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Risk Management in Commercial Banks: A Perspective on Indian and Global Banks

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Abstract: In modern economic environment, Risk has become a part of business existence and each individual business entity, whether offering a product or a service, is subjected to certain risks in accordance with its nature and scale of operations. Commercial Banks, a key component of financial services sector, are no different in this regard. Commercial Banks are majorly used by the market participants towards gathering market knowledge as well as in lieu of their transaction efficiency and funding capacity. In process of the rendering such services commercial banks are exposed to multifaceted risks which are absorbed, transferred or eliminated by the concerned banks based on internal cost considerations. This paper highlights the proactive and superior regulatory sanctions put in place by Reserve Bank of India, India's central bank, towards ensuring sound and risk free commercial banking operations in the wake of global financial crisis. Credit risk, a major variant of bank's financial risk has been discussed, along with proposed ways of managing it. In addition, a perspective on global banking developments has been provided.

Key words: risk management; commercial bank; global financial crisis
JEL codes: G2, G20, G21

1. Introduction

Banking as an activity primarily involves the intermediation of supplier of funds with the seeker of funds. Commercial Banks provide a platform whereby the parties having surplus funds are provided with an option to park their money with the bank for a reward in terms of rate of interest. On the other hand, banks also gives an opportunity to the borrowers to access credit at a regulated rate of interest using the deposits received from the supplier of funds.

During the financial crisis, commercial banks and other financial institutions in USA which had engaged in the activity of indiscriminant sub-prime credit lending were forced to shut shop when the mass of sub-prime borrowers started defaulting and filing for foreclosures. Though, the effects of financial crisis, which originated in USA, was felt in varying extent globally, Indian commercial banks and financial institutions faced a negligible impact of financial crisis inspite of having sizeable international credit exposures. The savings and loan crisis in the United States took two decades plus serious regulatory ineptness and legislative cupidity to develop into the

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debacle it became (Pyle, 1997). Indian banking sector was least affected by the financial meltdown for which one of the key reasons has been the prudential regulatory framework for commercial banking operations as laid down by India's central bank, i.e., Reserve Bank of India (RBI).

2. Review of Literature

Credit risk in some form exists throughout commercial banking activities, both on and off balance sheet. However, the major part of the credit risk primarily arises from the loans and advances that constitute almost 60% of the total assets. "The taking of credit risk is a principle function of banks. The heart of banking business is not necessarily taking credit risk but assessing credit risk" (Kumar et al., 2011). Credit Risk Management (CRM) involves a systematic analysis of various forms of risks that influence or are likely to influence the repayment of loan given by the bank (Kumar et al., 2011).

The recent global financial crisis has brought in focus the issue of effective credit risk management in banks. It is imperative for a bank in particular and for banking system in general to regularly monitor and review the CRM practices (Kumar et al., 2011). A single value measure that represents an evaluation of credit risk management framework for a commercial bank can be useful in such monitoring. Though Basel II norms and guidelines issued by various central banks in different countries (which have been further strengthened under Basel III norms) provide a fairly comprehensive regulatory framework for this purpose, the CRM framework in commercial banks continue to differ widely.

Just during the period preceding the collapse of Lehman Brothers, one would have found difficult to predict the impact of Global Financial Crisis on the Indian Economy. This was primarily because the Indian commercial banks did not have any direct exposure to subprime assets or major exposures within the failed institutions, and the recent growth had been the result of domestic consumption and investment (Sinha, 2009).

As the global financial crisis intensified in September 2008, RBI enforced a slew of both conventional and unconventional policy measures towards mitigating the adverse after affects of the global financial crisis on the Indian economy. These policies primarily attempted to provide ample rupee liquidity, ensuring ideal levels of dollar liquidity and maintaining a market environment which results in continuous flow of credit to productive sectors.

For achieving the above mentioned purpose, RBI used a variety of instruments at its command such as the Repo and Reverse Repo Rates, the Cash Reserve Ratio (CRR), the Statutory Liquidity Ratio (SLR), Open Market Operations (OMO), including the Liquidity Adjustment Facility (LAF) and sector-specific liquidity facilities (Sinha, 2009). In addition, the Reserve Bank used prudential tools to modulate the flow of credit to certain sectors consistent with financial stability.

