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Synopsis - Ph.D. Thesis

Basel Norms and Indian Banking Sector[1]

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Abstract

This synoptic paper outlines the growth of Indian commercial banking sector and examines impact of Basel norms on the same. In this process, the preparedness of banks and related issues are examined through a survey of bank personnel. The recent trends in CAR and NPA of the banks are also pointed out. A few conclusions are derived and some recommendations are made. The scope for further work is indicated.

Key words and phrases *: Bank for International Settlements(BIS), Basel Committee on Banking Supervision (BCBS), Basel norms, Capital Adequacy Ratio(CAR), Capital to Risk-Assets Ratio(CRAR), Credit Risk, Market Discipline (MD), Market Risk, Minimum Capital Requirements (MCR), Non-Performing Assets (NPA), Operational risk, Supervisory Review Process (SRP).*

Introduction

Commercial Banks play a vital role in the functioning of any economy. After globalization, foreign banks have entered into economic activities in Indian scenario. As a result, banking activities present a complex web, needing careful control and monitoring for the health of the economy. Basel Accords I and II are efforts at the international level to strengthen the commercial banks and to absorb the shocks likely to arise due to changes in global markets. Basel III is also in the offing now and its implementation has commenced.

Need for Basel norms

Banks face high risk primarily because banking is one of the highly leveraged sectors of an economy. In view of this, banks are required to take certain strategic decisions to ascertain whether the type and amount of risk assumed by them brings adequate compensation in terms of earnings in the short and long-runs and helps them maximize the economic value in the long-term, while being in consonance with their risk appetite. **Thus, the more effective the risk management framework of a bank, the more successful it will be in the long-run**.

In order to tackle risk and to ensure proper functioning of banks, there is a need to efficiently manage different types of risks associated with banking. Thus, risk management is core to any banking service. The ability to gauge risk and take appropriate action is the key to success of a bank. It is said that risk takers survive, effective risk managers prosper and risk averse persons perish. The same holds good in the banking industry as well. The axiom that holds good for all business is "No risk, no gain".

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Very few studies have been carried out so far in the area of risk management in banking sector. Since Basel II is a recent development and Basel III is in the nascent stage, a topic of this type requires a continuous study in view of the dynamic nature of the banking scenario. This will help to assess the work already done and its limited scope, pointing to a definite need for further investigation. A discussion with the bank managements revealed that the process of implementation of Basel II norms is not yet complete as there are some hurdles, particularly for the advanced evaluation methods. This implies a need for assessing the preparedness of banks in this regard and identifying the hurdles.

Basel I Norms

The Basel Committee on Banking Supervision (BCBS) was formed in response to the messy liquidation of a Frankfurt bank. On 26th June 1974, a number of banks had released Deutschmark to the Bank Herstatt in Frankfurt in exchange for dollar payments deliverable in New York. On account of differences in the time zones, there was a lag in the dollar payment to the counter-party banks, and during this gap, and before the dollar payments could be effected in New York, the Bank Herstatt was liquidated by its German regulators. This incident prompted the G-10 nations (currently comprising 13 countries, namely, Belgium, Canada, France, Germany, Italy, Japan, Luxemburg, Netherlands, Spain, Sweden, Switzerland, UK and the USA) to form towards the end of 1974, the BCBS, under the auspices of the Bank for International Settlements (BIS).

Basel I is the term which refers to a round of deliberations by central bankers from around the world. The BCBS in Basel, Switzerland, published a set of minimal capital requirements for banks in 1988. This is known as the 1988 Basel Accord. It was enforced by law in the ***Group of Ten (G-10)*** countries in 1992, with Japanese banks permitted an extended transition period. India implemented the Basel I framework during a three year period beginning from 1992-93.

Limitations of Basel I

The chief merit of Basel I was its simplicity, but it was criticised for the oversimplification of risk categories. Bankers argued that loan types with very different risk characteristics were lumped together in the wide-ranging 100% risk-weighted category.

Bank for International Settlements

The BIS is an international organisation which fosters international monetary and financial cooperation and serves as a bank for central banks. It has come to hold the view of maintaining sufficient source of competitive inequality among internationally active banks. But risk management is still not completely understood by the industry; thus, it requires working even harder to develop a framework that would further strengthen the soundness and financial stability of the international banking system. In the year 2006, the committee came up with revised recommendations in the form of an accord popularly described as Basel II.

