना पिछली किसी घटना से नहीं की जा सकती। युद्ध, महामारी जैसी घटनाएँ पहले भी घटी हैं पर उनका सीधा असर गिने-चुने देशों या सीमित क्षेत्रों में रहा है, पर कोरोना वायरस से दुनिया के प्राय: सभी देश प्रभावित हुए हैं। यह कितने आश्चर्य का विषय है कि एक वायरस के चलते देशों को महीनों के लिए पूर्णबन्दी अर्थात लॉकडाउन की घोषणा करनी पड़ी, कल-कारखाने बंद कर दिए गए, उत्पादन को विराम लग गया और व्यापारिक गतिविधियों को बंद करना पड़ा।

जीवन या व्यापार का कोई ऐसा क्षेत्र नहीं है जिसे कोरोना वायरस ने प्रभावित नहीं किया हो। स्कूल–कॉलेजों ने ऑनलाइन कक्षाएँ शुरू कर दीं और कंपनियाँ अपने कर्मचारियों से घर से कार्य (जो वर्क फ्रॉम होम के नाम से जाना जाता है) कराने लगीं। भारत में पूर्णबन्दी के दौरान जब तमाम सरकारी व निजी दफ्तर ठप्प पड़े थे, बैंकों को खुला रखा गया और उनमें प्राय: सभी बैंकिंग गतिविधियां संचालित होती रहीं। इससे हम समझ सकते हैं कि बैंकिंग सेवाओं को आमजन एवं आर्थिक गतिविधियों के लिए कितना महत्वपूर्ण माना जाता है। पूर्णबन्दी में बैंकों का खुला रहना उन लोगों के लिए राहत की बात थी जिन्हें इनकी सेवाओं की आवश्यकता थी। इस अवधि में अपने खाते में जमा सरकारी सहायता की राशि निकालने के लिए भी अल्प आय वर्ग समूह के सदस्य संबंधित बैंक शाखाओं में उपस्थित हुए।

भारत के कॉर्पोरेट जगत में घर से कार्य कोई नई बात नहीं है। लेकिन विगत कुछ वर्षों में इसका प्रचलन थोड़ा बढ़ा है। कोरोना काल में कंपनियों ने इसकी ज्यादा आवश्यकता महसूस कर इसमें नयी संभावनाएं देखनी शुरू कीं और यथासंभव इसका ज्यादा लाभ उठाने की चेष्टा की। अब घर से कार्य कराने को एक उपयोगी, टिकाऊ वर्किंग मॉडल के रूप में देखा जा रहा है । हमारे देश में कई संगठनों ने घोषणा की है कि आने वाले समय में वे इस मॉडल को व्यापक रूप से अपनाएँगे। इतिहास की बात करें तो घर से कार्य की अवधारणा का उद्भव पश्चिम में हुआ था। जैक नाइल्स ने 1976 में प्रकाशित अपनी पुस्तक 'द टेलिकम्युनिकेशन्स-ट्रांसपोर्टेशन ट्रेड ऑफ' में ऐसी प्रणाली बनाने का विचार लिखा था जिसमें कार्यस्थल को कामगारों के निकट लाया जाए। उन दिनों प्रौद्योगिकी तथा दूरसंचार सुविधाएं आज जैसी उन्नत अथवा सस्ती नहीं थी, प्रत्येक कामगार द्वारा घर से कार्य करने हेतु तकनीकी सुविधाएं जुटाना भी संभव नहीं था, अत: यह सोचा गया कि कार्यस्थल व कामगारों के बीच की दूरी कम की जाए। अमरीका के लॉस एंजेल्स की एक बीमा कंपनी के साथ जब इस प्रणाली का प्रयोग किया गया तो कई अनुकूल परिणाम देखने को मिले - कर्मचारियों की उत्पादकता में 18% का इजाफा हुआ, व्यवस्थागत लागतों में काफी कमी आई तथा कार्मिकों का टर्नओवर भी कम हुआ।

आज हमें जिस दर्जे की प्रौद्योगिकी व संचार सुविधाएं मिली हुई हैं, उनका उपयोग कर कंपनी का कार्य घर से करना काफी सुगम हो गया है। सुविधाएं तो उपलब्ध हैं, पर इन सुविधाओं का उपयोग कितना और कैसे किया जाना है,

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यह सांगठनिक रणनीति के तहत मानव संसाधन नीति का अंग है।

प्रश्न यह उठता है कि घर से कार्य की नीति को कोई संगठन क्यो अपनाए? इसका उत्तर नीति के लाभों को समझकर मिल सकता है। इस नीति को लागू करने से संगठनों को होने वाले लाभों में शामिल है-बुनियादी व व्यवस्थागत सुविधाओं (बिजली, जगह आदि) पर कम खर्च, रखरखाव खर्चों में कमी, एम्प्लायर ब्रैंड की बेहतरी आदि।

जिन कर्मचारियों को घर से कार्य करने की अनुमति दी जाती है, लाभ उन्हें भी हैं। रोज कार्यस्थल पर आने व लौटने में लगने वाला उनका समय बचता है। समय की यह बचत अच्छी ख़ासी हो सकती है, विशेष तौर पर महानगरों तथा बड़े शहरों में प्रति कार्य दिवस 3-4 घंटे की बचत हो सकती है। आवागमन की परेशानियों से भी छुटकारा मिलता है। घर से कार्य पर सही तरीके से अमल कर कर्मचारी अपने लिए बेहतर वर्क-लाइफ संतुलन हासिल कर सकते हैं। कर्मचारी के लिए इन सभी का अनुकूल शारीरिक व मानसिक प्रभाव होता है, उसकी उत्पादकता व कार्य की गुणवत्ता बेहतर होती है जो निश्चित रूप से संगठन को भी लाभ पहुंचाती है। घर से कार्य करने देना कार्मिक सशक्तिकरण की भी एक नीति मानी जाती है। संगठन इसका उपयोग उपयुक्त प्रतिभाओं को आकर्षित करने हेतु भी करते हैं। आज बहुत से संगठनों के समक्ष ऐसी स्थितियाँ आती हैं जिनमें नियोजन के प्रस्ताव पर विचार करते समय कई आवेदक सेवा शर्तों में घर से कार्य करने के अवसर की उपलब्धता को एक महत्वपूर्ण घटक मानते हैं। कंपनियों के लिए यह कार्मिकों के टिके रहने (रिटेंशन) के उद्देश्य से भी प्रयुक्त होता है।

घर से कार्य को सूचना प्रौद्योगिकी कंपनियों द्वारा सबसे अधिक अपनाया गया है। ऐसी बहुत सारी कंपनियों में कुछ लोगों को नियमित रूप से, कुछ को सीमित रूप से इस हेतु अनुमति दी गई है। इसके साथ शिक्षा, शोध, कंसल्टिंग आदि जैसे कार्यों में घर से कार्य करने का प्रचलन है। यह आसानी से समझा जा सकता है कि ऊपर वर्णित कार्यों की प्रकृति ऐसी होगी जिनमें घर से कार्य करने की संभावना मौजूद हो। यह तो तय है कि सभी प्रकार के उद्योग-व्यापार में घर से कार्य की नीति समान रूप से नहीं लागू की जा सकती। कुछ क्षेत्र इसके लिए ज्यादा उपयुक्त हो सकते हैं, कुछ कम उपयुक्त और कुछ बिल्कुल नहीं। हमें इस पर विचार करना है कि बैंकिंग उद्योग में घर से कार्य की कितनी संभावना है, इसमें अवसर कौन से हैं तथा चुनौतियाँ किस प्रकार की हैं?

बैंकिंग एक सेवा उद्योग है जिसका वास्ता समाज के सभी वर्गों से है। आज के समय में ऐसे लोगों की संख्या लगभग नगण्य है जो किसी न किसी प्रकार से बैंकिंग सेवाओं से जुड़े नहीं हैं। इस प्रकार से जितना व्यापक आधार इन सेवाओं के ग्राहकों का है, उतना कदाचित किसी और सेवा अथवा उत्पाद का नहीं। बैंकिंग सेवा या उत्पाद कोई भी हो, अंतत: इसका संबंध धन से होता है। बैंकिंग कार्यों तथा सेवाओं की एक विशिष्ट प्रकृति है तथा कोई भी आकलन इसे ध्यान में रख कर किया जाना चाहिए।

भारत में दो दशक पहले तथा आज की बैंकिंग में काफी अंतर है। बैंकिंग उत्पादों में काफी विविधता आई है, विपणन को ज्यादा महत्व दिया जाने लगा है तथा प्रतियोगिता का स्वरूप कुछ ज्यादा ही बदल चुका है। इन सब से इतर एक बड़ा बदलाव प्रौद्योगिकी के स्तर पर हुआ है। प्रौद्योगिकी के व्यापक प्रयोग के चलते अब ग्राहक घर बैठे बहुत से बैंकिंग संव्यवहार घर बैठे कर सकते हैं। फोन व इन्टरनेट बैंकिंग तो पहले से ही थी अब ऍप आधारित बैंकिंग आ गई है, निधियों का अंतरण या नेफ्ट करना हो, मियादी जमा रसीद बनानी हो, जारी किए गए चेक का भुगतान रोकना हो, तो बैंक आने की कोई जरूरत नहीं। ऋणों के लिए बैंकों की वेबसाइट पर अनुरोध का विकल्प उपलब्ध है तथा सिर्फ आगे के चरणों को पूरा करने हेतु बैंक में सशरीर उपस्थिति की जरुरत पड़ती है। इस प्रकार बैंकों में ग्राहकों की आवाजाही कम हो गई है। इस हिसाब से बैंक शाखाओं में जनशक्ति भी कम की जाने लगी है।

बैंकों में सबसे बड़ा नेटवर्क शाखाओं का होता है। यह नि:तांत असंभव है कि इन शाखाओं को बंद कर इसके सभी कर्मचारियों को घर से कार्य करने दिया जाए। सामान्य

परिस्थितियों में एक बैंक शाखा का पूरे कार्यसमय के दौरान खुला रहना आवश्यक है। शाखाओं में कार्य कोर बैंकिंग प्लेटफॉर्म (जैसे फिनेकल आदि) पर होता है जिसके अंतर्गत उनके कंप्यूटर एक केंद्रीय सर्वर से जुड़े होते हैं। केवल अधिकृत लोगों की इस नेटवर्क तक पहुँच होती है तथा उनके अधिकार परिभाषित होते हैं। कंप्यूटर पर किए गए सभी कार्यों का रिकार्ड इस सर्वर में दर्ज होता है। ज़्यादातर मामलों में वित्तीय परिचालनों हेतु बैंकों में मेकर – चेकर की प्रणाली लागू है। उद्देश्य सुरक्षा का होता है जिसमें प्रविष्टि एक व्यक्ति और इसे अधिकृत दूसरा व्यक्ति करता है। सबसे बड़ी बात यह है कि नेटवर्क से बाहर के किसी कंप्यूटर में फिनेकल या इस जैसा प्रोग्राम नहीं उपलब्ध हो सकता। तो अभी की स्थिति के अनुसार शाखा का कोई कार्य जो फिनेकल में होता हो, घर से करना संभव नहीं है। शाखा स्तर पर जो कर्मचारी उक्त से भिन्न कार्य करते हों, उनके द्वारा ही घर से कार्य की संभावना हो सकती है, वह भी तब जब इस की अनुमति दी गई हो। सार्वजनिक क्षेत्र के बैंकों को लें तो देखा गया है कि एक ही स्टाफ द्वारा विविध प्रकार के कार्य किए जाते हैं। एक अधिकारी जो दिन भर बचत आदि खातों में नामे-जमा प्रविष्टियों को अधिकृत करता है, शाम को रिपोर्ट तैयार करने में जुट जाता है। शाखा स्तरीय विपणन का कुछ कार्य (जैसे फोन करना, लीड जुटाना आदि) घर से हो सकता है। ऋण स्वीकृति के पूर्व व पश्चात निरीक्षण के लिए शाखा पदाधिकारियों को शाखा से बाहर निकलना होता है। ऐसे मामलों में कुछ अनुवर्ती कार्य घर से संभव है। इसी प्रकार अनर्जक आस्तियों की वसूली को लेकर फोन काल आदि घर से की जा सकती है। बड़े आकार की शाखाओं जिनमें कर्मचारियों की संख्या अपेक्षाकृत अधिक होती है, से भी केवल गिने-चुने कर्मचारियों को घर से कार्य करने दिया जा सकता है।

दरअसल बैंकिंग परिचालनों को लेकर सुरक्षा का मसला अत्यधिक गंभीर है, इसलिए शाखा बैंकिंग परिचालनों को शाखा की हद से बाहर होने देने में तमाम जोखिम हैं। नकद लेन-देन भी शाखा के रोकड़ काउंटर पर ही हो सकते हैं, उन अपवादों को छोड़ जिनमें कतिपय मामलों में ग्राहकों के पास जाकर सेवाएँ दी जाती हैं।

बैंकों में एक प्रशासनिक तंत्र है जिसमें बैंक के प्रधान या केंद्रीय कार्यालयों के साथ आंचलिक, क्षेत्रीय, मण्डल कार्यालय आदि होते हैं। इन सभी का कार्य निचले कार्यालयों/शाखाओं के कार्यों पर निगरानी रखना, दिशानिर्देश/आदेश जारी करना देना, विभिन्न प्रकार की नीतियाँ तैयार करना, आंकड़े जुटाना, आगे रिपोर्टिंग करना, विपणन नीतियों को कार्यान्वित करना, मंजूरियाँ देना आदि है। प्रशासनिक प्रकृति के कुछ कार्य घर से हो सकते हैं। पर इसमें भी चुनौतियाँ हैं। यदि बैंक घर से कार्य कराना चाहते हैं तो उन्हें बारीकी से इन सभी कार्यों की प्रकृति का अध्ययन कर इस हेतु कार्यों को निर्दिष्ट करना होगा। एक सूचना प्रौद्योगिकी कंपनी के साफ्टवेयर निर्माण/विकास पर कार्य कर रहे इंजीनियर के लिए दिन भर घर पर बैठ कर कार्य करना मुमकिन है पर बैंकिंग कार्यों की प्रकृति इस प्रकार की नहीं। सूचना प्रौद्योगिकी को बैंकों ने कितना भी अपना लिया हो, कागजी फाइलों, रिपोर्टों का चलन अभी बना हुआ है। अगर घर से कार्य करना है तो संबन्धित फाइलें,कागजात व अन्य रिपोर्टें भी घर पर साथ में होनी चाहिए। डेरीव्हेटिव्स, मर्चेन्ट बैंकिंग, विदेशी मुद्रा विनिमय जिसमे करेंसी का भौतिक लेन-देन शामिल न हो, जैसे कार्यों को घर से किए जाने की संभावना तुलनात्मक रूप से अधिक हो सकती है, पर सार्वजनिक क्षेत्र के बैंकों में इन कार्यों का परिमाण अधिक नहीं है। कहीं -कहीं डेटा प्रविष्टि भी घर से की जा सकती है।

बैंक में यदि कुछ गिने-चुने लोगों को उन्हें आबंटित कार्य के अनुसार घर से कार्य करने दिया जाए तो इसे लेकर प्रश्न खड़े हो सकते हैं। बैंकों में लागू द्विपक्षीय समझौते या अधिकारी सेवा विनियमों में घर से कार्य को लेकर कोई विशिष्ट उल्लेख नहीं है, न ही ऐसा लगता है कि सार्वजनिक क्षेत्र के किसी बैंक ने इस पर कोई विस्तृत नीति या दस्तावेज़ तैयार किया है। यह जरूर है कि पूर्णबन्दी के दौर में इस पर बैंकों में चिंतन शुरू हो गया है। पूर्णबन्दी में कुछ बैंकों ने आवागमन की मुश्किलों तथा अन्य समस्याओं से अपने कर्मचारियों को राहत देने के लिए उन्हें शिफ्ट में या वैकल्पिक दिनों पर/सप्ताह में शाखा या कार्यालय आने की व्यवस्था लागू की। जिन कार्यदिवसों पर/सप्ताहों में कर्मचारी कार्य पर होते हुए भी घर पर थे, उन्हें घर से कार्य करने को