The provision of multiple instruments and tailored usage of such instruments towards implementation of monetary policy enabled RBI modulate the liquidity and interest rate conditions in the wake volatile global macroeconomic conditions. As a part of its LAF facility, the Repo Rate was reduced from 9% to 4.75%. The policy reverse repo rate under the LAF was reduced from 6% to 3.25%.

3. Asset Quality as an Indicator of Credit Risk

In absence of adequate information regarding credit risk indicators for banks, non-performing advances (NPA) ratios have been used by earlier researchers as credit risk indicators (Kumar et al., 2011). Use of ratios instead of absolute values also helps in making comparison. It can established from the financial disclosures of the Indian banking business that global banks operating in India have performed better than their Indian counterparts as far as reducing the proportion of NPA within the overall portfolio of advances is concerned. As per Table 1, State Bank of India, India's leading commercial bank, managed to reduce its NPA by 0.09 % in the FY ending 2011 from the level existing at FY ending 2010. During the same period Standard Chartered Bank, the leading foreign bank in the India, managed to reduce its level of NPA by 1.13%. Further, Hongkong & Shanghai Banking Corporation (HSBC) reduced its level of NPA by as much as 1.4% during the same period. The ability of the foreign commercial banks to turnaround a larger proportion of its NPAs may be attributed to their fat capital cushion which enables to them initiate more rigorous recovery procedures as compared to the banks which are hard pressed in terms of capital availability.

Table 1 Net NPA as % of Net Advances along with Total Income (Interest + Non Interest Based)

Banks	2010	2011	% Increase or Decrease	Total Income (in ₹ Crore)
Indian Banks				
State Bank of India	1.72	1.63	0.09	97,219
Central Bank of India	0.69	0.65	0.04	16,486
Punjab National Bank	0.53	0.85	0.32	30,599
HDFC Bank	0.31	0.19	0.12	24,263
ICICI Bank	2.12	1.11	1.01	32,622
Foreign Banks				
Standard Chartered Bank	1.40	0.27	1.13	8,824
HSBC	2.31	0.91	1.40	6,984
American Express Bank	1.59	1.50	0.09	460
Citibank	2.14	1.21	0.93	8,216
Deutsche Bank	0.79	0.23	0.56	2,861

Source: Key Business Statistics, Indian Banks' Association.

4. Significant Issues in Risk Management

4.1 Are the Indian Banks Adequately Prepared for Migration to Basel III Regime?

Indian commercial banks have already adopted the approaches provided under the Basel II supervisory framework. It is time for larger banks to seriously consider system upgradation and migration to advanced approaches. Adoption of advanced approaches requires simultaneous use of the underlying processes in the day to day risk management of banks. In the background of the recent global regulatory developments, a question often discussed is whether the Indian banks are prepared for Basel III. The foundation of Basel III is widely known by now: higher and better quality capital, an internationally accepted leverage ratio towards constraining excessive risk taking behavior, adequate capital buffers which would be built up in good times so that they can be drawn down during stressful events, minimum global liquidity standards, and stronger standards for supervision, public disclosure and risk management.

Quick assessments show that at the aggregate level Indian banks will not have any problem in adjusting to the new capital rules both in terms of quantum and quality. Indian banks are comfortably placed in terms of compliance with the new capital rules.

In India, banks have a stock of floating provisions which RBI has not permitted to be used, except under a situation of systematic stress. While the floating provisions may serve the purpose of countercyclical provision, a framework is necessary for allowing its use. As an interim measure, RBI has been attempting to introduce a methodology based on the Spanish dynamic provisioning system. This, however, has not been easy given the lack of required data and analytics with the banks.

Migration to Basel III requires a high level of liquidity to be maintained via a pool of liquid assets. The definition of liquid assets is very stringent including the requirement that they should be freely available.