The BIS fulfils this mandate by acting as:

- A forum to promote discussion and policy analysis among central banks and within the international financial community .A centre for economic and monetary research
- A prime counterparty for central banks in their financial transactions
- A trustee in connection with international financial operations
- To tackle risk and for better risk management in banks, various measures were taken all over the world. Later this task was handed over to BIS, which lays down certain guidelines for the banks to follow in order to reduce the risk exposure.

Main Framework

Basel I, i.e. the 1988 Basel Accord, primarily focused on credit risk. The assets of banks were classified and grouped into five categories according to credit risk, carrying weights of zero (e.g. home country sovereign debts), 10, 20, 50, and up to 100 percent (e.g. most corporate debts). Banks with international presence are required to hold a minimum capital equal to 8 % of their risk-weighted assets.

Since 1988, this framework has been progressively introduced first in member countries of G-10 and then in over 100 other countries across the world. However, the efficiency with which the norms were enforced varied. But, Basel I is now widely viewed as outmoded and the more comprehensive set of guidelines (Basel II) are in the process of implementation by most of the countries.

Tightened norms: Basel II (2006)

The following aspects of Basel II are to be noted:

1. It overcomes the weaknesses of Basel I and provides a set of comprehensive norms.
2. It is designed to be a more sophisticated framework, which clearly reflects the complexities of modern bank balance sheets.

3. The minimum CRAR of 8% is retained as in Basel I. But the risk weights are higher.

4. With a more sophisticated "Internal Ratings Based" (IRB) approach, banks with relevant capability are able to calculate their own risk weightings using internal loan data rather than the standardised weightings as specified in the framework.

5. It is more sophisticated in its treatment of offsetting factors which may protect a bank from loan losses arising from default such as collateral guarantees, securitisation and credit derivatives.

The growth of commercial Banks in India

The history of banking in India may be demarcated into three phases. During phase I (1786 to 1969), the growth was very slow and banks also experienced periodic failures between 1913 and 1948. There were approximately 1100 bank branches but most of them were small in size. The East India Company established banks in three metro cities. It opened "Bank of Bengal" in Calcutta (1806), Bank of Bombay in Bombay (1840) and the Bank of Madras (1843). These banks were known as Presidency banks. For several years, these banks acted as quasi-central banks which were merged in 1921 and renamed as Imperial Bank of India which was again renamed after independence as State Bank of India. In order to have a proper system in the banking sector, a commission was formed under the chairmanship of Dr. Hilton Young. On the basis of its recommendations, the Reserve Bank of India (RBI) was established on 1st April 1935 under the provisions of Reserve Bank of India Act, 1934. RBI is the central Banking Authority and has extensive powers for the supervision of banking in India.

Phase II (1969 to 1991) saw nationalization of Indian Banks and Government took major steps in Banking Sector Reforms which include nationalization of 14 major banks in 1969, creation of regional rural banks in 1975 and nationalization of seven more banks in 1980.

Phase II included a growth decade of banking from 1981 to 1991 when the number of commercial banks jumped from 187 to 276 by 1991, of which 196 were Regional rural banks. The number of bank offices increased from 35,707 in 1981 to 60,220, out of which 35, 206 were in the rural areas accounting for 58 per cent. The total deposits increased taking off from Rs. 40,413 crore to Rs. 2,00,569 crore during 1981 to 1991 posting a 5 fold increase with an annual average growth of 18 per cent.

Phase III (1991 onwards)

Reforms of 1991 heralded a fresh phase (Phase III) of Indian Banking which introduced many new products as its reforms under the chairmanship of M Narasimham worked for liberalization of banking practices. The country was flooded with foreign banks which could be attributed to the Narasimham Committee Reforms. These reforms sought drastic changes in the banking system and efforts were made to give satisfactory service to customers. Telephonic banking, ATM and net banking were introduced. The entire system became faster and customer friendly.