कहा गया था। इसे एक अस्थायी एवं अनौपचारिक व्यवस्था के रूप में देखा जाना चाहिए।

घर से कार्य करने की नीति बनाने हेतु बैंकों को अपने कारोबारी व प्रशासनिक मॉडल में कुछ हद तक बदलाव लाना पड़ेगा जो समुचित विचार विमर्श के बाद ही होना चाहिए। बेहतर होगा शुरू में यह नीति प्रायोगिक तौर पर लागू की जाए, परिणाम देख कर इसमें यथावश्यक परिवर्तन किए जाएँ तथा फिर इन्हें स्थायी रूप दिया जाए। भले ही यहाँ 'स्थायी' शब्द का प्रयोग किया गया है, प्रौद्योगिकी में बदलावों, ग्राहक अपेक्षाओं में परिवर्तन तथा बैंकों की अपनी सीमाओं एवं अनुभवों को देखते हुए इस नीति की आवधिक समीक्षा (जैसे वार्षिक आधार पर) करना ठीक रहेगा। गतिशीलता के आज के दौर में कोई नीति पूरी तरह स्थायी नहीं हो सकती।

जब और जैसे भी बैंक घर से कार्य करने की नीति पर कार्य कराते हैं, उन्हें अनिवार्य रूप से निम्नलिखित से जुड़े पहलुओं को शामिल करना ही होगा –

कार्य विभाजन: बैंकिंग उद्योग में जिस प्रकार के कार्य होते हैं, उनमें से केवल कुछ ही घर से किए जा सकते हैं। यह स्पष्ट करना होगा कि कौन से कार्यों को इस श्रेणी में रखा जाएगा, चाहे वे शाखा स्तर पर किए जाते रहे हों या विभिन्न प्रशासनिक स्तरों पर। कई चर्चाएँ ऐसी होती हैं जो संबन्धित पक्षों द्वारा कार्यालयीन वातावरण में आमने-सामने बैठ कर ही प्रभावी ढंग से की जा सकती हैं। इन्हें घर से कार्य के दायरे से बाहर रखना होगा। प्राथमिकता निर्धारण भी एक आधार हो सकता है तथा कम प्राथमिकता वाले मुमकिन कार्यों को घर से करने की अनुमति दी जा सकती है।

ग्राहकों की सहमति: बैंक के आंतरिक कार्यों को छोड़, जो भी कार्य ग्राहकों से संबन्धित हैं, उन्हें ग्राहक किस सीमा तक घर से कार्य के परिवेश में करने हेतु तैयार रहेंगे, यह जानना जरूरी है। बैंकों का कारोबार ग्राहकों से ही है, अंततः कोई भी नीति उनके हितों को ध्यान में रख कर ही बनाई जानी चाहिए।

समान अवसर : कई मामलों में घर से कार्य को कर्मचारी एक सुविधा के रूप में देखते हैं और जहां सुविधाएं दी जा रही हों वहाँ निष्पक्षता होनी चाहिए तथा जिनके लिए भी यह लागू हो, अवसरों में समानता होनी चाहिए।

सुरक्षा/गोपनीयता: वित्तीय संव्यवहारों के मामले में सुरक्षा का अधिकतम ध्यान रखना पड़ता है, धोखाधड़ी की संभावनाओं को तभी न्यून किया जा सकता है। इसी प्रकार बैंकों पर ग्राहकों की जानकारी आदि गोपनीय रखने के नियम लागू होते हैं। यह सुनिश्चित करना होगा कि घर से कार्य की किसी नीति में इन अपेक्षाओं का पूर्णतः पालन हो।

विनियात्मक आवश्यकताओं का पालन: स्वस्थ बैंकिंग प्रणाली के लिए सख्त विनियमन की आवश्यकता होती है। विनियमन ग्राहकों, रिपोर्टिंग व प्रकटन आदि से संबन्धित हो सकती हैं। यह ध्यान रखना होगा घर से कार्य के साथ इन विनियात्मक अपेक्षाओं को पूरा करने में कोई ढिलाई न हो। अनुपालन पक्ष पर पूरी निगरानी जरूरी है।

प्रौद्योगिकी उन्नयन/उपलब्धता: घर से बैंकिंग संबंधी कार्य सुचारु एवं अबाध रूप से हों, इसके लिए प्रौद्योगिकी संबंधी आवश्यकताओं का आकलन करना भी आवश्यक है। इस आकलन के अनुसार प्रौद्योगिकी को उन्नत बनाने तथा इसे उपलब्ध कराने में निवेश किया जाना चाहिए। प्रौद्योगिकी के पक्ष पर यदि पूरा ध्यान न दिया जाए तो इससे जब–तब रुकावटें आ सकती हैं।

सांगठनिक तैयारी :घर से कार्य की संस्कृति कॉर्पोरेट जगत में ज़ोर पकड़ रही है तथा इसके लिए अब नए साधन व समाधान अर्थात सोल्युशन आने लगे हैं। घर से कार्य संगठन के लिए पहले सांस्कृतिक मसला है, बाद में और कुछ। इसलिए संगठन (अर्थात संगठन की जनशक्ति) को इसे अपनाने को मनोवैज्ञानिक रूप से तैयार होना चाहिए।

Regulatory Limitations Thwarting Cross Border Mergers and Acquisitions in Indian Banking Sector: Policy Analysis

Saurabh Sood*

Abstract

Consolidation strategies have been used across the world to strengthen the banking sector and different countries have already amended their domestic legislations to promote cross border mergers and acquisitions in the banking sector. To this end, their domestic legislations have been harmonized with the international framework to conclude the deal without much hassle for the banks involved. In India, Companies Act, 2013, along with the corresponding Rules and Regulations, has been enforced which needs a thorough overhauling so as to facilitate cross border mergers and acquisitions to derive the expected beneficent results. The present paper peruses the operative sections, rules and regulations to identify eight (8) key issues which have the potential of doing more harm than good to the Indian banks willing to consolidate with their counterparts in different countries.

Keywords - Banks, Companies Act, 2013, Cross border mergers and acquisitions, Choice of law, Jurisdiction, Dispute resolution.

Introduction - Consolidating Strategies for Banking Institutions

Increase in the consolidation strategies has been accepted to be a significant development affecting the financial structure across the world. The banking sector, in particular, has been a witness to the increase in the value and scale at which Cross Border Mergers and Acquisitions (CBM&As) take place because of the constant deregulations and technological advancements.[1] The trends are indicative of the fact that, in developing and developed countries, CBM&As have accelerated the entry and growth of foreign banks. India's tryst with mergers and acquisitions in banking sector is not new and the benefits and detriments have been well documented. At domestic level, both public and private sector banks are involved in M&A deals to derive the expected benefits associated with economies of scale.[2] This consolidation strategy is considered to bring progression in an economy that is stagnant with uncertainty. CBM&A as an effective restructuring process ensures banks to venture into newer markets and infuse technological advances so that the banks can sustain and solidify their place in the market. However, there is no certainty that every CBM&A in banking sector will be successful for the banks involved.[3] Due to the cultural differences across different jurisdictions, the benefits accruing out of M&As in banking sector domestically and across border vary significantly. The underlying reason for CBM&As in the banking sector is to expand the market share, efficiency, viability and diversify the portfolios. CBM&As have captured the interest of the both the policy makers and the academicians to study their impact on the bank performance, generating shareholders value and capturing market share.[4] Unfortunately, the research pertaining to CBM&As in Indian banking

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[2]Saibal Ghosh, and Mridul Saggar. "Narrow Banking: Theory, Evidence and Prospects in India." Economic and Political Weekly, vol. 33, no. 19, 1998, pp. 1091–1103. JSTOR, www.jstor.org/stable/4406752. Accessed 29 July 2020.

[3]Neary, J. Peter. "Cross-Border Mergers as Instruments of Comparative Advantage." The Review of Economic Studies, vol. 74, no. 4, 2007, pp. 1229–1257. JSTOR, www.jstor.org/stable/4626179. Accessed 29 July 2020.

[4] HARTMANN, PHILIPP, et al. "THE EURO-AREA FINANCIAL SYSTEM: STRUCTURE, INTEGRATION, AND POLICY INITIATIVES." Oxford Review of Economic Policy, vol. 19, no. 1, 2003, pp. 180–213. JSTOR, www.jstor.org/stable/23606951. Accessed 29 July 2020.

sector is scant and needs a comprehensive overhaul. The generally held and standard hypothesis with respect to CBM&As in banking sector is that since CBM&As result in improving efficiency and profits, they directly keep the financial institutions safe and stable.[5] Adopting such a consolidation strategy advances healthy competition by facilitating market entry for key players in the banking sector. Therefore, exploring the issues plaguing CBM&As in banking sector remains to be a daunting yet important task.[6]

Growing importance of CBM&As in Indian Banking Sector

The rate at which consolidation in the banking sector is taking place, essentially by embracing CBM&As, is indicative of the fundamental shift from the domestic M&As to CBM&As. In India, the same has been touted to be a new phase affecting the banking sector in India and at global level. Though the growth has been gradual, the frequency of CBM&A deals has increased to promote the exponential growth in the wealth of the emerging economies including India.[7] Nationalisation of the banks has its own fair share in India's economic development. Globalisation has made way for foreign banks posing stiff competition for domestic banks in India. Reserve Bank of India had been initially wary of foreign banks and it took strong note of the foreign banks attempting to gain easy entry in India by using legislative loopholes such as that of prevalent takeover norms.[8] Either ways, history of CBM&As in banking sector is not new. State Bank of India (SBI) as part of the corporate restructuring strategy through CBM&As with Indonesian bank Indo Monex acquired majority stakes in the bank. Similarly, SBI has reaped substantial benefits by acquiring commercial banks from Mauritius and Kenya, i.e. Indian Ocean Bank and GIRO commercial bank respectively back in 2005.[9] Although there are a number of reasons that necessitate CBM&As in banking sector, yet for the present discussion two critical reasons are –

1. **Cyclical Reasons** – Indian economy at present is reeling and recovering under the severe impact of COVID-19. The pandemic is indefinite and the consequence on the economy, which indirectly falls on the banks is immeasurable. It is important for the government to have a strategy in place to mellow down the incidental impacts on the bank and hence chart out a plan for the near future.[10]

2. **Structural Reasons** – With the advancement in technology and introduction of newer methods of banking across the world, domestic banks need to deliver services at par with their international counterparts. Hence, in order to imbibe structural changes and ensure exponential growth, CBM&As are inevitable.[11]

Understanding the Present Legislation Governing CBM&As – Key Aspects That Need Consideration

CBM&As are essentially governed by Companies Act, 2013 and the operative provision is Section 234 that was notified on April 13, 2017. The section is supplemented by Rule 25 A that was included in the Companies (Compromises, Arrangements and Amalgamations) Rules 2017.[12] A year later in 2018, the Reserve Bank of India, passed the Foreign Exchange Management (Cross Border Merger) Regulations, 2018.[13] The law now permits both inbound and outbound CBM&A, which was not available under

[5]Grossman, Richard S. Unsettled Account: The Evolution of Banking in the Industrialized World since 1800. Princeton University Press, 2010. JSTOR, www.jstor.org/stable/j.ctt7sw7z. Accessed 29 July 2020.

[6]Meyer, Christine Benedichte, and Ellen Altenborg. "Incompatible Strategies in International Mergers: The Failed Merger between Telia and Telenor." Journal of International Business Studies, vol. 39, no. 3, 2008, pp. 508–525. JSTOR, www.jstor.org/stable/25483280. Accessed 29 July 2020.

[7]T. T. Ram Mohan. "Bank Consolidation: Issues and Evidence." Economic and Political Weekly, vol. 40, no. 12, 2005, pp. 1151–1161. JSTOR, www.jstor.org/stable/4416363. Accessed 29 July 2020.

[8]Arestis, Philip, and Ajit Singh. "Financial Globalisation and Crisis, Institutional Transformation and Equity." Cambridge Journal of Economics, vol. 34, no. 2, 2010, pp. 225–238. JSTOR, www.jstor.org/stable/24231916. Accessed 29 July 2020.

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[10]Advait Rao Palepu, Covid-19 Impact: Banks Shun Credit To Small, Medium Businesses, https://www.bloombergquint.com/economy-finance/covid-19-impact-banks-shun-credit-to-small-medium-businesses [Last assessed on 29 July, 2020]

[11]Morris, Theresa. "Bank Mergers under a Changing Regulatory Environment." Sociological Forum, vol. 19, no. 3, 2004, pp. 435–463. JSTOR, www.jstor.org/stable/4148819. Accessed 29 July 2020.

[12]Ravi Mehta, India Paves The Way For Cross-Border Mergers, https://www.bloombergquint.com/opinion/india-paves-the-way-for-cross-border-mergers, [Last assessed on 29 July, 2020]

[13]Rishabh Shroff & Manu Varghese, India finally notifies Cross Border Merger Regulations, https://corporate.cyrilamarchandblogs.com/2018/04/india-finally-notifies-cross-border-merger-regulations/, [Last assessed on 29 July, 2020]

the erstwhile Companies Act, 1956.[14] Enactment and enforcement of these provisions has been applauded by the stakeholders without going into the merits and demerits of the provisions. On the face of it, legislatively, the banking sector in India under the provisions mentioned above will have to face the following regulatory policy issues while going ahead with CBM&A transactions -

1. **Jurisdictional issues** – CBM&A owing to its nature of touching upon different jurisdictions comes under the ambit of private international law. Private international law lacks an authoritative body of rules and an oversight body to decide as to the correct application of law and jurisdiction. Therefore, it is important that the parties involved in a CBM&A deal specifically include the jurisdictional and choice of law clause in their agreement to avoid unnecessary complications at a later stage.[15] Though Section 234 of the Companies Act, 2013 lays down the law but the law as of now is silent about how to deal with situations where the parties submit to the jurisdiction of a foreign court or agree to be governed by a specific foreign law.

2. **Harmonization of law** - CBM&A in banking sector involves banks from different countries and therefore laws of different countries need to harmonised with the Indian laws.[16] The laws ideally encompass a number of aspects such as banking contracts, intellectual property law, consumer protection, competition law, etc. Additionally, the capital requirements to sanction the deals vary significantly in different countries. Civil and commercial legislations as existing in different countries need to be brought in consonance with each other, since no oversight body at international level exists to ensure the conclusion of the deal effectively.[17] At present, only one important legislation exists which is considered to have harmonised and streamlined the law at international level with respect to CBM&A i.e. The European Communities (Cross Border Mergers) Regulations 2008, regulating 27 European countries. The law can be used as a benchmark by India as well to legislate keeping in view the corresponding laws in other jurisdictions.

3. **Flawed dispute resolution process** – Though there exists an independent Regulator and a comprehensive dispute resolution process for the banking sector, yet a number of other options under the Indian laws also exist for the disputing parties to get justice.[18] One such option is courts of law and when the parties approach the courts, the matters get embroiled for an indefinite period and the parties shelve the CBM&A deal to avoid losses. Though alternate dispute resolution mechanisms (ADR) such as arbitration, conciliation and mediation have also been developed, yet when it comes to CBM&A, the jurisdictional issues make the process redundant.[19]

4. **Protectionist framework** – The present CBM&A framework is considered to be protectionist for the differential treatment meted out to inbound and outbound CBM&As.[20] The provisions governing the inbound CBM&As are lenient as compared to the outbound CBM&As. Clearly, the Indian law makers by enforcing different set of laws for inbound and outbound CBM&As

[14]Bhumesh Verma, Key changes brought about by and implications of Cross-Border Merger Regulations, 2018, https://www.scconline.com/blog/post/2018/07/11/key-changes-brought-about-by-and-implications-of-cross-border-merger-regulations-2018/#:~:text=Section%20234%20of%20the%20CA,pertaining%20to%20cross%2Dborder%20mergers. [Last assessed on 29 July, 2020]

[15]"The Vth NLSIR Symposium on 'Corporate Mergers and Acquisitions in India' – A Transcription." National Law School of India Review, vol. 24, no. 2, 2013, pp. 89–109. JSTOR, www.jstor.org/stable/44283764. Accessed 29 July 2020.

[16]Abbott, Kenneth W., and Duncan Snidal. "Hard and Soft Law in International Governance." International Organization, vol. 54, no. 3, 2000, pp. 421–456. JSTOR, www.jstor.org/stable/2601340. Accessed 29 July 2020.

[17]Borg-Barthet, Justin. "FREE AT LAST? CHOICE OF CORPORATE LAW IN THE EU FOLLOWING THE JUDGMENT IN 'VALE.'" The International and Comparative Law Quarterly, vol. 62, no. 2, 2013, pp. 503–512. JSTOR, www.jstor.org/stable/43301572. Accessed 29 July 2020.

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[19]Wilson, Magdalene Kasyoka, and Alain Pholo Bala. "Regional Integration and Cross-Border Mergers and Acquisitions in Africa." Journal of Economic Integration, vol. 34, no. 1, 2019, pp. 109–132. JSTOR, www.jstor.org/stable/26588466. Accessed 29 July 2020.