4.2 Are the Indian Banks Geared up for Transition to the International Financial Reporting System (IFRS)?

Converging to global accounting standards i.e. IFRS facilitates comparability between enterprises operating in different jurisdictions. Convergence would help to reduce both the cost of capital and cost of compliance for industry. Training, education and skill development are cornerstones of a successful IFRS implementation. All the stakeholders including investors, accountants, auditors, customers, software and hardware vendors, rating agencies, analysts, audit committees, actuaries, valuation experts and other specialists will need to develop an understanding of IFRS provisions to varying degrees and what they need to do. It is not only the accounting issues but how to address the non-accounting issues that will determine how successfully banks make a transition to IFRS.

Additionally, banks will need to upgrade their infrastructure, including IT and human resources to face the challenges of IFRS. Some major technical issues arising for Indian banks during the convergence process are the differences between the IFRS and current regulatory guidelines.

4.3 Interconnectedness in the Banking Sector and Vulnerability of Financial System

Post-crisis, macro-prudential policy has emerged as an important tool for addressing systemic risk, highlighting its time and the cross sectional dimensions. While the time dimension refers to pro-cyclical elements that give rise to the evolution of aggregate risk over time, the cross section dimension is concerned with distribution of risks which can be exacerbated owing to the interconnectedness in the financial system.

Financial interconnectedness as a part of macro-financial surveillance is the key issue in discussions on prudential regulation policies as it can magnify idiosyncratic shock across the financial system. To put in place an effective system of macro-prudential surveillance of the financial system, RBI has started using network analysis technique to model inter-bank exposures. The analysis revealed that the banking sector in India is deeply connected. Further, the contagion analysis made on the basis of network analysis underlined that interconnectedness in the banking sector gives rise to vulnerability of the financial system in the event of failure of one or more banks depending on the degree of interaction.

5. Risk Management Practices: Indian Banks vs. Global Banks

Reserve Bank of India (RBI) approach has been of gradual convergence with international standards and best practices in a deliberately phased manner. RBI, being the apex institution of banking in India, took prompt initiative to respond to Basel Accord and became one of the signatory to it. Considering the “One-size fits all” approach of Basel I, Basel Committee on Banking Supervision came out with more risk sensitive and comprehensive framework Basel II to replace the existing Accord.

Keeping in view its goal to have consistency and harmony with international standards, RBI endorsed the committee proposals to replace the current broad bush approach with preferential risk weighing. Thus, Basel II was adopted by India keeping into view size, complexity of operations and relevance to financial sector. The new capital adequacy norms were maintained at different levels of stringency given the differential risk appetite across banks and their business philosophies (Kaur & Kapoor, 2011). The RBI directed that Indian banks having foreign branches and foreign banks operating in India should migrate to Basel II norms from March 31, 2008 and all other commercial banks (excluding local area banks and regional rural banks) were required by RBI to adopt Basel II norms not later than March 31, 2009.

5.1 Capital Adequacy Ratio (CAR)—Cornerstone of Basel II

The first pillar of Basel II accord deals with maintenance of regulatory capital, i.e., 8% Capital Adequacy Ratio (CAR). CAR under Basel II is the ratio of Regulatory Capital to risk weighted assets which signifies the amount of regulatory to be maintained by banks to guard against various risks inherent in banking system.

CAR = Total Regulatory Capital (Tier I + Tier II + Tier III) ÷ Risk* Weighted Assets

* *Credit Risk, Market Risk and Operational Risk*

RBI has mandated that minimum CAR requirement should be 9% and Tier I capital of banks should be at least 6%. Banks below this level were required to achieve this ratio on or before March, 31, 2010 at both solo and consolidated level. Further, the Government of India has stated that public sector banks must have a capital cushion with a CAR of at least 12%, higher than the threshold of 9% by RBI (Annual Report, RBI, 2005-2006 and 2006-2007). Table 2 depicts the overall Capital to Risk Weighted Asset Ratio (CRAR) as per Basel II framework for Indian commercial banks as on 31st March 2010 and 2011.