Basel norms II and III

Basel II has 3 pillars: minimum capital requirements (MCR), Supervisory Review Process (SRP) and Market Discipline (MD). Pillar one delineates 3 risks viz., credit risk, operational risk and market risk. The focus in Basel II is the risk determination and quantification of credit risk, market risk and operational risk faced by banks. Initially banks have to adopt the Standardized Approach for credit risk and the Basic Indicator Approach for operational risk evaluation. After adequate skills are developed, both by the banks and by the supervisors, some banks are expected to migrate to the advanced approaches. All the public and private sector banks have implemented the Standardized Approach for credit risk and the Basic Indicator Approach for operational risk assessment. But no bank in India has so far migrated to advanced approaches as it is a cumbersome process and needs approval by the RBI.

Basel III is third of the Accords which was developed in response to the deficiencies in financial regulation revealed by the recent financial crisis. It is a global regulatory standard on banks' capital adequacy, stress testing and market liquidity risk agreed upon by the members of the BCBS in 2010-11. Basel III is an opportunity as well as a challenge for the banks. It can provide a solid foundation for the next developments in the banking sector, and it can ensure that past excesses are avoided. The solution needs to be flexible in order to meet the needs of the banks, and sufficiently open to accommodate changes in business and the regulations. The complexity and demands of Basel III and the commercial demands of the banking world will require a flexible Basel III management solution that gives speed, accuracy, and performance to deliver competitive advantage. The banks that implement the optimal solution will not only have an ideal platform for delivering Basel III; they will also have a solid platform for their future commercial development. On May2, 2013, the RBI has issued the final guidelines for Basel

III implementation in a phased manner and by March 31, 2018.

Objectives of the study

The overall objective of this thesis is to evaluate the preparedness of Indian Banks to implement Basel II in full measure with the following specific objectives.

1. To examine the growth and structure of Indian commercial banks;
2. To analyse the prudential Basel norms I and II;
3. To assess the preparedness of Indian banks to fully implement Basel II and also the cost implications;
4. To evaluate the performance of Banks before and after implementation of Basel II norms.
5. To critically compare risk management practices in public and private sector banks and evaluate trends in CAR and NPA values.

Hypotheses

To realize the objectives of the study, the following hypotheses are formulated.

1. Basel I norms have not helped in fine-tuning the performance of Indian banks.
2. Indian Banks are not ready to implement Basel II norms fully within a stipulated period of time.

   Sub-hypotheses of (2)

   a) The banks are not able to meet the time frame for implementation.

   b) The banks do not have adequate infrastructure for Basel implementation.

   c) The banks do not have the requisite database, particularly for application of advanced approaches.

   d) The banks do not have requisite expertise for effective implementation of Basel II norms.

3. The public and private sector banks do not feel differently about cost implications.
4. Private and public sector banks have similar opinions on drawbacks of Basel I norms.
5. The two sectors have similar impacts from Basel II norms.
6. The extent of improvement due to Basel II implications is on par in the two sectors.
7. The two sectors feel the same way on the collapse of US majors like Lehmann Brothers.
8. Compliance to Basel norms could have averted the collapse.
9. The two sectors have similar stands on the loopholes in Basel II.
10. The trends in CAR and NPA are synchronous in the two sectors.

Methodology

A sample of 10 public sector and 10 private sector commercial banks in the city of Bangalore was drawn as listed below:

Table1 : Banks selected for the study

Public Sector		Private Sector	
1	Andhra Bank	1	Axis Bank
2	Bank of India	2	Federal Bank (old)
3	Canara Bank	3	HDFC Bank
4	Corporation Bank	4	ICICI Bank
5	IDBI Bank	5	ING Vysya Bank (old)
6	Indian Bank	6	Jammu & Kashmir Bank (old)
7	State Bank of India	7	Karnataka Bank Limited (old)
8	State Bank of Mysore	8	Kotak Mahindra Bank
9	Syndicate Bank	9	South Indian Bank (old)
10	Vijaya Bank	10	Yes Bank

Two offices of each bank were selected for the study and data were collected from officers working in a responsible position at the deputy branch manager level or above. Each officer had a minimum of 5 years of experience in banking sector. To elicit primary data for the study, a questionnaire with structured and unstructured questions on the Basel norms was designed. Secondary data are used to supplement the information. A total time span of 12 years from 2000 to 2012 was used for the study. Data were collected from sources like news papers, books, magazines, journals, research articles, previous research at the MPhil or PhD level, Bank annual reports, publications by Government agencies, NIBM, IBA, CAIIB, websites of RBI, BIS, SSRN and E&Y.