[20]Baldwin, Richard E., et al. "Regulatory Protectionism, Developing Nations, and a Two-Tier World Trade System [with Comments and Discussion]." Brookings Trade Forum, 2000, pp. 237–293. JSTOR, www.jstor.org/stable/25063151. Accessed 29 July 2020.

have infringed upon the internationally accepted principle of reciprocity.[21] Though many contend that the move was meant to safeguard the domestic companies, yet by imposing harsher compliance norms on the foreign companies, the law makers have made CBM&As a less viable option.

5. **Restrictive scope of CBM&A** – According to Section 234, CBM&A with a foreign entity is possible only when such a foreign company –

5.1. Is from a country where the securities market regulator has ratified International Organisation of Securities Commission's Multilateral Memorandum of Understanding (MoU); or,

5.2. Securities market regulator has an MoU with Securities and Exchange Board of India (SEBI); or,

5.3. The Central Bank of the foreign country needs to be a member of Bank for International Settlements.

Unfortunately, the law makers failed to note that by applying above mentioned three points, many countries will be left out since they do not fall under any of the above-mentioned categories. Hence, banks from such countries would not be able to go ahead with CBM&A deals with the Indian banks.

6. **Requirement of valuation** – According to the present law, in case of an outbound CBM&A, the foreign entity needs to get valued as per the international standards. However, the Companies Act, 2013 or the Rules and Regulations are silent as to what exactly are the international standards. Evidently, there exists this grey area which needs to be resolved taking into consideration the interest of both Indian and foreign banks.

7. **Differential tax treatment –** If the CBM&A transaction is inbound, under Section 47(vi) of the Income Tax Act, 1961, such a transaction is completely tax exempted if the resultant bank is established in India. If, however, the resultant bank is established in a foreign jurisdiction, the deal is not given the benefit of tax exemption.

8. **Demerger provisions missing –** Under the present Section 234 of Companies Act, 2013, demergers have not been permitted for CBM&A which is regressive especially since demerging is an important tool for getting rid of the non-performing assets from their core business. Thus, the absence of provisions for demergers is forcing the banks to bear the burden of non-performing assets that continue to pull the banks down.[22]

Strengthening the Banking Sector - The Way Forward

The banking sector in India has metamorphosized during the last few decades and has benefitted the economy enormously. There are times when the banks in order to infuse growth take recourse to restructuring strategies such as CBM&As with their international counterparts. Strengthening of laws, both banking and company laws, helps in bringing more clarity to the functioning of banks. Out of the many important legislations enacted in this direction, the quintessential Section 234 of the Companies Act, 2013 and subsequent rules and regulations which enabled CBM&As in India have played an important role. The erstwhile Companies Act, 1956 did not deal with both inbound and outbound CBM&As and hence the need for the present law arose. Though the inclusion of the new provisions is a welcome move, yet the law is fraught with difficulties that would make the entire process difficult for the domestic and international banks. The present research paper identifies eight aspects of the legislation that will make it difficult for the CBM&A to be implemented cohesively to benefit the banks in the longer run. Thus, in nutshell it can be concluded that the need of the hour is that the conflicting aspects of the law are amended and harmonized with the international law because the CBM&A transactions involve foreign banks incorporated under a completely different legal system.

[21]Sykes, Alan O. "Regulatory Protectionism and the Law of International Trade." The University of Chicago Law Review, vol. 66, no. 1, 1999, pp. 1–46. JSTOR, www.jstor.org/stable/1600385. Accessed 29 July 2020.

[22]Rupert Bruce, International Herald Tribune, 'Demerging' to Avoid Demise. . ., https://www.nytimes.com/1993/01/30/your-money/IHT-demerging-to-avoid-demise-.html, [Last assessed on 29 July, 2020]

Debt Traps - A Risk Participative Approach for Reduction of Default Risk Using Game Theory

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Abstract

Collaboration modeled as risk participation tends to reduce default risk and measures achievement within volatility parameters. Strategic partnership stimulates stakeholders to ensure regular repayment and build capability to create sustainable livelihoods for borrowers and profitable credit portfolios for lenders. This study attempts to create a working model of knowledge and education delivery system (Dr. Amartya Sen's "Capability Maturity Model") which not only analyzes credit default from a borrower's perspective, but also seeks to mitigate a larger evil "SOCIAL EXCLUSION" (associated with loan default) that causes disequilibrium in poor tribal lives (Women). The model capitalizes associated variables using an analytical method to reduce default risks and applies the same to arrive at equilibrium as per NASH's Game Theoretic Approach. Using numerical analysis, the model seeks to identify risk dependency reductions in tribal Microfinance.

Key Words: Poverty, Game Theory, Capability Approach, Numerical Analysis, NRLM, Tribal Women, Risk Participation

I. INTRODUCTION

Default risk in non-collateralized credit extended by Government projects, specifically to tribal women oriented Self Help Group(s) (SHG's) is the chosen paradigm as the merits of credit programs (poverty alleviation) are overshadowed by the perils of default. These projects involve tribal women absorbing high cost loans for enabling activity based livelihoods. When the established activity fails, loan default can be attributed to various factors, viz., borrower's socio economic condition, low level of literacy, limited knowledge of forward market linkages and mis-management of the chosen activity (Demont, 2016) and (Thorat, 2017). This study asserts that an educational program or knowledge sharing is pivotal between the stakeholders about a plethora of microeconomic factors that are factored prior to extension of the loan.

This knowledge gap decreases the potential to generate income and the loan extended is exposed to systemic risk and loan default acts as a prime deterrent for future or additional credit delivery. Subsequent to default, the major "*outcome*" that this study chooses to highlight is the plight of these poor tribal women, who are burdened with high cost debt with "*nil*" income, subjected to recovery mechanisms from the lender, and social exclusion from their regular fabric of life. The adverse impact of this *"outcome"* can be eased by implementing Dr. Amartya Sen's "Capability Building Model" (Altman, 2012) in-terms of a systematic delivery mechanism of a tailor-made educational program (prior to loan extension) comprising of themes from social arrangements, managing money (savings & loan servicing), choosing a vocation, managing business in villages, networking for forward linkages, taxonomy methods, balanced score card method of review, and managing both family and business as a primary set of factors (Jean-Marie Baland, 2017).

Dr. Sen's approach to evaluate poverty as an inability to achieve wellbeing due to lack of socio-economic

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opportunity is adopted by this study. "*Capability Approach*" can assist in the development of tribal women. This *"Capacity Building"* approach advocates initiatives to provide participants (tribal women) with an opportunity to attain a better bargaining position to negotiate for better terms with lenders. (Goldmann, 2016).

Enumeration of the capabilities of the poor and collation of information can improve results ahead of other social indicators and this in turn can crystallize the key variables which can build capacity of SHG women. Requirements (*as adopted by this study*) by all individuals according to Dr. Sen are: Access to knowledge, freedom to choose, access to economic support projects and civic opportunities, rational and transparent distribution of resources and presence of tangible safety-nets. This study focuses on ensuring the realization of some of Sen's factors and enables the capability building of the poor to avail favorable economic facilities like loans (non-collateralized), which can improve their financial position and enable a sustainable livelihood (Thierry Demals, 2014). The manuscript is presented as: S-II presents the quantitative aspect of the poverty paradigm; S-III introduces game theory concepts with some background and description. Section-IV describes an analytical model which introduces the interplay of determined factors for risk participative credit lending. S-V presents the application of numerical methods on the output of the analytical model of S-IV. Section-VI concludes with a few observations on socio-economic impact and relationally of Dr. Sen's "*Capability*" development of tribal women oriented SHG's.

II. POVERTY

a. Multidimensionality

In India, poverty has multiple dimensions; tribal women face socio economic challenges that sometimes uproot their livelihoods. The government has initiated several institutions to help fight poverty since independence. The heavyweight of which is the program, National Rural Livelihoods Mission (NRLM). NRLM, India's premier institution of the poor has managed to significantly reduce poverty and provide education, income, and employment for the needy, but in certain worst case scenarios (tribal women); they are pushed into abject poverty and debt traps. The Indian Planning Commission for 2016-17, has allocated for NRLM a 218 per cent allotment increase from the Financial Budget Allocation (FBA) for poverty alleviation to Rs. 4,500 Cr. For past Five years, NRLM has had great success in South India in terms of overall credit needs met and percent of families who have been reqistered as SHGs under the NRLM (India, 2017).

Table 1: Top THREE States in Successful Women SHG groups as a percentage

Indian State	Families who's credit needs are met (% of total)	Families registered under NRLM (% of total)
Kerala	25%	92%
Tamil Nadu	36%	81%
Andhra Pradesh	83%	90%

Source: https://data.gov.in/catelog/

As of 2017, Andhra Pradesh has 5.9 lakh SHGs in 32,000 village organizations have built a strong framework. They enhance the livelihood and create employment. About 800 administration units have also been set up as "*Mahila Mandal Samakhyas*" (MMS) to head activities brought in by NRLM. This robust network has helped Andhra Pradesh to achieve 96 per cent of the covenants of the Millennium Development Goals. The total of loans given to SHGs in AP is Rs 14,000 Cr, and have registered a repayment rate of 88 per cent. Out of this the Non-Performing Assets (NPA) of tribal people is at Rs. 508 Cr.

Table 2: SHG Non Performing Assets for Two States (Andhra & Telangana) as on 31-Mar-2019

Regional	31/03/2019		NPA (4 &		IRAC -2		IRAC - 3		Total	
	Accs	Amt	Accs	Amt	Accs	Amt	Accs	Amt	Accs	Amt
AshokNagar (TS)	312	238.70	399	396.86	1068	2751.40	419	901.70	1886	4049.96
Bhadrachalam (TS)	315	455.76	715	1450.22	2806	6893.12	1072	2535.18	4593	10878.52
Khammam (TS)	697	543.36	888	834.59	1900	5338.88	909	2499.75	3697	8673.22
Mahaboobnagar (TS)	443	384.43	623	634.89	1258	2559.53	903	1521.26	2784	4715.68
Nalgonda (TS)	312	328.17	447	533.24	1534	4342.58	867	1990.89	2848	6866.71
Parvathipuram	75	80.66	102	183.67	1283	2453.74	262	473.92	1647	3111.33
Sangareddy (TS)	467	437.53	704	833.22	1250	3227.27	639	1417.95	2593	5478.44
Srikakulam	94	91.73	129	194.51	1710	4805.63	429	1016.56	2268	6016.70
Visakhapatnam	182	123.48	324	353.32	1807	4127.18	777	1429.95	2908	5910.45
Vizayanagaram	81	85.81	88	94.69	1529	4340.92	525	1004.86	2142	5440.47
Warangal (TS)	342	318.24	521	867.69	1992	5571.71	917	2340.40	3430	8779.80
	3320	3087.87	4940	6376.90	18137	46411.96	7719	17132.42	30796	69921.28

* Each Account Comprises of 15 Married Women aged 18 to 60

Source: Author Compiled

On the other side of this encouraging activity, SHG participants (Poor Tribal Women) who have been sanctioned with a loan of Rs. 75,000/- (financial intervention) each to facilitate the initiation of their journey out of poverty. The intervention is supposed to yield a profitable venture of sustainable livelihood. In the below Table 2, break-up of NPA portfolio, the summation column, it can be interpreted that, prior to absorbing a loan, 461,940 women were in poverty without any debt.

However, these women are now debt ridden and would be socially excluded too, owing to the recovery mechanism which would be initiated by the Banks, as the money forms part of public deposits. To curb this, NRLM needs to link the functioning of banks and SHGs to share risk and ensure that banks receive the repayment and tribal SHGs, especially women create income, repay their loans, and escape poverty.

b. Importance of tribal poverty

Given the socio-economic context of tribal SHG accounts, where an SHG group's (10-members) monthly income is Rs. 10,720/- (@35.76 per head / per day), is made to absorb a loan of Rs. 5 Lakhs with a monthly payment of Rs. 15,351/- per month. Many times, this income mismatch renders the account as an NPA apart from limited information dissemination, inadequate training programs, impact of the multidimensionality of poverty, lower opportunities, landlessness, group marginalization, low access to safety-nets and weak institutional support.

The Rs. 508.095 Crore NPA is a consolidation of 1,328 tribal SHG groups comprising of 14,692 poor tribal women borrowers who have been subjected to social exclusion and alleviation measures are resulting in debt traps, which this study seeks to highlight and possibly mitigate.

c. Identification of Equilibria

In a business context, collaborations occur between firms for sharing costs, investments in R&D and possible product development. This addresses increasing competition in lieu of globalization. Besides cost, collaboration also includes sharing of knowledge, infrastructure, and facilities. As an assimilation of these variables, the study proposes a single key success factor i.e., risk participation which is the aspect of default risk shared by the borrower and lender.

This constant if occurs with the borrower (failure in terms of the business established) gets transferred to the lender (borrower(s) failure leading to loan default). Over the last 3 decades, Game Theory is used to investigate the conflicts and parameters of risk participation that are encountered in the market place. This study adopts an analytical method that can profit both the parties and identify the conditions required by them in order to do so. The impact of risk participation is more than just about the profit earned by the parties (Christine Altenbuchner, 2017).

It includes factors which can't be quantifiably measured like level of knowledge sharing, trust, innovation, etc. An analytical method will structure these factors to factor into risk participation. Firstly, the model can only be implemented by negotiation to attain equilibrium. Secondly, it describes how lenders and SHG's can work together by joining knowledge; technology, trust, and coordination assurance which can ameliorate overall process effectiveness. Game theory can address challenges of risk participation inherent to non-collateralized lending where the loan is guaranteed by group (tribal women) performance in an unstable market with a high propensity for default risk. The following section explains game theory and its implementation in risk participation. The next introduces an analytical method for reducing risk dependency.

III. GAME THEORY

a. Background

Group formation and collaboration are common aspects identified as the factors of a problem in game theory (John von Neumann, 1944). The postulations of Game theory and its integration with numerical analysis were first introduced by von Neumann and Morgenstern (Talay, 2009). It applies axioms and principals of mathematics into fields like economics, politics, management, and group behavior (Velupillai, 2009). (Genserik Reniers, 2009) created a model using game theory to describe the formation, managing and completion of strategic ventures. (Ela Ozkan-

Canbolat, 2016) used interdisciplinary approach of game theory, strategic venture, and institutional learning to record the performance and life time of collaboration in a dynamic market.

Several literatures have been published on how collaborations occur within the "*institutions of the poor*" so created for the purpose of alleviating poverty. These studies brought forth the model for lender-borrower business relationships with non-cooperative and cooperative games (M. El Moufid, 2017), customer-retailer ventures with game theory. These have been used as a basis for risk dependency research studies on partnerships and analyses cost sharing and pricing; done in plenty. But there has been limited literature on game theory applications for participation between banks and SHGs. (Robert F Nau, 1990) modelled a relationship between engineers using principles of game theory to help in decision making and understand how it affected the competency of their designs and freedom to operate. (Rahim Khanizad, 2017) modelled the behavior of a party that's opportunistic within a prisoner's dilemma. (Christoph Adami, 2016) also used an approach similar to the prisoner's dilemma to analyze the party's collaboration which proved that collaboration reduces as reputation increases.

(Fanelli, 2017) used game theory to find whether two parties should or shouldn't collaborate and to what extent they should collaborate and this was done with the use of prisoner's dilemma and other game theoretic strategies like social punishment. (Bryan L. Mesmer, 2016) defined three collaborative models for revenue, investment, and innovation sharing along with equilibrium points using Nash bargaining game. (Nash, 2002) explored extreme programming in prisoner's dilemma framework that can be applied to the one-dimension approach applied in this study.

(Talay, 2009) rendered applications for application of game theory on strategic partnerships to observe the amount of control of resources due to collaboration. Equilibrium in partnerships has been analyzed and modelled using non cooperative games. (Rahim Khanizad, 2017) also studied the effect the number of networks competing has over the product development, technological alternatives, and market elasticity to investments in firms partnering using game theory principles. (Fanelli, 2017) in her scholarly work on interest rate modelling, applied game theory methodology to identify behaviors in horizontal or vertical function alliances, this has been unequivocally applied to this study.

(John von Neumann, 1944) looked into collaborations for knowledge creation purpose and identify the resource conditions needed to continue to maintain collaboration and investigated the effect of spillover of knowledge in similar framework, the theme which this study is heavily dependent on.

b. Risk Participation Process

Risk participation is different from collaborations it is focused on the propensity for banks to give out loans and receive the repayment and avoids defaulters. (Badar Alam Iqbal, 2017) suggest that the stability of a banking relationship will depend on less obvious issues like communication, knowledge sharing, and trust and goal orientation. These four dimensions are used to examine the collaboration process: *Trust, Coordination, Learning & Innovation*. Similarly, in the context of sharing risk between banks and borrower, to create the analytical model, four dimensions will be determined which affect the risk participative venture's success.