Table 2 Bank-wise CRAR as per Basel II Framework for Major Indian Commercial Banks as on 31st March 2010 and 2011

Name of Bank	Year 2010			Year 2011		
	CRAR as per Basel II (in %)			CRAR as per Basel II (in %)		
SBI and Nationalized Banks	Tier I	Tier II	Total	Tier I	Tier II	Total
State Bank of India (SBI)	9.45	3.94	13.39	7.77	4.21	11.98
Allahabad Bank	8.12	5.5	13.62	8.57	4.39	12.96
Andhra Bank	8.18	5.75	13.93	9.68	4.7	14.38
Bank of Baroda	9.2	5.16	14.36	9.99	4.53	14.52
Bank of India	8.48	4.46	12.94	8.33	3.84	12.17
Bank of Maharashtra	6.41	6.37	12.78	8.02	5.33	13.35
Canara Bank	8.54	4.89	13.43	10.87	4.51	15.38
Central Bank of India	6.83	5.4	12.23	6.31	5.33	11.64
Corporation Bank	9.25	6.12	15.37	8.59	5.52	14.11
Dena Bank	8.16	4.61	12.77	9.77	3.64	13.41
Indian Bank	11.13	1.58	12.71	11.02	2.54	13.56
Indian Overseas Bank	8.67	6.11	14.78	8.16	6.39	14.55
Oriental Bank of Commerce	9.28	3.26	12.54	11.21	3.02	14.23
Punjab National Bank	9.11	5.05	14.16	8.44	3.98	12.42
Punjab & Sind Bank	7.68	5.42	13.1	8.35	4.59	12.94
UCO Bank	7.05	6.16	13.21	8.61	5.19	13.8
Private Sector Banks						
Axis Bank	11.18	4.62	15.8	9.41	3.24	12.65
HDFC Bank	13.26	4.18	17.44	12.23	3.99	16.22
ICICI Bank	13.96	5.45	19.41	13.17	6.37	19.54
Kotak Mahindra Bank	15.42	2.93	18.35	18	1	19

Source: Basel II in India–Compliance and Challenges (Kaur M. and Kapoor S., 2011).

5.2 Advent of Basel III Regime

In the wake of late-2000s financial crisis the postulates given by existing version of Basel Accords, i.e., Basel II were found to be inadequate and deficient in multiple aspects. This gave rise to need for stringent and situation specific norms based on the lessons learnt from the period of financial crisis. For instance, Basel III forwarded a change in *loan risk calculation* framework of the Basel II which some consider a causal factor in the credit bubble prior to the 2007-2008 collapse. Further, under Basel II one of the principal factors of financial risk management was out-sourced to companies that were not subject to supervision, i.e., *Credit Rating Agencies*. Creditworthiness ratings for various financial instruments were conducted without supervision by official agencies, leading to AAA ratings on *Credit Default Swaps (CDS)* and *Mortgage-backed Securities (MBS)* which proved to be catastrophic during the financial crisis.

Taking lessons from resultant crisis, in Basel III a concept of *Scenario Analysis* has been introduced. Under this, three official scenarios are to be issued by the country's banking regulator, out of which the independent rating agencies and firms are instructed to apply more extreme scenarios prescribed.

Basel III will require banks to hold 4.5% of the common equity (up from 2% in Basel II) and 6% of Tier-1 capital (up from 4% in Basel II) of risk-weighted assets (RWA). Basel III also introduces additional capital buffers, (1) a mandatory capital conservation buffer of 2.5% and (2) a discretionary countercyclical buffer, which allows national regulators to require up to another 2.5% of capital during periods of high credit growth. In addition, Basel III introduces a minimum 3% leverage ratio and two required liquidity ratios. The Liquidity Coverage Ratio requires a bank to hold sufficient high-quality liquid assets to cover its total net cash outflows over 30 days; the Net Stable Funding Ratio requires the available amount of stable funding to exceed the required amount of stable funding over a one-year period of extended stress.

Migration to Basel III will take time as far as commercial banks in India are concerned, since Basel II structure is still very much active in India banks. In the global front, few major countries have migrated to Basel III framework, with USA taking an initiating lead being at the helm of financial crisis.