Limitations of the study

Even though the best effort was put forward, the study has the following limitations:

It is confined only to banks with controlling offices in Bangalore city.

The findings of the study may become out-dated after some time in view of quick changes in economic and competitive environment and regulatory regime.

The outcome of the study depends mainly on the reliability of responses.

Certain conclusions are based on samples. Personal opinion and preference of the respondents affect the results since perceptions of the individuals differ.

Use of rating scales

The questionnaire used a rating scale of 1-10 for responses on several key aspects. The mean score from the study revealed that the preparedness of banks to implement Basel II norms is 7.3 which mean that the banks are prepared well but the extent of implementation is not complete. Similarly all the banks have ensured the minimum CAR while the NPA level has a mean score of 4.2 which is not satisfactory. The use of internal model to measure the risk has a mean score of 5.2 which means that most of the banks have not developed them. Implementation of pillars 1, 2 and 3 are at a mean score of 8, 7, 8.4 and 7.7 respectively while the use of information technology has a mean score of 7.2.

Testing of hypothesis:

The chi-square test is employed to test whether Basel norms have helped in fine-tuning the performance of Indian commercial banks and also to assess association of certain attributes. In each case, the null hypothesis (H0) is stated while its negation (alternative) is not explicitly stated.

Impact of Basel I

H_0: Basel I norms have not helped in fine-tuning the performance of Indian commercial banks.

The calculated chi-square value (0.55) for Basel I norms in fine tuning the performance is less than the table chi-square value (5.99) at 5% level of significance and the null hypothesis is accepted. This means Basel I norms have not helped in fine-tuning the performance of Indian commercial banks. This implies that Basel I had little effect on the performance of the banks.

In order to test whether the banks are ready to implement Basel II norms within a stipulated period, the following hypothesis is formulated, which is decomposed into 4 sub-hypotheses.

a. Time frame

H_0-A: The banks are not able to meet the time frame for implementation

It is noted that all the banks have implemented the Basel II norms for which March 2007 was the first deadline, subsequently extended by a year twice and all the banks have conformed to this schedule sooner or later.

b. Adequate infrastructure

H_0-B: The banks *do not* have adequate infrastructure for Basel implementation. *(See Table 2)*

As calculated chi-square values regarding the infrastructure are less than the corresponding table value at 5% level of significance, the null hypothesis (H0-B) is accepted which means that the banks do not have adequate infrastructure for Basel implementation.

c. Requisite database

H_0-C: The banks do not have the requisite database for application of advanced approaches. *(See Table 3)*

As all calculated chi-square value are less than the corresponding table value at 5% level of significance, the null hypothesis (H_0-C) is accepted, which means that the banks do not have the requisite database for application of advanced approaches.

Building up of database cannot be completed in a very short time as it requires careful planning, developing a mechanism for generating relevant data and its tabulation. This is a time consuming procedure even after a decision is made for the same. It is noted from the analysis and interaction with the bank departments that lack of suitable database is a serious hurdle for the full implementation. The public sector banks are ahead of their private counterparts in this regard. The latter have a more serious problem in this regard as they find it difficult to develop database, it being an expensive affair.

d. Requisite expertise

H0-D: The banks do not have requisite expertise for effective implementation of Basel II norms.

The calculated chi-square value (1.44) regarding the requisite expertise is less than the table value (5.99) at 5% level of significance. Thus null hypothesis (H_0-D) is accepted, which means that the banks do not have requisite expertise for effective implementation of Basel II norms.

Cost implications

The cost implication of Basel norms has to include expected areas of high costs, financial burden and impediments to norms. The analysis reveals that there are some areas where high cost will be incurred. These include IT networking, data base development models together with training the staff. **H_0**: The public and private sector banks do not feel differently about cost implications.

Table 2: Summary of results

Sl. No	Aspect	Degrees of freedom	Computed χ^2	Table value (5%)	Decision on H0
1	Separate department	1	3.63	3.84	Accept
2	Extent of preparedness	2	0.46	5.99	Accept
3	Reasons for non-readiness	1	0.53	3.84	Accept
4	Availability of trained staff	2	0.72	5.99	Accept

Table 3: Summary of results

Sl. No	Aspect	Degrees of freedom	Computed $\chi 2$	Table value (5%)	Decision on H0
1	Availability of up-to-date IT system	1	0.44	3.84	Accept
2	Database built up by bank	2	0.80	5.99	Accept
3	Is lack of database a hurdle?	1	0.52	3.84	Accept

The calculated chi-square value (0.78) is less than the table value (3.84) at 5% level of significance, the null hypothesis (H_0) is accepted, which means that there is no significant difference in the opinion of public and private sector banks that compliance to Basel II norms requires high cost.