A relationship between the lender (banks) and borrowers (SHG-tribal women) is firstly based on the capacity of the SHG's member to repay. The member may engage in business or manufacturing to earn profit and repay the loan (Jean Drèze, 2017). But the person must be of Capacity intention to do so. When the tribal women members engage in business they must ensure that it is profitable enough for them to make money and to also repay the loan. The bank and NRLM can help educate the poor of how to perform business in a sustainable manner. SHG members derived as borrower(s) who are made capable of creating income will be more capacitated to pay the loans. This can increase the possibility of successfully implementing a ready to lend loan portfolio which leads to a productive long term relation between banks and SHGs (Icíar García-Pérez, 2017). **Capacity to repay** is a factor of risk participation success. For each loan cycle, an approach can be developed

which begins with exchange of vision, agreement associated with negotiations (Jean-Marie Baland, 2017). **Margin** determination from the lender's side is a vital factor for risk sharing. The borrower (SHG) will put their own funds (margin or contribution) up to a certain extent and the rest of the loan requirement is extended by the lender bank (Wu, 2017). This portion of borrower placing their own funds is the margin requirement. The smaller margin requirement would result in greater interest/ demand by the borrower to avail credit through a loan.

The extent of margin agreed upon by the lender and borrower is a factor in determining the risk participation. In order to increase the borrower's capacity to repay, the goods and services offered must be able to sell at highest possible price (Karla Hoff, 2016).

Hence the lender bank and other institutions of the poor must inform the borrowers SHGs of the location of the closest designated *village shandy*. It is where all the produce of all the nearby SHGs will be gathered and traded for more handsome prices.

Thus increasing their access to market and profits. When this happens, their capacity to pay also increases (Goodman, 2017). Thus the **Forward integration** performed by banks and NRLM is a key factor in risk sharing with SHG's Demand and supply are macroeconomic variable from both borrower and lender.

These variables dynamically transport from the market yard to the interest income of the lender. Other macroeconomic variables are assumed to be non-interfering and the variable demand and supply are constant across each credit cycle.

The demand forms the market for the SHGs goods. This will determine whether the SHG has Capacity to take a loan. The supply of credit by the bank must be made available and informed to the SHGs. Demand and supply together are the **Market conditions** which is a key factor in determining the extent of risk participation by the bank and SHG.

IV. MATHEMATICAL METHODS

Risk participation is designed as a function of profit and both the lender and borrower(s) must decide on their requirement of policy, planned activities with the loan, capacity to return the money. The model includes the four dimensions of the risk participation: Capacity to repay, Margin requirement, Market conditions and Forward integration aspects.

Only two parties are considered, Lender (l) and Borrower (b). Both these constructs and variables are correlated in the establishment of a model.

Axiom 1: Risk participation adds value and reduces risk of default in non-collateralized financial lending for livelihood enablement

Axiom 2: Risk participation results in a collaborative cost due to efforts of coordination between lender and borrower (tribal women). When development is realized, costs are incurred although marginally.

The derived model is a summation of four stochastic models drawn from (Elmar Lukas, 2016), (George Cairns, 2016), (Jie Lu, 2016) and (John Duffy, 2016). These four established empirical methods, are fused and synergized to result in desired dimensions of the risk participative approach.

Initially, a risk participation quantum A is identified, and when $A = 0$ it would be nil risk participation and $A = 1$ would be 100% risk participation. Both participants have a direct proportional relation in that, revenue yields as profit and income improve for the borrower (from their business activity) gets translated to lender in the same quantum increase as in the case for the borrower. i.e., the more intense the participation function , the more the increase and vice-versa.

It is expected that the lenders investment will increase as more effort is put in by borrowers to repay the loan.

Similarly, it is also estimated that the borrower's incremental income shall be higher as more cohesiveness leads to a consolidation of the equilibrium resulting in development.

When the lender coupled with the borrower(s) participate in risk, they both are in a position to lose money through Non Performing Asset's and incapacity to repay leading to a debt trap respectively. *"Capacity to repay"* constructs are derived from the analytical method presented by (Jie Lu, 2016). Total Capacity to pay is calculated as the total investment incurred by the lender and the borrower to make income to repay loan, it defined as follows:

$$y = W^l + W^b + A[\lambda(W^l, \Phi)W^{l^u lb} + \lambda(W^b, \Phi)W^{b^u bl} \quad ..(1)$$

Capacity to repay is modelled as a function determining the outcome as having a quotient of profit as an output of the borrower's business. represented by the Nash Vector (knowledge). W^l is a function of the lender which encourages the borrower to repay the loan and W^b is the Capacity to repay function within the accepted tenor. λ is a function of W^l as well as Φ, where Φ is the factor complimentary to making a borrower improve the Capacity to repay function. $^u bl$ represents the margin requirements set by the bank. A borrower is more Capacity to repay the loan when the margin requirement is high. This is because when the borrower puts in his own money, the risk participation increase alongside the bank. A's Margin requirement increases, so does the Capacity to repay. Past research (John Duffy, 2016) has shown that a positive correlation between trust and information sharing is vital for robust risk sharing, and business continuity of both lender and borrower in the livelihoods paradigm. Hence, in risk sharing activities, the study assumes that Capacity to repay diminishes as margin requirements decreases. Also, margins are not reciprocal and each bank personally assigns a level of margin to each SHG. Consequently,

$$\lambda(W^l, \Phi)W^{l^u lb} + \lambda(W^b, \Phi)W^{b^u bl} \quad \ldots (2)$$

Capacity to pay that occurs from the risk participation. It establishes that, as A improves over time, it being a market determinant, higher the A the borrower will seek for higher loan quantum and the lender will be flexible as the sharing of risk "A" can be quantified over multiple cycles of lending and repayment (Jean-Etienne de Bettignies, 2009). As A improves, it establishes that the borrower and lender are successful in terms of knowledge sharing and capacity building of the borrower(s) i.e., poor tribal women. Income for both lender and borrower from the informed partnership can be derived in the form of risk sharing represented as below:

$$P^l = \Pi * (v + zya) \quad \ldots (3)$$

$$-(\sum W^l + (1-k)s(A) + \sum t^l(y)) \quad \ldots (4)$$

$$P^b = (1-\Pi) * (v + zya) \quad \ldots (5)$$

$$-(\sum W^b + kj(A) + \sum_i t^b(y)) \quad \ldots (6)$$

Revenue from the risk participation is derived from (Yongjun Li, 2016). The revenue is the total sum of the product value plus the value created through risk sharing when $v = 0$, the aspect of finance for a new livelihood venture (activity) and when, $v > 0$ it can be assimilated that it is successful (Yongjun Li, 2016).

z is an Nash Vector (Value Creation) and $z*y$ can be identified as income created by operating at business and management of demand and supply for credit. "a" represents lower understanding of market dynamics and the risk participation be modelled as

$$z * y * a \quad \ldots (7)$$

Both participants share the profit variable Π as it gets translated from the borrower to the lender. At real-time, although risk is shared, the lender gets a lesser portion of Π. And the borrower's new venture for livelihood enablement gets a fraction (1-**Π**). The model assumes that partners share all developmental costs. Risk Participation is the same for both parties and represents the forward integration dimension as a transferable process.

Therefore j(**A**) is a convex function representing risk participation which is shared by both lender and borrower. Default component of quantum risk shared by lender and borrower are marked as

$$k \,\&\, 1-k \quad \ldots (8)$$

Risk Participation post transfer of profit is derived as a convex function.

$$t^c(y^c).\frac{\gamma t^c(y^c)}{\gamma^c} < 0 \text{ and } \frac{\gamma^2 t^c(y^c)}{\gamma^2 y^c} < 0.t^c(0) = C_0 < \infty$$

$$\text{and } t^c(\infty) = C_N \quad \ldots (9)$$

As the derived functions are yielding only factors that are above the NULL (i.e., profit), it can be proved that knowledge sharing and forward linkage enablement between lender and borrower will improve risk participation and the Capacity to repay, which can achieve sustainable livelihood enablement without the risk of Social Exclusion.

V. NUMERICAL ANALYSIS

For the analysis, the factor "Capacity to repay" is taken, as this factor drives the borrower to ensure that the chosen activity would be profitable and these profits can be shared with the lender as a timely repayment of the equated monthly installment. Hence is one-dimensional. The Value at Risk in the participation event is derived to be $j(\mathbf{A}) = M{*}\mathrm{A}^2$. Absorption capacity of borrower is adapted from (Lucas, 2016) and it is

$$\gamma(W,\Phi) = W * \Phi + (1-\Phi) \quad \text{...... (10)}$$

Total Capacity to pay, is the sum of Capacity to pay before lending plus Capacity to pay after risk participation efforts, can be expressed as follows:

$$y = W^l + W^b + \mathrm{A}[(W^l\Phi+1-\Phi)W^{b''bl} + (W^b\Phi+1-\Phi)W^{l''lb}] \quad \text{..(11)}$$

For simplification purposes, we set margin requirement as

$$y = [(W^l\Phi+1-\Phi)W^{b''bl} + (W^b\Phi+1-\Phi)W^{l''lb}] \quad \text{....(12)}$$

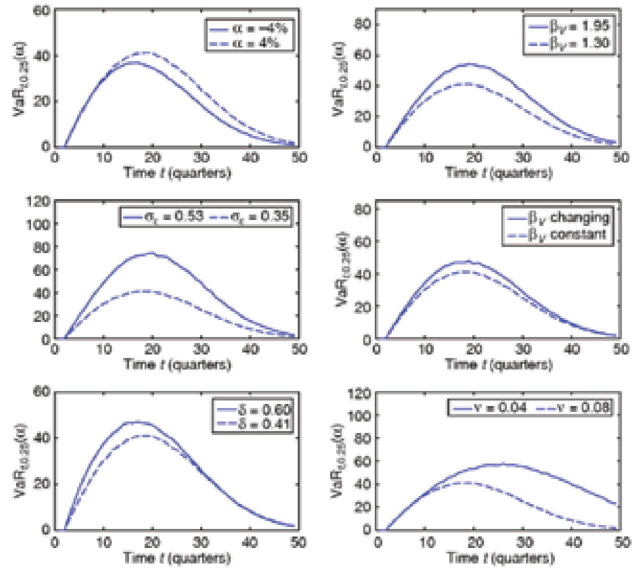
Risk participation cost is expressed as

$$(t^c - e^c * y) \quad \text{...... (13)}$$

That the lenders risk sharing cost decreases as margin requirements increases. As represented in Figure 1 presented below.

Figure 1: Numerical Analysis of Variables deployed for this study compared against time in intervals of 3 Months (A Quarter) and the associated Variance.

Expected value of variable (random) "a" is $\frac{a+1}{2}$



Source: Author Compiled from Matlab 9.1 (R2016b) at NIT, Surathkal on 12-Aug-2019

and is assumed to be distributed uniformly and continuously over the entire cycle of the loan (i.e., 36 months). The derived profit of both participants can be:

$$\mathrm{P}^l = \Pi(v + z(\frac{a+1}{2})y) - (W^l + (1-k)M\mathrm{A}^2 + (t^l - e^l y\mathrm{A})) \quad \text{...(14)}$$

$$\mathrm{P}^b = (1-\Pi)(v + z(\frac{a+1}{2})y) - (W^b + kM\mathrm{A}^2 + (t^b - e^b y\mathrm{A})) \quad \text{...(15)}$$

For this sectional analysis as asserted, the study considers the same axiom that the risk sharing is a constant function and the lender needs to ensure that borrowers book a decent profit from their activity, which gets translated into the interest payment for the lender.

Hence the aspect of risk participation is a constant and equal. i.e. $e^b = e^l = e$ and. $t^b = t^l = t$ Moreover, we consider a new-revenue project, therefore $v = 0$.

Both party's investments are equal and $W^b = W^l = W$. Capacity to pay and repay of both parties is at its maxima, $u = 1$. Factors complimentary to make a

borrower Capacity to pay are assumed to be $\Phi = 0.5$, which results in $y = W(W+1)$.

Both z and $\frac{a+1}{2}$ are now similar and have a shared value of unity, hence

$$y = z\frac{a+1}{2} = 1 \quad (16)$$

It is assumed that the lender makes the decision on the risk participation level. Given that the lender initiates the risk sharing mechanism, it is uniform to assume that, the greater quantum of knowledge transferred and business opportunities for booking profits within the dynamic market are shared with the borrower in the entire cycle of the loan, the aspect of "Capacity to Repay" gets reinforced with the borrower.

This method of "Capacity Building" in the chosen activity at real-time directly leads to the optimal profits of the lender and the calculation can be.

$$A^* = \frac{W(W+1)(e+\Pi)}{2M(1-k)} \quad (17)$$

The risk participation quantum A^* is now computed into the possibility of booking a profit from the activity chosen by the borrower. To enable estimation and calculation of the level of profit the borrower can book from operations in the chosen activity (business), the factor iteration which as defined in (8) can be represented as the borrower's profit, that does not get translated to the lender in terms of the equated monthly installment. The propensity to book a profit can be represented by

$$k^* = \frac{e+(2-3\Pi)}{3e+(2-\Pi)} \quad (18)$$

It is obvious that k^* is feasible if and only if $\text{II} < \frac{2}{3}$.

The desired outcome for participating in the risk function when factored into the profit/income level for both the participants (lender and borrower).

The achieved profit translated into the lender "II" is an optimal Game Theoretic Solution (Nash Equilibrium)

$$\frac{\max \pi_B}{0 \le \Pi \le 1} = \pi_l \pi_b \quad (19)$$

The study sets $W = \frac{1}{10} = 10$ and $t = 100e = 1$ as the highest profit from the risk participative approach as per NASH and when $\text{II}^* = 0.5$.

Then the yield is $k^* = 0.341$ and $A^* = 0.4198$.

These results, assert that, given the parameters of the establishment of a business involving the extension of non-collateralized loans, it is pivotal that the repayment is regular and profit translation enables risk participation, channels efforts to educate, handhold, and by ensuring timely training mechanism, as per the numerical results when systematic delivery of the knowledge sharing variables is consistent, the borrowers make a third of profit after the repayment of the loan principle to the lenders.

VI. CONCLUSION

The study integrates multiple dimensions of the risk participation process and derives an analytical method that evidenced desired results of profit sharing by lenders and borrowers (tribal women). The derived method provides an explanation on how the educational dimension works in the risk participation approach. The method visualizes the impact of risk participation on profit and expenditure in contrast to a predicament without risk participation between the lender and borrower.

This tested econometric model can help in establishing that, improving the capabilities required of those considered to be in the lower strata of the socio-economic chain, as postulated by Dr. Amartya Sen. All the Sen factors, otherwise components of Risk participation and its negotiation brings banks or lenders within the reach of attaining equilibrium (NASH) with borrowers either concentrated in one specific area or on a dispersed set across multiple geographies.

Enablement of this model and by structuring suitable educational and training programs involving both the stakeholders (Borrowers & Lenders) people in India will be deemed as capable (either Rural or Tribal) to interact with economic facilities and improve their bargaining position. A risk participative model may very well bring forward development in the country to expand capabilities of the poor.

Further studies can be extended to multiple dimensions with co-linearity determination approach and yield measurement. Investments to improve capacity and Capacity to repay, forward integration

expenditure, and tailor-made training programs are going to change the output against expected losses. This method will be scalable to all sets of lenders and borrowers. These cases must be looked into to investigate if the model that has been developed matches the requirements of real life risk participative activities.

The need for segregation of the borrowers set, comprising of uniformed poverty stricken population who are made to absorb millions of debt (high cost) has an impact on their very livelihood and as can be linearly forecasted, the propensity to make a loss and default does not only have an economic effect, but also pushes the already poverty stricken population into abject poverty and with huge debts with no means of repayment. This loss translates to the lender who also has to suffer, and this situation can be improved, by raising the standards of the borrower (Capability – Capacity Building). This need is emphasized by the Rs. 508.095 Crore NPA distributed among 1,328 tribal SHG groups comprising of 14,692 poor tribal women borrowers in Andhra Pradesh who can be alleviated from social exclusion.

