Chapter-3
Research Methodology & Research Design
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RESEARCH METHODOLOGY & RESEARCH DESIGN

The present study was undertaken to compare the Implementation of Basel II Accord and its Implication in Indian and U.A.E. Banking Sector. After a thorough study of the previous works on the topic, the methodology to undertake the present study was evolved. The present chapter discusses the methodology adapted for the present study in detail.

3.1 Need of Study

- Lack of comparative assessment of impact of environment on Basel-II readiness and implementation status, as it will help the decision makers to clarify whether uniform Basel-II framework is applicable universally or it needs some adaptations according to local needs.

- Lack of comparative assessment of impact of ownership, as it will help the decision makers to understand the specific issues related with different types of owners of banks in order to ensure the uniform implementation.

- To assess the present status in readiness and implementation.

- To assess the readiness in connection with Pillar III recommendations.

3.2 Detailed Statement of Problem

Indian Banking Sector

The banking sector being life blood of the economy. Banks are a critical and important component of any economy. They provide financing for economic enterprises, basic financial services to a broad segment of the population, and access to payment systems. In addition, some banks are expected to make credit and liquidity available in different market conditions. The importance of banks to national economies is underscored by the fact that
banking is, almost universally, a regulated industry and that banks have access to government safety nets.

The economy of India, measured in USD exchange-rate terms, is the twelfth largest in the world, with a GDP of around $1 trillion (2008). It recorded a GDP growth rate of 9.0% for the fiscal year 2007–2008 which makes it the second fastest big emerging economy, after China, in the world.

The Indian money market is classified into: the organised sector (comprising private, public and foreign owned commercial banks and cooperative banks, together known as scheduled banks); and the unorganised sector (comprising individual or family owned indigenous bankers or money lenders and non-banking financial companies (NBFCs)). The unorganised sector and microcredit are still preferred over traditional banks in rural and sub-urban areas, especially for non-productive purposes, like ceremonies and short duration loans.

Prime Minister Indira Gandhi nationalised 14 banks in 1969, followed by six others in 1980, and made it mandatory for banks to provide 40% of their net credit to priority sectors like agriculture, small-scale industry, retail trade, small businesses, etc. to ensure that the banks fulfil their social and developmental goals. Since then, the number of bank branches has increased from 10,120 in 1969 to 98,910 in 2003 and the population covered by a branch decreased from 63,800 to 15,000 during the same period. The total deposits increased 32.6 times between 1971 to 1991 compared to 7 times between 1951 to 1971. Despite an increase of rural branches, from 1,860 or 22% of the total number of branches in 1969 to 32,270 or 48%, only 32,270 out of 5 lakh (500,000) villages are covered by a scheduled bank.

The public sector banks hold over 75% of total assets of the banking industry, with the private and foreign banks holding 18.2% and 6.5% respectively. Since liberalisation, the government has approved significant
banking reforms. While some of these relate to nationalised banks (like encouraging mergers, reducing government interference and increasing profitability and competitiveness), other reforms have opened up the banking and insurance sectors to private and foreign players. Since liberalisation, the government has approved significant banking reforms. While some of these relate to nationalised banks (like encouraging mergers, reducing government interference and increasing profitability and competitiveness), other reforms have opened up the banking and insurance sectors to private and foreign players.

More than half of personal savings are invested in physical assets such as land, houses, cattle, and gold.

The banking sector reforms were initiated in India as a part of the overall structural reforms aimed at improving the productivity and efficiency of the economy. The banking sector has undergone the far reaching changes since the year 1991.

**UAE Banking Sector**

The Banking sector in UAE until recently had been growing significantly mainly as a result of relatively low interest rate environment, high oil prices and a flourishing economy. With high GDP growth rates achieved in the recent past and surge in oil prices, the sector had been growing over 30% year on year in the past five years. At the end of 2008, the total assets of UAE banks stood at AED 1,480.5bn, the largest among the GCC countries. The sector comprised of 24 national banks and 28 foreign banks having aggregate branch network of 638. The presence of 52 banks to serve a population of 4.7mn is relatively high which makes UAE one of the highest penetrated banking countries in the world. Central Bank of the UAE has played an important role in streamlining the banking operations and increasing consumer confidence. Furthermore, the DIFC has been a catalyst in attracting
internationally reputed commercial banks and financial institutions. In comparison to the GCC banks, UAE banks have performed better than other country's banks.

Finally, Dubai/UAE banks play relevant role in enhancing the private sector as claims on the latter are estimated at almost 80% of total claims on credit facilities.

Moody's views the UAE banks as having strong financial fundamentals overall, with satisfactory capitalisation levels and fully provided non-performing loans. "High oil revenues over the past five years have served as a catalyst for growth and the accumulation of substantial financial reserves, and the banking sector's strong association with local governments/quasi-government institutions, which are the principal architects and drivers of infrastructure, have helped to boost the franchises of local banks," explains Mr Tofarides.