Mean rating scores

The mean score for the difficulties in IT infrastructure availability of database is 9.2 which make it the most difficult task as of now. The next task is development of internal model with a mean score of 8.4. Budget has a mean score of 5.5 and integration of new and old system has mean score of 5.6. The mean score regarding the impediments to Basel implementation indicate that insufficient data base has a mean score of 8.4, followed by IT networking with a mean score of 7.4 and lack of trained personnel at a score of 7.2. Availability of finances is rated at a mean score of 6.3.

With regard to migration of banks to advanced approaches, the mean score indicates that employee willingness is positive at a mean score of 9.6, trained staff at 7.8, management cooperation at 9.8, availability of capital at 8.9, availability of internal models at 6.4, availability of database at 5.9, RBI support at 8.9 and ability to face financial crisis at a mean score of 7.3. This clearly shows that there is a positive mood regarding migration to advanced approaches which is hindered by lack database and internally developed models.

Performance *before* and *after* implementation of Basel Norms

The analysis of responses brings to the forefront a few points which include the following:

1. A significant improvement in performance of banks after implementation of Basel norms I and II, the latter being more detailed and sophisticated.
2. About half of the banks expressed need for some more time for effectively competing with foreign banks.
3. The financial institutions have a major responsibility towards avoidance of financial crisis. In fact the crisis of the year 2008 could have been averted, but for the lax working of a few large financial institutions.
4. The Basel II norms do have a few loopholes, particularly with respect to clarity of risk concepts and their evaluation methods.
5. The capacity of the banks to monitor risks, strengthen commercial banking, absorb shocks; reduce NPA as well as losses has substantially improved due to the norms.
6. The large private and public sector banks are on par on most of the respects, as revealed by fairly homogeneous responses.

Trends in CAR and NPA values

The CAR values as per Basel norms were analysis by computing their average, mean and range in order to know the changes during the period 2007- 2012. NPA values were analyzed similarly. A new index of performance *(k)* is computed as the ratio of NPA to CAR which fuses together the concepts of CAR to NPA. The average of these ratios was examined to determine suitable weights for the two

components. A modified ratio *(k*)* is also proposed as ratio of NPA to excess of CAR over its prescribed minimum.

For the sake of clarity and conciseness, the average and the range of CAR and NPA are computed for ***all the banks*** under study. These values are obtained from the Reports on Trend and Progress of Banking in India. Across the years, we can note a slowly increasing trend in CAR except in the year 2011, while the CAR of private sector banks is comparatively higher. As far as the bank groups are concerned, the average CAR is more or less on par. The newly proposed index k provides a good summary picture.

In the case of NPA, the average values in the public sector show an increasing trend, except in 2008-09. On the other hand, the average NPA in the private sector rose slightly in 2008-09 but drastically fell in subsequent years. On comparing the public and private sectors, the NPA of public sector banks have increased while the same have decreased in the case of the latter. This is an indication that the public sector banks have to be cautious and have to initiate steps to reduce their NPA.

The NPA to CAR ratio has been increasing in the case of public sector banks on a year to year basis while the same has a decreasing trend in the private sector. It is noted here that public sector banks though large in size, kept a lower CAR while their NPA was higher as compared to private sector banks which have a reverse position. This calls for lowering of NPA of public sector banks.

Findings, conclusions and recommendations

The study is an in-depth analysis of the banking sector in the context of the Basel framework. The stated objectives of the study have been reasonably met, thus giving an up to date profile of Indian commercial banks, choosing 10 from each sector as pivots. The need for Basel norms prompted by a few freak financial dealings in the banking sector was outlined. Basel I with its one-size fits all approach and an oversimplified set up had only limited impact but it served as a good fore-runner to the later versions. Basel II hinges around its three pillars and is noteworthy for its approach to risk management and guidelines to risk evaluation. The novelty here is on the risk weighting system and also provision for advanced approach for risk evaluation.