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Micro Research: 2019-2020
II Prize

Alternative Channels for Household Savings
Mobilizing Micro-savings

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Abstract

In a developing country such as India, savings have a strong linkage to the levels of investment and long-term economic growth at the macro level. In particular, household savings represent the main domestic source of funds to finance capital investment for the government. They also act as a device to avoid over-indebtedness and escape poverty traps. At the community level, households can attain financial resilience by prudently managing their savings. Today, households, especially those in urban areas, have the option to deposit their savings with secure formal channels eg. Banks, Post Offices etc. However, despite several Government-led financial inclusion drives, the rural populace, and the poor in particular, still continue to largely remain outside the formal financial system. Since poor clientele are associated with high volume-small deposits, they have been long considered un-bankable by the current institutional banking models. The inability of the formal sector channels to cater to the unique needs of the poor in the remote and disadvantaged areas further compounds the difficulties faced by the millions of such poor, who are already inconvenienced by erratic income, low wages and seasonal unemployment. In order to address the financial requirements of the rural poor, the paper builds upon the Self-Help Group (SHG) model of savings, as it is best suited to serve the target group and is flexible enough to accommodate to local requirements. The paper proposes the introduction of an 'Associate Member' in the SHG group who could capitalize on the savings mechanism already in place within the model. The additional savings of the Associate Members would augment the corpus for intra-group lending leading to cross-subsidisation of loans while also enabling the group to access higher institutional credit. At the same time, the Associate Member would benefit by way of earning a fixed income on their micro-savings. The differentiated membership shall not only cater to the unmet needs of a convenient and accessible savings option for the community members, but also contribute to greater group cohesion in the long-term which could itself be leveraged for more effective implementation of government programmes.

BACKGROUND

Indian households have traditionally been reputed for their saving habits, and household savings have been the largest component of the savings rate of

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the country. It has been observed that overall, only 50.6% households reported savings (NABARD, 2017), out of which 66.3% households had only one saver member. This could partly be attributed to lack of convenient saving mechanisms and attractive opportunities. While the urban population is largely banked and has access to formal financial channels and even the rural areas exhibit a high degree of financial inclusion, in part due to bank nationalization, branch expansion, SHG/JLG formation, government initiatives etc, there still remains a section i.e. the rural poor community which is unable to park their savings with any of the available channels. Although they remain mostly financially excluded, they have been unable to make use of formal services even in their supply, as their savings are infrequent and irregular, and depositing it with the formal channels involves high costs eg. opportunity cost of lost productive time, transportation cost etc, and thus is not a feasible option. Therefore, they are left with no other choice except to micro-save.

Around the world, rural poor households save for various purposes and in different forms. They tend to compensate for uneven income streams, insure against ill-health, socio-religious obligations and future consumption. Poor households save both in-cash and in-kind such as cattle, grain, gold, land, raw material etc) and utilise several methods to save in absence of formal deposit facilities. The predominant reasons due to which the poor save can be enumerated as under:

1. **Consumption smoothing** – Balancing spending and saving to maintain a stable level of consumption and standard of living.
2. **Emergency situations** – Unanticipated needs for large sums of money due to personal (sickness, death, unemployment etc) and impersonal (war, natural calamities etc) events.
3. **Lifecycle events** – Saving up for important events which can be anticipated earlier eg. Childbirth, marriage, education, house construction, festivals etc
4. **Investment opportunities** – Investing in existing/ new enterprises, acquiring assets, investment in capital, buying land etc

Out of the several ways by which savings can be built into lump sum amounts, the main 3 classes are summarised below:

1. **Saving up –** Accumulating savings until they grow into a lump sum amount. Many of the poor lack a safe and reliable place to save up. As a result they may be willing to accept a negative rate of return on savings, in order to be able to make deposits safely. Eg. Deposit Collectors
2. **Saving down –** Taking a loan and repaying in small instalments. The recipient of the loan makes a large number of repayments at short intervals, and these repayments can be sourced from the borrower's capacity to save. Eg. MFI loans
3. **Saving through –** Insurance and group-based savings system. Here, savings are made on a regular basis, and a matching lump sum amount is made available at some point in time during this flow of savings deposits. Eg. ROSCAs

i. Why do the poor need to save?

Endowed with rather few tangible assets to fall back on, the poor need to build savings to mitigate financial risk, which may arise both in short-term as well as long–term. Savings can act as a buffer against emergencies and avoid resorting to borrowing in times of emergencies. In order to minimize continuous reliance upon borrowing to manage their finances, the prudent household must build-up savings in parallel to pull through situations of income fluctuation.

Amongst the most important reasons which necessitates the poor to save are health emergencies. Besides being devoid of access to quality healthcare facilities, experienced doctors and medical insurance, the rural poor also face a higher risk of depletion of accumulated savings due to ill-health or sickness in the family. In addition, savings help tide over periods of seasonal unemployment, common to agricultural labour. They also help meet future needs such as educational expenses of children, family marriages, asset build-up and other socio-religious functions.

Savings can also be utilised to lend to others which, in turn, helps build social capital in the process, which often acts as a form of social insurance.

Since the poor lack the means to save money in large sums, they strive to micro-save with thrift and frugality. Savings are also necessitated by the requirement of regular debt-servicing of microcredit or loans taken from money lenders. Therefore, in the provision of an enabling environment, poor-friendly savings instruments and financial literacy training programmes, we may expect them to save regularly and become financially stronger.

ii. Present channels for savings by households:

a) Formal Sector

1. Bank/Post Office Accounts

Small savings accounts are the gateway to formal banking for the poor, which offers safety, security and return on the money deposited. In India, several recent steps have been taken by the Government in this regard such as No-Frills Accounts, Basic Savings and Deposit Accounts (BSBDA), Jan Dhan Scheme, Co-operative banking etc.

2. SACCOSs

Savings and Credit Co-operative Societies (SACCOSs) are democratic, member driven, self-help co-operatives which are owned, governed and managed by its members who share a common bond. These members agree to save their money together and to inter-loan at reasonable interest rates.

b) Informal Sector

1. Saving at home

Saving some cash at home is practised by all, to varying degrees. However, such sums are prone to risks of being stolen, used up for trivial expenditure or claimed by family members or neighbours. Besides, such cash does not earn any return and its purchasing power only decreases in an inflationary economy and the velocity of turnover is high.

2. Saving clubs

Saving clubs are composed of groups of people who save together (but not jointly) and in the process, monitor each other's savings discipline. Such a method address the twin issues of irregular savings and trivial expenditure of saving at home.

3. Money guards

These guard money for a person, usually for free, to address the temptation of spending away the savings. The 'money guard' is usually a family member or a trustworthy member of the local community.

4. Deposit collectors

The deposit collectors are those who collect deposits from the people for the purpose of saving, akin to the 'money guard' and saving club managers albeit with more reliability and professionalism and against a fee.

5. ROSCAs

The Rotating Savings and Credit Associations (ROSCAs) consist of a group of individuals who agree to save a set sum per person at regular intervals. On each occasion, the full amount of all the deposits is given to one member. The meetings continue until everyone receives the accumulated sum.

6. ASCAs

Unlike ROSCAs where cash that flows gets liquidated at each meeting, it can be built up in Accumulating Savings and Credit Associations (ASCAs). Every individual makes deposits regularly, and some members borrow from the fund thus built up, while others choose not to. If the fund is too small to attract a borrower, it is stored temporarily.

7. SHG-based savings

Members of an SHG decide and set among themselves, an amount which each member has to compulsorily save into the group corpus at each interval (weekly/fortnightly/monthly). The corpus is deposited with a Bank and is used for inter-loaning as well as a precursor to obtaining credit linkage with the Bank.

iii. Problems with formal channels:

Despite the benefits that come with formal and institutional saving, it is observed that the poor still lack access to formal savings facilities for a number of reasons. Opening brick-and-mortar branches and

staffing them with professionals to manage small deposit accounts entails high administrative costs to banks, which renders the venture unprofitable as the triad of low saving balances, large customer base and small transaction sizes is unsuited to their current business models. Even if commercial banks do reach out with such formal saving channels, it would require small borrowers to take time-off their work, incur transportation costs only to deposit tiny sums of money, which would be unfeasible from their standpoint, considering the high opportunity costs involved. In order for MFIs to offer savings deposit facilities, they would be required to meet strict standards laid down by the regulatory authority, which often proves difficult considering their limited expertise and governance. Furthermore, offering savings products to cater to every need of the poor may not be cost-effective and would entail use of technology, which the average MFI may not have access to.

iv. The SHG-Bank Linkage Programme (SBLP):

Across developing countries, Self-Help Groups (SHGs) have proven to be a unique approach to financial intermediation. The approach combines access to low –cost financial services with a process of self-management and development by the group members, which are mostly women. SHGs are usually formed and supported by NGOs, Government Agencies and, sometimes, directly by Banks. The group leaders and members are trained in managing credit, savings and in book-keeping.

The SHG Bank Linkage Model (SBLP) was pioneered by National Bank of Agriculture and Rural Development (NABARD) as a pilot project in 1992. SHGs are linked to the Bank first with a group savings deposit account. Each member is required to mandatorily contribute a fixed amount each week, which is collected at the weekly meetings. The amount is generally kept low initially for ease of the members. Once the group attains maturity, they are thereafter credit-linked and the loan amount is disbursed to the group and in turn distributed to the members. The quantum of credit is usually linked to the corpus of group savings as 1:N. Since the SHG consists of members of the same community having homogenous profiles, group discipline is enforceable through peer pressure which helps build strong credit discipline amongst the members. Decisions relating to rate of interest charged, purpose of loans, amount of savings etc are taken collectively by the SHG members. The participative process makes the group a responsible borrower and contributed to sustainability.

Under the SBLP, different models have emerged:

- Model I : Direct Model – SHGs are formed and financed by Banks
- Model II : Indirect Model – NGO acts as a Social Intermediary
- Model III : Indirect Model – NGO acts as a Financial Intermediary

Out of the above, Model II has emerged as the most popular model under SBLP, and is taken under consideration by this paper. The advantages to Banks under SBLP are many:

1. Mobilization of small savings
2. Reduction in transaction costs
3. Assured and timely repayment leading to faster fund recycling
4. Expansion of business and coverage of poor clientele

The advantages for SHG members vis-à-vis savings under the SBLP are as follows:

1. **Security –** The close-knit group cohesion of a SHG ensures members know one another, which forms the basis of social collateral. Regular group meetings and book-keeping also enable transparency in the processes for the members.
2. **Convenience –** Savings are mobilized at group meetings, held at a mutually agreed time and place. The quantum of compulsory savings is generally kept low, and voluntary savings is according to one's choice.
3. **Liquidity** – Generally, the savings amount collected is illiquid as it is used for internal lending. However, a member can get funds in the form of a loan, if the cash is available.

4. **Return** – The group earns income through internal lending, and most SHGs are able to offer a rate of return higher than that given by public sector banks on savings deposits. The retained earnings (after meeting expenses) are added to the group corpus which ensure that savings do not yield negative real returns.

Overtime, certain modifications were introduced in the SHG-Bank Linkage Programme such as introduction of voluntary savings, improving risk mitigation system, building of second tier institutions, strengthening the monitoring mechanism of RBI and NABARD and addressing training requirements.

v. Voluntary Savings:

Amongst the above, the concept of voluntary savings was the most significant as it encourages the SHG members to save above the minimum compulsory savings and open individual bank accounts so as to facilitate their transition from community banking to individual banking.

Voluntary savings are those that are made not for purpose of accessing credit, but rather for the sake of building up savings. They are characterized by convenience and return: the ability to deposit and withdraw funds at will. Voluntary savings are fundamental to sustainable economic development as they enable households to smoothen consumption in times of uneven income streams, accumulate assets, invest in education etc. However, despite the importance of savings in the lives of the poor, the large majority of micro-savers continue to lack access to safe and sound institutions where they can deposit their savings.

Considering the close-knit community-based social ecosystem of rural India and the dynamics of low wages and casual labour which permit only infrequent and small savings, SHGs can be best utilized as a vehicle for mobilizing micro-savings due to challenges faced by formal institutions as mentioned above.

Therefore, expanding upon the well-tested model of Bank-SHG linkage, coupled with voluntary savings, this paper builds upon the concept of mobilizing micro-savings from non-members of SHGs in rural areas and offer them an accessible and affordable mechanism to deposit their savings, and proposes a framework for the same as elaborated below.

vi. Objective:

To describe best practices and propose a novel conceptual framework and methodology for mobilizing savings from non-members of SHGs in rural poor communities.

Methodology:

The SHG Structure closely resembles a membership model wherein a group of people come together to contribute a fixed amount at regular intervals. These members are also entitled for some additional benefits e.g. Credit facilities, profit sharing, etc. This structure has been the essence of the SHG model and it has been the primary factor behind its success. The savings mobilized by the SHG have been used for providing soft credit to its members and the income from these operations have been distributed to the members. However, there is an inherent flaw in this structure. It is clear from the previous section, the quantum of credit is often inadequate as the savings corpus of the groups grows at a very slow rate. In other words, the current model of an SHG is Self-restricting as it requires a long time to become self-sufficient. The problem essentially comes down to mobilization of Savings. On the other hand, it is a well-known fact that people struggle to find good avenues of savings. In the urban areas the task has been made easier by Banks and other financial institutions who provide a variety of saving options with decent returns. The rural areas are a different matter altogether. Lack of infrastructure and awareness often leave the rural populous with little to no options for managing their savings.

Herein lies the opportunity for the SHG model. SHGs need savings to make them self-sufficient and rural people need options for managing their savings. Hence, the present structure can be leveraged to turn the SHG model into a viable option for savings for the entire community while at the same time strengthening the SHG itself. In order to achieve this, the structure of a traditional SHG has to be modified. Several components will have to be incorporated in the SHG model to accommodate external savings

i. Classification of members

External Savings in SHGs will bring with it a whole host of accounting and logistical challenges. In order to address such challenges, a distinction between the members and non-members of the SHGs has to be established.

1. **Ordinary members –** These are the Primary Members who constitute the Self-Help Groups. These members save a fixed amount on regular intervals and avail credit from the Group as well as share any profits from such operations. They have a long-term stake in the group. These members are responsible for the sustainability and development of the Group.

2. **Associate Members** – These members are not members of the SHG but they would like to capitalize on the savings opportunity offered by the Group. Akin to Ordinary Members, Associate Members will deposit their micro-savings with the Group at regular intervals. However, unlike Ordinary Members, Associate Members will not be eligible for availing credit or sharing profits of the group, rather they will be entitled to a fixed return on their savings. The membership of Associate Members will be temporary and the period of membership will be determined by the Ordinary Members of the group. These members will not have much representation in the functioning of the group however, they will have the right to inspect the operations of the group and opt out of their membership at short notice.

ii. Composition of the Group

In order to protect the Self Help Group from being dominated by Associate members, the membership of Associate members should be restricted to a maximum of 25% of the total membership of the group. The socio-economic standing of the Associate Members should be similar to that of the Ordinary Members.

iii. Savings

The SHG will have access to two types of saving deposits. Both types of deposits will have different liabilities associated with them

1. Internal Savings – the savings of Ordinary Members will be referred to as 'Internal Savings'. These type of savings will form the primary corpus of the Group and should not be withdrawn frequently. Dividend will be paid on the Internal Savings from time to time subject to the consensus of the Ordinary Members.

2. External Savings – Savings of those other than the Ordinary Members will be referred to as External Savings. These savings will bear an interest charge as decided by the Ordinary Members from time to time. These deposits will form the secondary corpus of the group and can be with withdrawn by the Associate Members after a predetermined notice without any recourse to the Ordinary Members.

iv. Inter-loaning

The savings corpus will be used exclusively for providing credit to Ordinary Members. Inter-loaning requirements will be met from the Primary Corpus and then the Secondary Corpus. All Inter-loaning operations will be brought to the notice of the Associate Members during a special meeting however, the consensus of the Ordinary Members will be final.

v. Returns

All members irrespective of their classification will expect some return on their savings. Furthermore, the members will have to be compensated for risks associated with their profile and liquidity requirements.

1. **Dividend –** The Ordinary Members will be entitled for dividends on their individual savings. The dividends will be distributed from the divisible surplus derived from Inter-loaning operations and other incomes after accounting for interest on External Savings i.e. Divisible Surplus = Interest Income from Inter-loaning + Interest from Bank Deposits(If any) – Interest on External Savings.