5.3 Six Year Roadmap for the Implementation of the Basel III norms by RBI

The Reserve Bank of India has laid out a six-year road map to make Indian banks safer and avoid recurrence of the 2008 crisis. But this step will need an estimated ₹150 billion ($3 billion) in capital at a time it is scarce. The central bank has raised the equity component in overall capital and restricted dividend or bonus pay outs when capital ratios fall close to mandated levels. It has also addressed banks' leverage ratios, which will shrink off-balance sheet business and investments in subsidiaries, to reduce risk.

The banking regulator also aims to reduce systemic risk by eliminating some dodgy entries in the books of accounts and explaining the cross-holdings of capital instruments among banks, which exposed many of them during the credit crisis. These guidelines prepared by the Basel Committee on Banking Supervision (BCBS) are implemented "with the objective to improve the banking sector's ability to absorb shocks arising from financial and economic stress, whatever the source, thus reducing spill over from the financial sector to the real economy.

Prudential norms under the Basel-III accords have become a bone of contention between bankers and regulators as the former say it would drag down return ratios and may not serve the purpose. But the regulators believe the banks are biased and these capital buffers are essential to prevent another 2008 like crisis, which led to governments bailing out banks with taxpayer's money. Capital Adequacy levels will rise to as high as 11.5%, from 9%, by 2019.

6. Global Banking Trends

The global macro-economic situation in 2009-2010 was characterized by an unbalanced economic recovery across advanced and emerging economies, moderation in economic prospects in 2011, high levels of unemployment and inflationary pressures, and elevated levels of government debt (Report on Trend and Progress of Indian Banking in India 2010-2011, RBI).

6.1 Uncertainty about Credit Revival

Against the macro-economic backdrop in the preceding section, banking business in some advanced economies showed signs of revival in 2010. An increase in the growth of bank credit was evident in the US, Germany and France in the first quarter of 2011 after entering into the negative growth zone after the crisis. However, there was uncertainty about whether this credit revival would continue or not given the picture of economic revival looking bleak in the US and gradually in Germany too.

In fact, credit growth witnessed a slump of in the second quarter of 2011 in the US. In the UK and Japan, bank credit growth, which had entered a downtrend since the beginning of 2009, had shown a recovery in 2011, but it remained in the negative zone. Other advanced economies from Europe, particularly countries with fiscal strains, namely Portugal, Spain and Italy, showed a steep fall in the growth in bank credit with no signs of revival till 2011.

6.2 Return on Assets Showed a Moderate Increase

Apart from the pickup in credit growth, Return on Assets (RoA), an indicator of banking system's profitability and soundness, also showed a moderate increase in the US and France in 2010 (Table 3). The RoA of US banks turned positive by 2010 after staying in the negative zone in 2008 and 2009, and it showed a further rising trend in 2011. In Russia, China and Malaysia, the RoA of the banking system, which had dipped between 2008 and 2009, recovered between 2009 and 2010. In Russia and Malaysia, the trend of increase in RoA continued even in 2011. The RoA of Indian banks too showed a modest rise between 2008 and 2010.

Table 3 Return on Assets of Banks for Select Economies

Country	2007	2008	2009	2010	2011
Advanced Economies					
France	0.4	0.0	0.4	0.6	…
Germany	0.3	-0.1	0.2	…	…
Greece	1.0	0.2	-0.1	-0.6	-0.3
Italy	0.7	0.3	0.2	…	…
Japan	0.3	-0.3	0.2	0.4	…
Portugal	1.2	0.4	0.4	0.5	0.5
Spain	1.1	0.8	0.6	0.5	…
UK	0.4	-0.4	0.1	0.2	…
USA	1.2	-0.1	-0.1	0.9	1.2
Emerging and Developing Economies					
Russia	3.0	1.8	0.7	1.9	2.3
China	0.9	1.0	0.9	1.0	…
India	0.9	1.0	0.9	1.0	…
Malaysia	1.5	1.5	1.2	1.5	1.8
Brazil	3.4	1.5	2.4	3.2	3.3
Mexico	2.3	1.4	1.5	1.8	1.6

Source: Report on Trend and Progress of Banking in India 2010-11 (Reserve Bank of India). … Not Available.