A. Findings

Basel II norms have been complied with by all the banks before the extended deadline of March 2009. However the extent of implementation, particularly with reference to risk evaluations methods like advanced approach, is short of being complete. There is deficiency with respect to expertise, database, staff training, IT infrastructure and finances. The paucity of past data is a hindrance in this regard. The employees are willing by and large, the top management is supportive but IT networking needs upgradation in most of the cases. This has resulted in varying pace of Basel implementation. The financial implications do not appear to pose a serious problem, though most of the banks seem to have under estimated the costs. Suitable training to the staff regarding Basel norms also needs to be vigorously pursued to lessen the dependence on the external agencies. As far as the cost aspect is concerned, there is a subtle point. In the modern competitive banking scenario factors like inter and intra branches networking and efficient use of IT for banking operations and administration is inevitable for a competitive edge. Thus costs on this front should not be attributed to only Basel norms as such. However, the costs of staff training on the norms and of building the extra database may be attributed to the norms. But these will be more than compensated by improved efficiency in the long run. There would also be a few corollary benefits associated with a better brand image of the bank.

There has been a significant improvement in the performance of banks as revealed by a "before and after" comparison. It was strongly felt that the financial crisis of the year 2008 could have been averted, had the norms been strictly in place. The capacity of the banks to monitor risks, strengthen commercial banking, absorb financial shocks, reduce NPA etc. has significantly improved after application of the norms. There appears to be very little difference between the public and private sector banks in the stability aspect, except that often the working horizon of private sector banks is narrower.

B. Conclusions

From the analysis, it may be concluded that the Basel norms are a strong step in streamlining and monitoring the banking operations. They provide an inbuilt resilience to weather financial storms and manage risks efficiently. Building of relevant base of past data is a prerequisite for advanced approaches to risk evaluation. This aspect needs to be urgently. RBI should pay more attention to this aspect, giving a set of workable and exhaustive guidelines to the banks. Providing good training to the staff on Basel norms also calls for top priority. These aspects assume added importance in view of Basel III norms now under implementation from mid-2013.

The Basel II norms do have a few loopholes, particularly with respect to clarity of risk concepts and their evaluation methods. The capacity of the banks to monitor risks, strengthen commercial banking, absorb shocks; reduce NPA as well as losses has substantially improved due to the norms. The large private and public sector banks are on par on most of the respects, as revealed by fairly homogeneous responses.

The new norms seem to favour the large banks that have better risk management and expertise, who also have better capital adequacy ratios and geographically diversified portfolios. The smaller banks are also likely to be hurt by the rise in weightage of interbank loans that will effectively price them out of the market. Thus, smaller banks will have to restructure and adapt if they are to survive in the new environment.

Asset quality of banks was low before the implementation of Basel II, which aims at ensuring the allocation of capital to more risk sensitive assets. Similarly the implementation of Basel II has raised issues relating employee training and knowledge and database management. On the Supervisory review process front, it is an effective pillar in the hands of regulators. However Indian banks lack ability to compete globally.

C. Recommendations

The following are a few suggestions that emerge from the study:

1. Since improved risk management and measurement is needed, more and more banks may have to use internally developed models and their success depends on their effectiveness. Most of these models require some past data.
2. The technology infrastructure in terms of computerization is still in a nascent stage in most Indian banks. Computerization of branches, especially for those banks which have their network spread out in far flung areas, will be a daunting task. Implementation of the Basel II will require huge investments in information technology. Hence banks need to concentrate on improvement of IT infrastructure.
3. The reserve bank could support the banks with proper demarcation of the expenses other than those provided by the Indian Companies Act. Similarly banks need to increase budget for effective implementation of norms.
4. There is a need for a proper mechanism to evaluate future IT systems and the potential monetary losses in their absence.
5. Banks have to train their employees on the risk management front so that they can have a better perspective of Basel Accord.
6. Basel II is basically about better risk management anchored in sound corporate governance. The central bank needs to ensure strong corporate governance practices in the banking industry. The Indian Banking Association may conduct regular workshops on corporate governance for the bank's Board Members

Contributions of the thesis

The present work is hoped to make a useful positive contribution to the limited fund of knowledge on the implementation and impact of Basel norms in banking sector in India. It compares and contrasts the three Basel versions, discusses in detail the three pillars of Basel II, assesses the impact of Basel norms I and II and identifies a few barriers for effective implementation. The pre and post implementation scenarios are evaluated both through respondents' opinion and analyzing trends in the numerical parameters like CAR and NPA. The cost implications in the short and long runs are dwelt upon, indicating the robustness that is brought into banking via Basel norms implementation.