2. **Interest** – The Associate Members will be entitled for Interest on their Individual Savings with the Group. The frequency and rate of interest will be decided by the Ordinary Members from time

to time. Ideally, the interest rate should be more than the Interest rate on bank deposits

vi. Liquidity

The Self Help Group must maintain sufficient funds to meet the withdrawal requirements of the Associate Members. A fixed amount as decided by the Ordinary Members, may be kept with SHGs at all times. This amount can be deposited with banks as Fixed Deposits which can also help the SHG in availing loans from Banks

vii. Meetings

in the present scenario, weekly meetings serve as a point of collection from the members. Said meetings also help the members to discuss the financial needs of the members and undertake inter loaning. This helps to maintain transparency as all the transactions take place in front of the members. Thus, the meeting approach will be the most suitable method for collection from Associate Members. All transactions from Associate Members will take place in the presence of all Ordinary as well as Associate Members of the Group. However, there is a possibility that the agenda of said meetings is hijacked by a dominant Associate Member which may impact the operations of the group. The participation of Associate Members may be limited to avoid such circumstances. For instance, the Associate Members may be invited once in every four meetings. If such practice is adopted by the SHG, it is equally important to ensure that the Ordinary Members communicate all inter-loaning operations undertaken by the SHG during the previous meetings of Ordinary Members.

viii. Accounting

The SHGs will maintain separate records of external borrowings as well as inter loaning from primary and secondary corpus. These accounts will be tabled during the meetings of all members which will be held at predetermined intervals.

ix. Audit

complete audit of all the books of accounts will be carried out once a year and the report will be presented in front of all the members; both Ordinary and Associate. The audit will be done by a third party which will be selected by a common consensus of Ordinary and Associate Members. In case of non-availability of consensus, the Associate Members will have the final say. In case an external auditor is not available, one of the Associate Members can also perform the audit.

x. Risk Management

This paper acknowledges that accepting external borrowing entails additional risks for both the SHGs and Associate Members. Although risk factors cannot be eliminated completely, they can be managed. Several simple steps can help protect the interest of all the stakeholders. Some major risk factors along with their precautions are as follows

Sr No.	Risk Factor	Implications	Management
A	Defaults – Possibility of an Ordinary Member failing to repay his dues to the SHGs	The Ordinary and Associate Members may lose their savings and any profits accumulated or interests accrued.	The Ordinary Members should restrict the number of active loans at a given time. More than two loans should not be outstanding during a given period.
B	Injudicious use of external borrowing i.e. the deposits of Associate Members will be used for inter loaning.	The SHG may not be able to meet the interest payments to Associate Members. In worse case senario, the Associate Members will lose their savings	All inter -loaning requirements will be first met from the Primary Corpus. The Secondary Corpus should be used only after depleting the Primary Corpus. This will ensure that the Ordinary Members have a greater stake in managing the external borrowings.
C	Liquidity – SHG does not have sufficient funds to accommodate withdrawal by Associate Members	Associate Members may not have access to their savings which may lead to unrest and altercations amongst the members	A fixed amount of funds may be set aside by the SHG to address such emergencies. Further, a minimum notice period may also be decided to arrange for funds
D	Influence of Associate Members	The functioning of the SHG may be hijacked by the Associate Members for their self-interests	The membership and tenure of the Associate Members may be restricted. The Associate Members may not be allowed to participate in the weekly meetings of the Group

Sr No.	Risk Factor	Implications	Management
E	Associate Members forming a new SHG	Associate members may form a SHG where they would be Ordinary Members, thus becoming part of two SHGs	Associate Members, when form their own SHG and enjoy the status of an Ordinary member, would have no incentive to continue as Associate Members as they have the opportunity to save, including contribution of voluntary savings, in their own SHG.
F	Transparency of transactions	There may be a situation where the Associate Members are not aware of the Assets and earnings of the Groups while the Ordinary members may not be aware of the external deposits with SHG	The SHG should present records to all the members atleast, once a year where the quorum may be of minimum two-third members, including Associate Members.
G	Associate Members savings in more than one group	There is a possibility of an Associate Member saving his temporary surplus in more than one group.	Dual membership of Associate Members to be discouraged generally. The SHGs can manage this risk by offering competitive performance.

Conclusion

It is clear that the mode of mobilising micro-savings from "financially excluded" through SHGs is a viable idea.

On one hand, the poor and small depositors would have access to financial services through a robust, community-based, democratic forum, at their doorstep. This would also reduce the opportunity cost of making infrequent and small deposits with the formal financial structure. On the other hand, the SHGs would have access to cheap funds, which can be deployed to respond to the credit needs of the members, for which institutional credit may not be available, on flexible terms. Often, the SHG members require credit for social and emergent needs which necessitates raising resources from informal channels at usurious rates. The funds so mobilised would also create an earning opportunity to the groups in form of loans to members not covered by institutional financing. This may, in time, create a possibility for the SHGs to :

- Cross-subsidise their loans to Ordinary Members
- Earn income by investing in deposits of banks and augment its Corpus
- The augmented corpus would further enable the SHG to leverage it for further institutional credit.

The intangible, yet real, collateral of the groups i.e. the peer-pressure that ensures safety of collateral-free loans to SHG members would also be the safety net for the Associate Members depositing their money with the SHG. The social cost of defaulting by Ordinary Members to SHG and by the SHG to Associate Members is significant among rural poor and far outweighs the benefits of default. It may be to the advantage of the group that there would be a greater oversight of the end-use of the loans to Ordinary Members since Associate members would also have a stake in it.

Closer interaction with the functioning of SHGs and witnessing the benefits first-hand may encourage Associate Members to organise themselves in Self-Help Groups and access financial services, in due course. This would also create an opportunity for financial institutions to deepen their outreach.

Over a period of time, it could bring in greater cohesion between Ordinary Members and Associate Members leading to enhanced co-operation on non-credit functions of the groups. This extended co-operation could foment greater socio-economic solidarity among communities and spur robust social structures. Intra-group and inter-group positive reinforcements could be the ground for successful implementation of Governmental programmes. For example, the message of a programme like Swachh Bharat Mission would resonate with a larger group rather quickly.

However since this model is based on group dynamics, which are open to frequent re-alignments and formations with time, it is fraught with certain inherent risks which have been identified by this paper above, and for which mitigation measures

have been suggested. Perhaps, this model itself could be modified with newer experiences. Yet, it holds potential for experimentation and possibilities of success. At the start of Self-Help Group movement in India, the idea was met with a considerable amount of scepticism. But the experience of past decades has demonstrated the resounding success of the concept of group mode of financial intermediation. This paper suggests amplification of the scope of SHGs introducing the concept of differentiated membership. If implemented well, this could prove to be a win-win strategy for all the stakeholders. It would well be an example of a thousand small steps leading to a giant leap.

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BANK QUEST THEMES

The themes for "Bank Quest" are identified as:

1. January – March, 2021: Role of financial sector in supporting Atmanirbhar Bharat initiative of GOI.
2. April – June, 2021: Infrastructure Financing – New Normal.
3. July – September, 2021: Evolution & future of Monetary & Fiscal Policies – Sub Themes: Regulatory Framework, Monetary Framework, Fiscal Framework.
4. October – December, 2021: International Financial Centers.
5. January – March, 2022: Effective resolution of stressed assets.

Diamond Jubilee and CH Bhabha Banking Overseas Research Fellowship (DJCHBBORF) for the year 2020-21

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Intellectual Property Based Financing in India: A Bridge Too Far?

Dr. Shromona Ganguly*

I: Introduction

In today's era, technology driven productivity plays a key role in determining the market power of a country in world trade market. While adoption of technology remains a crucial factor for productivity enhancement and growth of developing economies, at the same time it throws several challenges to these transition economies (OECD 1998). Such challenges often take the form of difficulties in efficient allocation of resources towards the high-technology entrepreneurial activities. The problems of arranging finance for innovative activities is well documented in the literature (Aghion and Tirole 1994, Black and Strahan 2002, Kerr and Nanda 2015), as these projects are often riskier and subject to the success of new technology. In this context, IPR based financing has gained considerable attention in recent times, especially in the developed economies and OECD countries (OECD 2015). However, the same is still at a nascent stage in most developing countries including India, mainly due to banks' reluctance to accept intangible assets as collateral as in many cases valuation of these assets remains uncertain and debatable. Further, existing legal regime in many countries do not provide a comprehensive guidance as to how to value these assets in case of default (Kamiyama *et al*., 2006). India is no exception to this general trend. Though the Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interest (SARFAESI) Act, 2002 in India recognises intangible assets as collaterals and Institute of Cost Accountants of India (ICAI), vide its ICAI valuation standard 302, provides guidance for valuation of intangibles, in practice IP-based financing is still not popular in India. In this light, the present article discusses the issues and challenges associated with the intellectual property right (IPR) based financing by the banks in a transition economy like India. The article is structured in five sections. Section II provides a brief overview of recent trends in global technology market. Section III elucidates the global practices followed in terms of legal infrastructure in IP valuation and compares India's position with other countries, with illustration of specific case studies pertaining to IPR backed financing. Section IV analyses the changing nature of India's industrial structure in last few decades and establishes why intangible assets have become so important for sustaining India's growth in the current milieu. Section V concludes the essay by summarising the discussion in the earlier sections and providing a forward policy guidance.

II: Global Technology Markets and India: Recent Trends

During 2018, global Intellectual Property (IP) filing activity grew at a rapid pace as compared to its previous year. Patent filings around the world exceeded 3.3 million, representing a 5.2% growth over 2017. In addition, trademark filing activity totalled 14.3 million, registering a growth of 15.5 per cent over its previous year. Industrial designs, utility models and plant varieties increased at a rate of 5.7 per cent, 8.9 per cent and 21.8 per cent, respectively during the same period. Apart from trademark, applications in all other categories registered higher

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growth in 2018 as compared with its previous year (Figure 1).

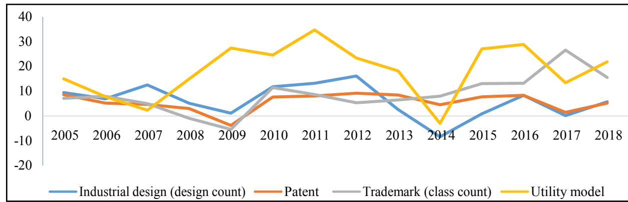

Figure 1: Trend in Global Technology Markets: Annual Growth Rates in Total Applications

Source: World Intellectual Property Indicators (2019), WIPO

The steady increase in total number of applications for patent and trademark were primarily driven by Asia (Figure 2), especially China which remained as one of the top drivers of IP filing in most recent years. China ranked 1 in terms of resident IP activity across the three major categories, *i.e.,* patents, trademarks and designs, followed by the US and Japan in the patents and Trademarks, and Korea and Germany in the case of industrial designs. India ranked 9, 6 and 12 respectively in the above three categories. It is also interesting to note that the growth in number of patents in China was primarily driven by residents, while in case of Singapore, Hong Kong and India, the growth of majorly driven by non-residents. The above trend was also visible in the case of most low and middle-income countries.

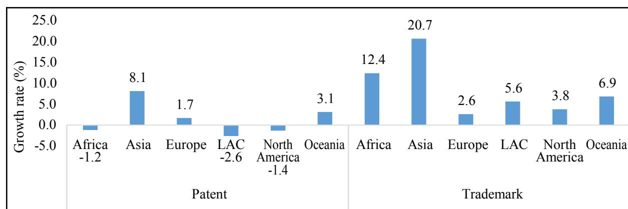

Figure: 2

Source: World Intellectual Property Indicators (2019), WIPO

Variations in patenting activity across countries reflect differences in their size and the structure of their economies. For a comparative analysis, it is therefore important to look at the ratio of patent filing to GDP. During 2018, Korea ranked highest in terms of number of patent filed by residents per unit of US 100 billion GDP (8561), followed by China (6183), Japan (5101), Germany (1924) and Switzerland (1831).

Of the top 20 patent offices in terms of number of applications received, nine were located in Asia, six in Europe, two each in North and Latin America and one in Oceania. With over 2.2 million applications in 2018, Asia's share in the global total stood at 66.8 per cent (Figure 3). The composition and ranking of top 10 offices in terms of patent applications remained stable since 2008. However, the combined share of top 5 offices has gradually increased to 85.3 per cent in 2018 from 75 per cent during 2008, indicating greater concentration. Out of these top five offices in terms of patent applications, China's share increased from 15 per cent to 46 per cent during 2008-18, while the combined share of four other offices (US, Japan, Korea and EU) declined.

Over the past 15 years, share of upper middle income countries in total patents filed increased while that of the high-income declined, mainly due to increasing number of patents filed in China and the same declining in Japan. While the share of Asia increased steadily since 2004, the share of North and Latin America as well as Europe declined, indicating rapid adoption of technologies by Asian countries during the post dot com era (Figure 3).

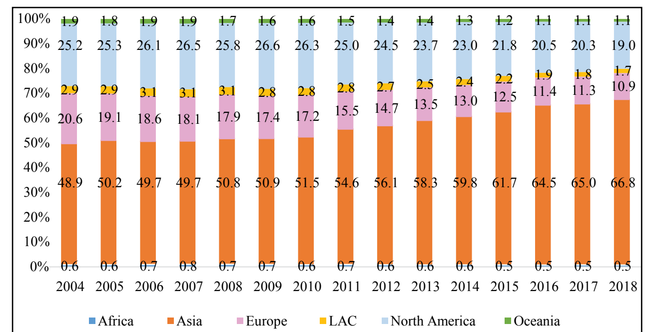

Figure 3: Patent Filing across Geographies: Rising Share of Asia

Source: World Intellectual Property Indicators (2019), WIPO

In India, filing of applications for protection of various intellectual property rights comes under the administrative control of Controller General of Patents, Designs, and Trademarks (CGPDTM). As per the latest annual report of the office of CGPDTM, patents and designs registered robust growth in 2017-18 as compared to its previous year, while there

was a marginal decline in the Trademark category (Figure 4).

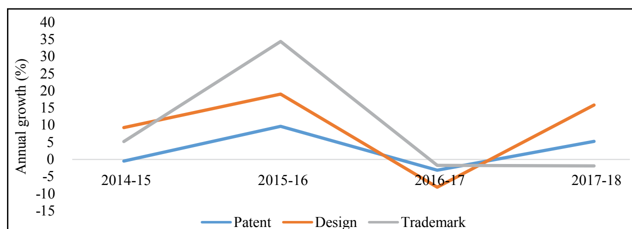

Figure 4: Trend in IPR Filing in India

Source: Annual Report 2017-18, Office of the Controller General of Patent, Designs, Trademarks, and Geographical Indicators, Government of India

The phenomenal growth of startup ecosystem in India during the last few years is an important development in the present context. During 2017-18, while the total number of patents filed by Indian citizens registered a growth of 18 per cent, patents filed by Indian start-ups increased at a whooping rate of 219 per cent (511 in 2017-18 as compared to 160 in 2016-17. Apart from the start-up entities recognized by the Department of Industrial Promotion and Policy (DIPP), Government of India, patent applications filed by other small entities increased at a rate of 19 per cent in 2017-18 over the previous year, indicating thriving innovation in the bottom of the pyramid of India's industrial structure (Table 1).

Table 1: Patent Applications Filed in India

(Units in numbers)

Year	Natural Person	Startup	Small Entity	Other than Natural Person (ONP)	Total
2016-17	5918	160	412	6729	13219
2017-18	6811	511	491	7737	15550

Source: Annual Report 2017-18, Office of the Controller General of Patent, Designs, Trademarks, and Geographical Indicators, Government of India

Important initiatives undertaken in India

During recent years, several initiatives have been taken by India to revamp the administrative and procedural system of granting patents with the objective of encouraging and commercializing innovation. The amended Patent Rule 2003 enacted from May 16, 2016 resulted in several positive changes in the functioning of Patent Office leading to improvement and simplification of patent procedures and IT enablement of IPO. This includes the following steps initiated

1. Streamlining of timelines for speedier disposal of patent applications.
2. Introducing startup as a new category of applicant with 80% fee concession.
3. Mandatory e-filing by patent agents, allowing withdrawal of application before issuance of the First Examination Report and refund of fees paid for filing request for examination.
4. Hearing facility through video-conferencing, limited adjournments of hearing in opposition proceedings, allowing PCT applicant to delete claims while entering the national phase in India, capping the fees for sequence listings and allowing condonation of delay in case of natural calamities.
5. Further, the Patent Rules 2003 have been amended on December 1, 2017 to incorporate the revised definition of start-up in India.
6. Launch of a mobile app and SMS alert facility to improve the logistics of filing and granting Patent.
7. In the case of Trademark, improved online search facility and complete automation of allotment of applications for examination in order of seniority has resulted in an increase of acceptance rate from less than 10 per cent in 2016-17 to 46 per cent in 2017-18.
8. Administration of copyright was brought under the control of CGPDT in 2016-17. Since then, several steps have been taken to strengthen the functioning of Copyright Office through computerization, re-engineering of registration processes and augmentation of manpower. During the year, a special drive towards removing pendency in examination and disposal was undertaken. As a result of these steps, the performance in copyright has immensely improved in all activities.
9. The office of CGPDTM is regularly engaged in dissemination of information and knowledge to actual and potential IP stakeholders by way of

participation in awareness and public outreach activities through joint initiatives with industry bodies CII, ASSOCHAM, FICCI etc. Apart from these, each IPO office has IPR helpdesks and IPO officials regularly participate at various workshops/conferences organized by college/ universities as resource person.