6.3 Financial Soundness of Banks

6.3.1 Increase in Levels of Capital Adequacy

The level of capital adequacy across banks in most advanced economies was on a steady rise between 2008 and 2010 (Table 4). By 2010, in the UK, US, Japan and Germany, Capital to Risk- weighted Asset Ratio (CRAR) was placed above 15%. The ratio showed a further increase for US and German banks in the first quarter of 2011. Among the major emerging economies, however, the level of capital adequacy showed a moderate decline between 2009 and 2010, with the exceptions of China, India and Mexico. Both Mexican and Chinese banks showed a moderate decline in their capital positions by March 2011.

Table 4 Capital to Risk-Weighted Assets Ratio of Banks in Select Economies

Country	2007	2008	2009	2010	2011
Advanced Economies					
France	10.2	10.5	12.4	12.3	…
Germany	12.9	13.6	14.8	16.1	16.6
Greece	11.2	9.4	11.7	11.4	12.3
Italy	10.4	10.8	12.1	12.3	…
Japan	12.3	12.4	15.8	16.7	…
Portugal	10.4	9.4	10.5	10.2	10.5
Spain	11.4	11.3	12.2	11.8	…
UK	12.6	12.9	14.8	15.9	…
USA	12.8	12.8	14.3	15.3	15.5
Emerging and Developing Economies					
Brazil	18.7	18.2	18.9	17.6	18.2
China	8.4	12.0	11.4	12.2	11.8
India	12.3	13.0	13.2	13.6	…
Malaysia	14.4	15.5	18.2	17.5	16.4
Mexico	15.9	15.3	16.5	16.9	16.5
Russia	15.5	16.8	20.9	18.1	17.2

Source: Report on Trend and Progress of Banking in India 2010-11 (Reserve Bank of India). … Not Available.

6.3.2 Uneven Decline in Leverage

An element of unevenness was observed in the decline in banking sector leverage across countries after the crisis. Here the percentage of total capital (and reserves) to total assets has been taken as an indicator of leverage in the banking system. In the US, leverage in the banking system showed some moderation between 2008 and 2010 (Report on Trend and Progress of Banking in India, 2010-2011, RBI). Notwithstanding this moderation, the extent of leverage for UK banks continued to be at relatively high levels. Deleveraging had not gained any significant momentum in the banking systems of other advanced European economies, viz., France, Germany, Portugal, Greece and Spain, treating 2008 as the reference point.

In major emerging economies, banking systems were generally less leveraged than most advanced economies. Moreover, the banking systems in these economies did not show signs of any perceptible increase in leverage during the crisis period. However, treating 2008 as the reference point, in many emerging economies, there was an increase in the leverage of their banking systems in the post-crisis period. The Global Financial Stability Report (GFSR) (September 2011) had in fact highlighted re-leveraging as a major concern for banking systems in emerging economies.

7. Conclusion

It can be concluded that Indian banks are still having a preferential affinity towards operating in Basel II regime. It will take some time before the major banks break free from the existing Basel II provisions and embrace the policy provisions recommended as a part of recent Basel committee accords, i.e., Basel III. As a response to the financial crisis, the proactive role of Reserve Bank of India (RBI), India's central bank, has been commendable. Enforcement of prudential norms and maintenance of adequate liquidity using diverse policy rates at its disposal have been the hallmark of RBI's role as central banking authority. Adoption of International Financial Reporting System (IFRS) has been another major bone of contention for the Indian banks in the recent times.

Credit risk happens to be a significant component of bank's overall financial risk profile. The awareness and more importantly the assessment of credit risk assumes enhanced significance in current competitive environment wherein the commercial banks operate. Adoption of a transparent credit risk management model with defined criteria for risk assessment indeed goes a long way towards catering to CRM issues of commercial banks globally.

On the global front, banks had been significantly impacted by the burst of subprime bubble which had its root within the credit granting financial institutions itself. Global banks though, unlike their Indian counterparts, have more open towards embracing Basel III provisions. Post financial crisis, the global banks have been rather uncertain as far as revival of credit granting business is concerned, though the initial signals have been encouraging in few advanced economies. Additionally, global banks in the post crisis environment have experienced only a moderate increase in their Return on Assets, a key indicator of banks financial prosperity.

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