In short, this work makes a five-fold contribution on a modest scale as follows:

1. The profiling of the Indian banking sector.
2. Assessing the preparedness of Indian banks (public and private) for effective implementation of Basel norms.
3. Summarizing the scenarios, *before* and *after* implementation of the norms.
4. Analyzing the trends in CAR and NPA values together with proposing a **new index of performance**.
5. An up-to-date survey of literature and indicating directions for further research work.

Scope for further work

There is plenty of scope for case studies too, for example, instances of individual institutions. Such case studies can provide models, identify the bottlenecks and reveal methods for overcoming these hindrances. Similar studies may be carried out in other nodal points and periodical assessment over a span of time. The latter protects against findings becoming obsolete under a dynamic banking scenario.

It will be interesting to assess the long run *asset creation effect* of Basel norms, (positive effect) and the short run *preventive effect* of reduction in losses or NPA. The banking sector has been undergoing changes of late, due to globalization and increased volatility as well as competition in banking. This necessitates quick and continuing assessments on different fronts like risk management, scope for banking in different areas (micro and macro finance), networking, providing of complete banking solutions via IT, security against frauds etc. This gives ample scope for *exploratory, descriptive* as well as *evaluation* research which can often be concurrent, with an ongoing Basel implementation. Besides the above, some areas for further work include the following.

a. *A cost-benefit analysis* to know whether banks are reaping the benefits from the norms.

b. With Basel III in the offing, there is a scope to suggest modalities for its implementation, in the light of Basel II experience.

c. To study the implementation and impact of Basel III subsequently and its ramifications for Indian banking sector.

References:

Chandrashekar 2010, "Manipulating Basel III", Economic and Political Review, Vol XLV, No 37.

Kasturi Nageswara Rao 2000, "NPAs-Ground realities", chartered Financial Analyst, April, p.p. 43-46.

Leeladhar, V., 2007, "India's preparedness for Basel II Implementation", Special Address delivered by Deputy Governor, Reserve Bank of India at the Panel Discussion during "FICCI-IBA Conference on Global Banking : Paradigm Shift", held on September 13.

Mandira Sarma and Yuko Nikaido 2007, "Capital Adequacy Regime in India: An Overview", Working Paper No. 196, Indian Council for Research on International Economic Relations.

Minaxi Dhariwal 2006, "Risk Management and Basel II, Journal of Bank Management", December.

Mishra RN 2004, "Basel II: Pillar 2 - The Supervisory Review process" Professional Banker, June.

Murthy S S N & Bhaskar Sharma, 2011 "Basel III Norms: Implications on Banking System", The analyst, IUP, January.

Ramakrishnan.K., 2007 "Basel-II Implementation and Risk Management", The Indian Banker, December.

Reddy K.P. 2002, "A comparative Study of Non-performing Assets in India in the Global Context: Similarities and Dissimilarities, remedial measure", IIM Ahmedabad, India Research, 20(2-3), 107-119.

Reddy Y.V. 2006, "Challenges and implications of Basel II for Asia", Speech by Governor, Reserve Bank of India at Asian Development Bank's 39th Annual Meeting in Hyderabad on May 3, 2006

Singla H.H. 2008, "Financial Performance of Banks in India", ICFAI Journal of Bank Management Vol 7, No. 1m February. Pp 50-62.

Subba Rao 2012, RBI to implement Basel III from January 1, 2013, The Hindu.

Vyas, R.K., Singh Manmeet and Kashif, Mohd. 2007 "Capital Regualtion and Credit Growth in Indian Banks", Amity Business, Review, Vol 8, No 2, July-Dec. pp21-33.

Journals and Bulletins

Banking and Finance Journal, Kolkata

Professional Banker Journal, ICFAI Press, Hyderabad

Annual reports of banks

Indian Banks Association (IBA) Bulletins

RBI Bulletin

Websites

www.rbi.org.in

www.bis.org.in

www.icai.org

www.bcsbi.org.in

www.iba.org.in