III: IPR Financing: Global Practices, Case Studies and Existing Legal Infrastructure in India

In many advanced economies, IPR is considered as sixth asset class, after cash, real estate, stock, fixed income and private equity. There are several advantages of using IPR as a collateral over any physical asset. IP assets tend to increase in value overtime, whereas all other tangible assets depreciate over time. In addition, for businesses which mainly run on intangible assets, pledging these to the banks provide additional incentive to the borrower to repay the loan on time. Further, IP based assets remain valuable even if the business of the borrower gets into trouble, thus potentially reducing lender's risk in the case of default. However, due to ambiguities in IP valuation, IPR based financing is yet to take off, though there have been efforts both by the individual countries as well as international agencies like World Intellectual Property Organization (WIPO) and United Nations Commission on International Trades Law (UNCITRAL) to formulate policies to thrive IPR backed financing. In 2003, WIPO was requested by the UNCITRAL to provide a comprehensive guideline in the field of IPR financing and securitization. Following this, the UNCITRAL legislative guide on secured transactions came into force in 2007 to provide a guidance to individual countries for formulating their own legislature for fostering IP-backed financing. Though the guide mainly deals with movable assets in general, the supplement to the above guide issued in 2010 specifically deals with security over IPRs, based on responses collected from 66 nations. The supplement acts as a major milestone in the present context by providing six important recommendations with respect to creating security interest on IP.

Below we discuss some of the important initiatives introduced by individual countries to spur financing of innovative new ventures around the world along with some specific case studies which exemplifies success of IPR based financing of new tech ventures.

Switzerland

Switzerland has been taking active steps to encourage intangible asset backed financing, especially for its Small and Medium Enterprises (SMEs). An example of such a success story is a Zurich based startup Doodle, which is known today as one of the most popular internet calendar tool for time management and arranging meeting. Doodle was developed by a swiss software engineer in 2003 and it was registered as a trademark in 2007. After this, Doodle attracted investment from Swiss media giant Tamedia in May 2011 which further acquired 100 per cent stake of Doodle in 2014. [1]In 2016, Doodle was used by over 180 million unique users in 175 different countries. Clearly, Doodle is one of the glaring success stories where trademark of the initial business idea helped the company gaining attention from investors and grow fast to become an internationally popular online platform.

Another example is a project initially funded by the Swiss Federal Institute of Technology in Lausanne, EPFL to develop PBTZ169, a new antibiotic for combating drug resistant TB bacteria. For this new drug, patent has been obtained in the US and patents have been filed with Eurasian Patent Organisations (EPO) as well as China. Based on the patent, the EPFL was able to enter into an agreement with Nermadic, a Russian pharmaceutical company. The terms and conditions transferred IP rights to Nermadic for countries covered by EPO thereby allowing EPFL to obtain return on investment. This is a classic example of collaboration based on IP assets.

[1]See Techcrunch.com "Doodle Founders leave scheduling startup, Swiss publisher Tamedia plans to acquire remaining stake". https://techcrunch.com/2014/01/07/doodle-founders-leave-scheduling-startup-swiss-publisher-tamedia-plans-to-acquire-remaining-stake/

Singapore

Singapore is ranked top in terms of Global Innovation Index among Asian countries. IPR policy in Singapore aims to create a virtuous cycle where R&D is followed by patenting activity. As a part of its public private partnership model to spur innovation, Singapore's Agency for Science, Technology and Research (A*STAR) encourages SMEs to leverage new technologies, through active linkage between research labs in public universities and industries. Singapore Government also established an IP intermediary agency, which works with companies to market their technologies overseas, apart from providing guidance and solutions in terms of best available technology. Apart from this, startups in Singapore have easy access to online portal called IPSG for filing patent, trademark and design. At a more broader level, Singapore is a member of the ASEAN Patent Examination Cooperation (ASPEC), which is a body for sharing examination results between IP offices of nine ASEAN countries and reduces process time considerably. ASPEC has been an example of successful regional IP infrastructure.

China

In China, development of Township and Village Enterprises (TVEs) remain an important part of national strategy to achieve growth (Naughton 1994). The Chinese Government has set up a special organization SMECGF (SME credit guaranty fund) with the mandate of helping SMEs to obtain bank loan for innovative activities and launch of new technologies. While processing loan applications, SMECG specifically focus on future viability of the business model rather than solely relying on present value of the IP. Recognising the fact that financial institutions often lack the expertise in evaluating IP, Chinese Government has taken several steps to train staffs in their financial institutions in this regard. This include the various training programmes on IP valuation launched by the Financial Supervisory Commission (FSC), the most prominent being the International Certified Valuation Specialist (ICVS) programme. Apart from encouraging lending by local banks to firms in creative industries, the FSC has recommended launch of intangible asset valuation services for creative industries such as film making, music, advertising and digital content industries.

Korea

In Korea, the financial sector allows companies with outstanding patents to obtain bank loan without collateral. This has become possible due to the active collaboration between Korean banks and the Korean Intellectual Property Office (KIPO). When technology intensive firms apply for bank loan against IPR as collateral, value of such IPRs are examined with the help of KIPO. Further, KIPO entered a Memorandum of Understanding (MoU) with the Korea Development Bank and Korea Credit Guaranty Fund in 2013 and with the Industrial Bank of Korea in 2014 for enhancing debt finance to technology startups. To foster IP valuation techniques and create a specialized talent pool for the same, KIPO also established the Korea Institute of IP Evaluation and Transaction (KIIPET) in 2005.

Japan

The Japan Patent Office (JPO) has been preparing a comprehensive report on all SMEs that utilize IP, especially regarding how IPs are contributing to the business of these firms. Any financial institution (FI) providing funds to these firms can obtain the reports free of cost from the JPO which reduces information asymmetry between the technology intensive firms and their financiers. Further, the Ministry of Economy, Trade and Industry (MEIT) runs a portal to assist the Japanese SMEs for valuation of intangible assets in their balance sheets, apart from organizing events like "Intellectual Asset Based Management Week" every year to increase awareness about IPR and build collaborations among various stakeholders like industry, academia and government.

In the context of Japan, SEKI Press, a Japanese metal manufacturer company, provides an example of a successful IPR-backed financing model. SEKI Press developed a new technology named "Warisaki" in 2011 which reduces time and enhance efficiency in production of complex and three-dimensional metal products and obtained patent for the same. In 2012, SEKI Press took part in a competition organized by a body of local financial institutions to identify innovative technology in industry and won the highest award in the competition. Following this, the group of

organizers said that they would actively take part in commercializing this technique by providing capital to the firm. The enthusiasm of the financiers was clearly boosted by the patent obtained by the company.

India

India has declared 2011-2020 as decade of innovation and several initiatives are in place with direct government intervention to commercialise new technologies (For example the CSIR Tech Private Limited initiatives, Grass Technological Innovations Acquisition Fund (GITAF), Global Innovation and Technology Alliance (GITA)). In addition, parallel array of private incentives like India Innovation Fund and Tata Capital Innovation Fund are in place to fund technology based entrepreneurial ventures.

In India, security interests can be created both under general law and specific laws. Licenses and agreements remain the most common form of IPR monetisation in India. At present India does not have an active market for more sophisticated financial products based on IPR like IP backed securitization, IP sale and lease back etc. Following are the relevant laws in India which deals with IPR-backed financing:

i. **SARFAESI Act, 2002**: The SARFAESI Act, 2002 was enacted to allow banks and Financial Institutions (FIs) to auction the properties of the defaulters for speedy recovery of dues. Under section 2(1)(t)(v) of this act, the definition of property includes "intangible assets, being know how, patent, copyright, trademark, license, franchise or any other business or commercial right of any nature". Further, section 2(1) (zf) of the act defines security interest as "right, title, and interest of any kind whatsoever upon property crated in favour of a secured creditor and includes mortgage, charge, hypothecation, assignment...".

ii. **Banking Regulation (BR) Act, 1949**: Under the BR act, 1949, banking business is defined as "accepting, for the purpose of lending or investment, deposits of money from the public, repayable on demand or otherwise, and withdrawal by cheque, draft, order or otherwise". Section 6 of the BR act specifies the list of activities that a bank can undertake. Under section 8 of this act "no banking company shall directly or indirectly deal in buying or selling or bartering of goods, except in connection with the realization of security given or held by it…". However, in a recent judgement by the honorable Supreme court, it was established that a trademark cannot be assigned to the bank. In the case of Canara Bank versus NG Subbaraya Setty, a trademark named "Eenadu" for agarbattis, was pledged as collateral to the bank for obtaining loans. The Supreme Court ruling in this case mentions that extending loans against a trademark for agarbattis is against the sections 6 and 8 of the BR Act. A bank cannot sale agarbattis or cannot obtain royalty from a third party based on a trademark as it would be stepping out of banking businesses as defined in the said law (Economic Times, 2018).

iii. **Patent Act, 1970**: As per the Patent Act of India, there is no prohibition of creating security interest on IPR, however the same needs to be registered with the Registrar as per the section 69(1) of the act.

iv. **Designs Act, 2000**: Similar to the Patents Act, the Designs Act, 2000 requires the recordal of security interest by way of mortgage, license or other interest and the same to be communicated to the Registrar of Designs in the prescribed format (Form 12).

v. **Trademarks Act, 1999**: In India, the Trademarks Act does not explicitly mention about any provision dealing with creation of security interest on trademark. Further, in India, assignment of trademark can be time bound and/or conditional.

IV: India's Industrial Structure, R&D Trend and Importance of IPR-based Financing

It is empirically well-established that India's pattern of development is unique when compared with other developing countries as India has seemingly "leapfrogged" the manufacturing led growth stage to directly embark on services led growth stage (Kochhar *et al*., 2006, Panagariya 2007). Standing today, services sector comprises a lion's share of India's

GDP (62 per cent), while the share of manufacturing has been stagnating at around 20 per cent for long and that of agriculture declining (Figure 5).

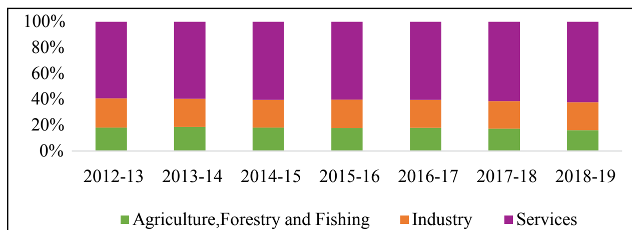

Figure 5: Composition of India's GVA

Note: GVA at Basic Prices (Base Year: 2011-12) Current Prices

Source: National Statistical Office (NSO)

Among other factors, lack of access to finance has been identified by many researchers as a major cause for the lackluster performance of Indian manufacturing (Mohan 2004, Mohanty and Chakrabarti 2006). The problem is aggravated due to the issue that average firm size in India is significantly smaller as compared with other countries (Kocchar *et al.*, 2006). As per the sixth economic census, small manufacturing establishments account for 23 per cent of the total non-agricultural establishments operating in the country during 2013-14 and are the largest employment generator within the non-agricultural segment by providing employment to 30.36 million workers. These small and young firms either do not have access to the debt and capital market or even if they have, the cost of debt is significantly higher for them, as they often do not have an established track record and audited financial statements (especially for firms in the unregistered sector) to prove their creditworthiness to banks and other FIs.

With an objective to revive India's manufacturing sector, the "Make in India" campaign launched in 2014 aims to increase the share of manufacturing in national GDP from the current 16 per cent to 22 per cent by 2022. For fostering job creation within the Indian manufacturing sector, the small and medium enterprises as well as the labour intensive sectors such as textile and garments, leather and footwear, and food processing industries have been given the status of "Focus Sectors" under the plan. Apart from the sector-specific focus, the slew of benefits for small and medium enterprises launched under the "Make in India" includes reimbursement for technology acquisition subject to a maximum limit of USD 30,769 during the initial phase of operation, rollover relief from capital gains tax, tax pass-through status for venture capital funds with a focus on SMEs in the manufacturing sector, and various initiatives to facilitate access to formal credit by the SME sector. In addition, the "Start-up India" aims to create a conducive ecosystem for entrepreneurial activities in the country[2].

There are two important factors which explains why a vibrant market for intagible assets based financing becomes crucial for India going forward. First, Indian economy is predominated by the services sector which has less tangible assets and more intangibles in their balance sheet. These include many of the services startups which mainly earn revenue based on the uniqueness of the business model rather than physical stock of capital. As per a NASSCOM report on Indian Tech-Startup Ecosystem (2019), the total number of startups in India has increased at a steady rate of 12-15 per cent during 2014-19. In 2019, India has a total 24 unicorns as compared to 206 in China, 203 in the US and 21 in the UK. The top five sectors in terms of startup growth are fintech, healthtech, automotive and education technology. In addition, travel and hospitality, HR, logistics, real estate and retail are some of the sectors which has experienced high growth of startup entities in last three-four years (NASSCOM 2019).

The above facts emphasise that in recent years, growth of technology based industries has become more important for India given its transition to a knowledge based services led economy. In addition to this fact, it has also been observed that within India's manufacturing sector, the share of intangible assets in total assets has shown a rising trend since 1990-91, especially after the successful transition

[2]In India, the definition of startup specifies entities which are incorporated no more than seven years ago (10 years for the biotechnology sector) and having turnover upto Rs 25 crore. As on December 17, 2018, there are a total 14476 startups recognized by the Department of Industrial Policy and Promotion (DIPP). The list of such startups can be found in https://www.startupindia.gov.in/content/dam/invest-india/Templates/public/List%20of%20Recognized%20Startups.pdf.

through the dot com bubble in 2001-02 (Figure 6). Hence, deploying capital for growth of these intangible assets based industries have become crucial. Though India's export basket still consists of traditional sectors like gems and jewellary, leather, garments, food and agro based industries etc, some of these sectors too have a significant presence of small firms which do not have established track record. Though in these industries very few firms would be having IPR which can be monetised, an alternative could be to use trademarks or designs as collateral for obtaining debt finance in these cases.

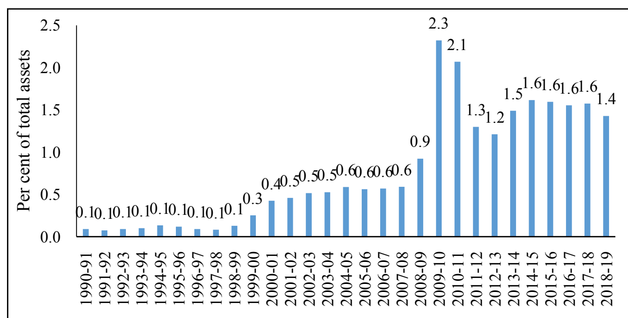

Figure 6: Proportion of Intangible Assets: Indian Manufacturing

Source: Industry Outlook, CMIE

The Working Group Committee report on Boosting India's manufacturing exports during the Twelfth five-year plan (2012-17) specifically mentions the low technology intensity of India's manufacturing sector as one of the key reason for its poor export performance when compared to other developing countries and as a result, its minimal presence in the global value chain (Department of Commerce, 2015). This can be clearly seen in Figure 7, where R&D expenses to sales ratio has gradually dwindled in Indian manufacturing. Further, such reduction in R&D spending is even more prominent in case of Micro, Small and Medium enterprises (MSMEs), as often they fail to get loans from banks for launching new projects and innovative projects due to the uncertainties involved in it (Figure 7).

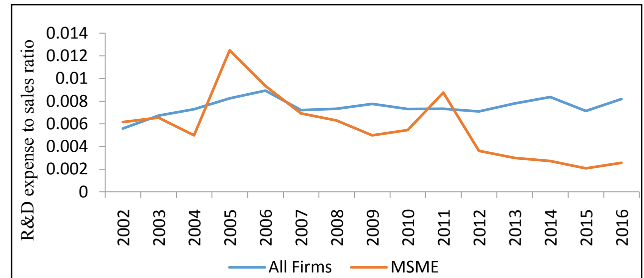

Figure 7 : R&D Intensity of Manufacturing Sector in India

Note: *The graph uses annual balance sheet data till March 2016 to get an idea of the long-term trend. Data for 2017 is not plotted as this is considered as an abnormal year when balance sheet of these firms could be affected by demonetization introduced in November 2017, and the possible contraction in R&D expenses in this year could also result from the same.*

Source: Author's calculation based on data obtained from Prowess database, CMIE

Facts and figures mentioned in the above paragraphs clearly indicate that with rise in intangible assets in India's industrial structure and predominance of services sector in national GDP, the financial sector policies should focus on creating new institutions and instruments which facilitate these new generation firms to obtain debt or equity finance by pledging intangibles as assets. Such policies also become important given that some of the technology and R&D based industries in India has registered better performance compared to traditional industries both in domestic as well as world market. A classic example of this is Indian pharmaceutical industry, which has highest R&D intensity and accounts for close to 44 per cent of total R&D expenses of manufacturing sector in India.

Worldwide, financial systems can be classified in two broad categories, viz., bank-based financial system versus capital market based financial system (Demirgüç-Kunt and Levine 1999, Levine 2002, Durusu-Ciftci *et al*., 2017), each having its merit and demerits. It is often argued that for growth of knowledge-based industries, a market-based

financial system is more conducive than a bank-based system, mainly because banks extend loans based on collaterals and these knowledge-based industries primarily thrive not based on physical capital stock but technological know-how and innovation (Rajan and Zingales 2001). Hence a practical challenge for the developing economies is adequate resource allocation to these knowledge-based industries having higher proportion of intangible assets in their balance sheets, especially given the fact that transitional economies are typically bank-based.

Indian financial sector is primarily bank-based, though there exist a wide range of non-bank institutions too which cater the financial needs of niche segments. Despite their presence, industrial finance in India is bank dominated (Table 2). Further, asset backed lending is the most prevalent and preferred form of lending by Indian banks (Ganguly 2019), and often such assets are only the tangible assets.

Table 2: Sources of Finance for Indian Corporates: Select Indicators

(per cent to total)

Item	1985-86 to 1989-90	1990-91 to 1994-95	1995-96 to 1999-00	2000-01 to 2004-05	2013-14	2017-18
1. Internal sources	31.9	29.9	37.1	60.7	38.5	46.1
2. External sources, of which	68.1	70.1	62.9	39.3	61.5	53.9
a) equity capital	7.2	18.8	13	9.9	10.9	3.5
b) borrowings, of which	37.9	32.7	35.9	11.5	32.7	30.0
I) debentures	11	7.1	5.6	-1.3	2.0	3.3
II) banks	13.6	8.2	12.3	18.4	17.3	-
III) other FIs	8.7	10.3	9	-1.8	-	-
c) Trade dues & other current liabilities	22.8	18.4	13.7	17.3	17.9	20.1
Total	100	100	100	100	100	100
Memo Items						
Share of Bank and other FIs	18.2	26	18.6	8.6	17.3	-
Share of capital market-based sources	22.2	18.3	21.3	16.6	12.9	6.8
Debt-equity ratio	88.4	85.5	65.2	61.6	67.1	56.6

Note: *For the year 2017-18, debt finance from banks and other FIs were negative. Sample of firms is not fixed across years.*

Source: Report on Currency and Finance, (for data till 2005-06, RBI). From 2013-14, source of data is Finances of Non-Government Non-Financial Private Limited Companies, RBI.

V: Concluding Observations and Policy Implications

The Make in India plan aims to create a conducive ecosystem for entrepreneurs in the country. However, despite various initiatives introduced in recent past, a significant part of entrepreneurial activities in India are self-financed. Within the self-financed start-ups, a closer examination revealed that nearly two-third of entrepreneurs have either invested their own savings or borrowed from an already existing family business. Banks constitute the next important source of finance for entrepreneurs in India and contribute almost 22 per cent of early-stage financing of such enterprises. The role of venture capital and angel investors is rather limited in this respect; these together contribute 9 per cent of early stage financing in India (National Knowledge Commission, 2008). Given the difficulty in obtaining formal finance by entrepreneurs, it is natural that the problem will be manifold when such entrepreneurial ventures are technology based. Due to limited development of private equity, angel investors and venture capital firms in India, funding avenues for such bold and innovative technology-based startup are indeed limited. Given the uncertainties involved in such project, it is of no wonder that banks would hesitate to fund such activities, especially when Indian banking sector is already saddled with high levels of non-performing assets.

Though financing innovation remains a challenge across the globe, the individual country experiences as discussed in section III could provide some valuable policy guidance to India going forward. India's rank in global innovation index has improved to 52 in 2019 as compared with 57 in 2018. As shown in Table 1, section II, in recent years the patent filing activity of the startup entities in India has risen considerably. Hence, time has come to investigate the possibilities of commercialization of such innovations by formulating appropriate IPR valuation techniques and creating a talent pool within Indian FIs to gauge the creditworthiness of firms with such intangible assets. This would require collaboration among various professional bodies, such as the ICAI, Patent Office, industrial know-how and legal experts. On this aspect, India can formulate policies in line with

Japan and China where specific training programme were launched by the Government in collaboration with the patent offices to train banking professionals in intangible valuation. Further, active involvement of the patent office in the process of screening loan applications from high-tech startups, as done in Japan would reduce the possibility of misallocation of capital. This would facilitate intangible asset backed lending within Indian commercial banking segment, in addition to the special technology venture funds introduced by SIDBI (SIDBI-TIFAC fund), in line with the Funtec by BNDES, the development bank in Brazil.

A crucial and fundamental related policy question in the present context is whether a stricter IPR regime necessarily spur innovation. Research has shown that countries which introduced substantial patent reform since the 1990s have experienced lower cost of debt as compared to countries where such reforms were absent (Alimov 2019). India introduced significant reform in its patent regime in line with the Trade Related Aspects of Intellectual Property Rights (TRIPS) in 2002 (Appendix table 1). However, researchers also observed that across the countries, a stricter IP regime is not necessarily associated with higher R&D spending or innovation, rather in many countries, especially in developing countries, it has given rise to monopoly profits to MNCs and reduced their incentive to either innovate or collaborate with local firms to help developing technology locally (Chaudhuri 2014, WHO 2015). A classic example of the same is Indian pharmaceutical industry, where it was found that R&D expenditure of the MNCs has fallen after India revamped its patent system in line with TRIPS and MNC filed suits against domestic firms even when their claim of invention was not supported by law (Chaudhuri 2014). Nevertheless, in the context of IPR backed financing, it is important that low quality patents are screened out to create a win-win situation for both the entrepreneur and the financier. Hence, the national IPR regime should properly streamline the valuation techniques and provide clarity in disputed cases and litigations, without stifling indigenous innovation. This, along with creation of an adequate pool of banking professionals trained in the domain of IP valuation would open up new possibilities with regard to identification of base of the pyramid innovations in India and financing the same.

Appendix Table 1: Patent Regime and Changes in Different Countries

Country	Reform Year	Main attributes of reform
Brazil	1997	Expansion of eligible inventions and patent law scope; Improvement in patent enforcement
Chile	1991	Expansion of eligible inventions and patent law scope; Improvement in patent enforcement and administration
China	1993	New patent law: Expansion of eligible inventions and patent law scope; Improvement in patent enforcement and administration
China	2001	Expansion of eligible inventions and patent law scope; Improvement in patent enforcement and administration (adopted the TRIPS Agreement requirements)
Hong Kong	1997	Expansion of eligible inventions and patent law scope; Improvement in patent enforcement and administration
India	2002	Expansion of eligible inventions and patent law scope; Improvement in patent enforcement and administration (compliance with the TRIPS Agreement)
Indonesia	1991	Introduced first patent protection law
Indonesia	1991	Expansion of eligible inventions and patent law scope; Improvement in patent enforcement and administration
Israel	2000	Expansion of eligible inventions and patent law scope; Improvement in patent enforcement and administration (compliance with the TRIPS Agreement)
Japan	1995	Extension of patent duration; Improvement in patent enforcement and administration replacement of Japan's pre-grant opposition system with a German style post-grant opposition system
Phillipines	1997	A new patent statute: Expansion of eligible inventions and patent law scope; Improvement in patent enforcement and administration
Singapore	1994	Created a separate Singaporean patent law: Expansion of patent rights; Improvement in patent enforcement and administration
Taiwan	1992	Expansion of eligible inventions and patent rights; Improvement in patent enforcement and administration
Thailand	1993	Expansion of eligible inventions and patent rights

Country	Reform Year	Main attributes of reform
Turkey	1995	New patent regime: Expansion of eligible inventions and patent rights; Improvement in patent enforcement and administration
Turkey	1999	Adopted the European Patent Convention: Expansion of eligible inventions and patent law scope; Improvement in patent enforcement and administration

Source: Alimov (2019)

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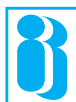

Indian Institute of Banking & Finance

Macro Research: 2020-21

Indian Institute of Banking & Finance (Estd: 1928) is working with a mission "to develop professionally qualified competent bankers and finance professionals primarily through a process of education, training, examination, consultancy/counselling and continuing professional development programmes. One of the objectives of the Institute is to promote research relating to Operations, Products, Instruments, Processes, etc. in Banking and Finance and to encourage innovation and creativity among banking and finance professionals. With this in view, in 2003, the Institute had started to fund research studies on selected areas in banking and finance, known as 'Macro Research', the term macro suggesting the scope of the research and to distinguish it from the other research initiative of the Institute namely the 'Micro Research'. Under the Macro Research scheme, the Institute invites proposals from research scholars from universities, colleges and banks to take up research in identified areas.

Topics for Macro Research:

The Institute encourages empirical research in which, the researchers can test their hypothesis through data (primary/secondary) from which, lessons can be drawn for the industry (banking & finance) as a whole. In this regard, the Institute invites Macro Research Proposals for the year 2020-21 on the following topics. (See important clause on copyrights below[1])

1. MSME Financing: Prospects & Challenges
2. Consolidation in the Indian Banking Sector
3. Indian Forex Market: Challenges, opportunities and way forward.
4. Response, effectiveness and outlook of Banking Sector to the COVID 19 pandemic.
5. Digital Aspects of Banking: Progress and way forward

Who can participate?

Teams sponsored/identified by research organizations/institutes, as well as individuals presently serving in banks/corporates/research organizations/institutions having a proven track record, are eligible to apply. Research proposals from bankers are specially encouraged. The individuals applying under this scheme should not be more than 58 years as on 31.01.2021.

The winners of the macro research award during the last three years (2019-20, 2018-19 and 2017-18) are not eligible to apply for the research award. Also, those winners of macro research who have been awarded twice in the past 10 years are not eligible to apply. If the research is undertaken by individuals, the proposal should be routed through their organizations after taking requisite permission, wherever applicable.

Research Proposal:

The Research Proposal/s submitted should, among others, focus on the research objective/s, hypothesis, research design, methodology and execution plan of the proposed project.

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[1]Candidates may please note that copying materials as it is from various sources should completely be avoided.Wherever information used in the proposal/report is taken from other sources, the author should acknowledge and provide complete reference of the source. It should be ensured that there is no violation of copyrights, if any.

Evaluation:

The Research proposals will be evaluated in terms of its objective, relevance and methodology. Action points flowing from the research for policy making, should be clearly listed out in the final research report to be submitted. The track record of the research organizations/researchers submitting the proposal is also taken into account for awarding the research. All the research proposals will be prima facie considered for suitability and final selection will be made after the short listed researchers make a presentation to the members of the Research Advisory Committee (RAC) of the Institute.

Research Grant:

The selected research project carries a cash award of Rs.2,50,000/- (Rupees two lakh and fifty thousand only). On commencement of the project a part (25%) of the award money will be given by way of advance as per the request of the researcher. The balance will be disbursed only on acceptance of the final report. In case a report is found unacceptable during the midterm review and final review, the research organization / researcher will not be paid the balance amount. In case a research organization/ researcher abandons the project mid-way, they would be required to refund the advance availed together with interest at the prevailing MCLR of the State Bank of India (SBI).

Size of research report:

Around 200-250 pages

Time frame:

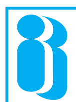
After completing the research work, the final research report should be submitted within a maximum period of six months from the time the project is awarded. **In case of delay in submission of report, the award may be forfeited.** The copyrights of the report will lie with IIBF.

Applicant research organizations/researchers are required to submit typed proposals in English along with a brief bio-data highlighting their experience in conducting similar research. The front page of the proposal should contain following details:

Name	
Designation	
Address	
E-mail	
Phone No.	
Title of Research Proposal	
Major Objective/s of Research	

The last date for submission of the proposal is **31st January 2021. The soft copy of the proposals can be sent at kratika@iibf.org.in**

The Director of Academic Affairs,
Indian Institute of Banking & Finance,
Kohinoor City, Commercial-II,
Tower-I, 2nd Floor, Behind Kohinoor Mall,
Off. L.B.S. Marg, Kurla (West), Mumbai-400 070
Phone: 022 - 022-68507000/68507033/68507011



Indian Institute of Banking & Finance

MICRO RESEARCH PAPERS: 2020-21

Indian Institute of Banking & Finance (formerly The Indian Institute of Bankers) was established in 1928 and is working with a mission "to develop professionally qualified competent bankers and finance professionals primarily through a process of education, training, examination, consultancy/ counselling and continuing professional development programmes". One of the objectives of the Institute is to promote research relating to operations, products, instruments, processes, etc. in banking and finance and encourage innovation and creativity among banking and finance professionals. 'Micro Research' is a sort of an essay competition for members of the Institute (bankers) to present their original ideas, thoughts and best practices on areas of their interest. This initiative was started in 2004-05. Since then, the Institute invites Micro Research papers every year, on topics identified by the Research Advisory Committee of the Institute.

The competition is open to life members of IIBF, who are presently working in banks and financial institutions. In this regard, the Institute invites Micro Research papers for the year 2020-21 on the following topics. (See important clause on copyrights below)

1. Brick & Mortar vs Click & Mouse Banking
2. Talent Management in the emerging banking scenario
3. Analysis of Monetary Policy Transmission
4. Role of AI and Analytics in Banking
5. Learnings from global banking experiences: Managing Stressed Assets in the financial sector
6. Viability of Payment Banks

The essays/papers will be judged on their content/relevance and originality. The authors of the accepted papers will be rewarded with a citation and cash prize ranging from Rs. 5,000/- to Rs. 15,000/- depending on the merit of the paper. The copyrights of the selected essays/papers will lie with IIBF.

All the interested members of the Institute may submit the soft copy of the Micro Research papers in English with the word limit of 5000 words or 10 – 12 pages (A4/ Times New Roman / Font size 12) in MS Word format through email to **kratika@iibf.org.in**

The last date for submission of the paper is **31st January, 2021**.

Applicants must mention following details on the front page of their papers:

Name:	
Membership No.:	
Topic:	
Designation & Employer:	
Correspondence address:	
Mobile no. /Landline no.	
Email ID:	

Applications without membership numbers/incomplete details will not be considered.

Phone: 022 - 022-68507000/68507033/68507011

Bank Quest Articles - Guidelines For Contributors

Contributing articles to the Bank Quest : (English/Hindi)

Articles submitted to the Bank Quest should be original contributions by the author/s. Articles will only be considered for publication if they have not been published, or accepted for publication elsewhere.

Articles should be sent to:

The Editor: Bank Quest

Indian Institute of Banking & Finance,
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Kirol Rd., Kurla (W), Mumbai - 400 070, INDIA.

Objectives:

The primary objective of Bank Quest is to present the theory, practice, analysis, views and research findings on issues/ developments, which have relevance for current and future of banking and finance industry. The aim is to provide a platform for Continuing Professional Development (CPD) of the members.

Vetting of manuscripts:

Every article submitted to the Bank Quest is first reviewed by the Editor for general suitabillty. The article may then be vetted by a Subject Matter Expert. Based on the expert's recommendation, the Editor decides whether the article should be accepted as it is, modified or rejected. The modifications suggested, if any, by the expert will be conveyed to the author for incorporation in case the article is considered for selection. The author should modify the article and re-submit the same for the final decision of the Editor. **The Editor has the discretion to vary this procedure**.

Features and formats required of authors :

Authors should carefully note the following before submitting any articles:

1) *Word length:*

   Articles should generally be around 2000-3000 words in length.

2) *Title:*

   A title of, preferably, ten words or less should be provided.

3) Autobiographical note and photograph:

   A brief autobiographical note should be supplied including full name, designation, name of organization, telephone and fax numbers, and e-mail address (if any), or last position held, in case of retired persons. Passport size photograph should also be sent along with the submission.

4) *Format:*

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   Essential figures, charts and diagrams should be referred to as 'Figures' and they should be numbered consecutively using Arabic numerals. Each figure should have brief title. Diagrams should be kept as simple as possible. in the text, the position of the figure should be shown by indicating on a separate line with the words: 'Insert figure 1'.

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   Use of tables, wherever essential, should be printed or typed on a separate sheet of paper and numbered consecutively using Arabic numerals (e.g. Table-1) and contain a brief title. In the body of the article, the position of the table should be indicated on a separate line with the words 'Insert Table 1'.

7) *Picture/photos/illustrations:*

   The reproduction of any photos, illustration or drawings will be at the Editor's discretion. Sources should be explicitly acknowledged by way of footnote, all computer-generated printouts should be clear and sharp, and should not be folded.

8) *Emphasis:*

   Words to be emphasised should be limited in number and italicised. Capital letters should be used only at the start of the sentences or for proper names.

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