Both the economies are economically diverse, the Indian economy which is considered the largest economy is aiming at total transformation from the mere social oriented leading to the purpose and security-oriented lending through series strategic changes implemented in the bank in phased manner from 1991 onwards. In comparison to the oil price-led liquidity in the economy which saw excellent growth in the last few years. Good times predominantly owed to the high credit and deposit growth on the back of relatively low interest rate environment, high oil prices and a flourishing economy.

Asset expansion through proper risk management culture is another important strategic dimension in the Basel II context with matching supervision, audit and vigilance systems, which should encourage capturing business rather than driving it away.

The Basel II going on live from 1st January 2008 in UAE and 31st March 2008-2009 in India the banks have mainly been focussing their efforts to
become Basel II compliant. Basel II is likely to have a major impact on the way in which a bank conducts its business, with which the bank does business with, how the bank will account for that business and even whether the bank will do business at all. We were aware that banks faced a huge workload in implementing the accord against a tight timetable, a task made more complex by the major uncertainties introduced by the lack of finality in the consultation process.

These things raised the following questions

- The assessment of the adoption by India and UAE banking system of the new capital requirement
- The examination of adequacy of regulatory and legal environment for implementation of the Basel II Accord in the two countries Banking Sector.
- How do Indian and UAE banks monitor and evaluate risks; including the calculation of economic capital?
- Which Basel II approach (standard or advanced) Indian and UAE banks have chosen or choose?
- The examination of the effectiveness of the existing Business Risk Management systems by the banks operating in the UAE and India.
- How will it affect their regulatory capital base and risk management? How far the new capital arrangement will result in less or more stringent capital requirements?
- The examination of the adequacy of the Internal Control Systems in banks operating in India and UAE.

The above questions have encouraged to study the problems faced by banks in implementation of Basel II accord and the impact on the business thereto therefore present the research under the title “A Comparative Study of
Implementation of Basel II Accord and its implication in Indian and U.A.E. Banking Sector”.

3.3 Justification of Study

As the Basel-II, Pillar-II implementation is scheduled to be over in 2009, while the Pillar-III is concerned with financial communication and market discipline only, it is the right time to highlight the status of implementation and acceptability and preparedness for the Pillar-III.

3.4 Scope of Study

The present study has a very wide scope from the point of view of academicians, bankers and planners:

1. Academicians: The academicians will get a chance to understand various relationships between banks, environmental impact on transition, impact of ownership on transition, relationship between banks and solution providers, relationship between banks and regulating authorities, relationship between banks and government, implication on various stakeholders, the impending fears amongst the banking personnel, and their perceptions regarding various issues involved in the transition.

2. Bankers: The gap analysis will give the bankers an opportunity to understand their strengths and weaknesses in detail and thereby provide them an opportunity to diagnose the problems and take correct measures, thereby focussing their energies to the correct issues.

3. Policy Makers: The study of differences between environments and differences among different ownerships would give the policy makers an opportunity to mould their policies and regulations in such a way so as to facilitate the smooth transition.
3.5 Aims & Objectives of Study

The present study was carried out with an aim to study the Implementation of Basel II Accord and its Implication in Indian and U.A.E. Banking Sector.

For the above aim the following objectives were framed for the present study:

- To study the clarity of the main spirit of the New Basel Capital Accord through the three pillars specified in the Accord and their implementation in the Banks across India and UAE.

- To study the two economies *i.e.* India and UAE in reference to regulatory and legal framework and thereby understanding the overall regulatory guidance and constraints;

- To find out areas of concern /obstacle in respect to implementing the Basel II in the Banks with special reference commercial banks in India and UAE

- To study the approach of Indian, Foreign and UAE banks towards various risks.

- To find out problems faced by the banks in different environments.

3.6 Research Hypotheses

Based on the foregoing objective the following null hypotheses were derived to aid the present study:

**H1.** The readiness for implementation of Basel II is affected by environment.

**H1.A.** Understanding of Basel II is related with Environment

**H1.B.** Perceptions related to Relevance of Basel II, its impact and benefits are related with environment
H1.C. Implementation status and acceptability is dependent on the environment.

H1.D. Pricing and Implementation Strategy is dependent on the environment.

H2. Ability to bear the cost of implementation of Basel-II is related with environment.

H3. Relevance and adequacy of risk management processes is different in different environments.

H4. The perception regarding the effect of disclosure of information is different in two environments.

H4.A. The perception regarding the effect of disclosure of information on competence is different in two environments.

H4.B. The perception regarding the effect of disclosure of information on reputation is different in two environments.

H5. The amount of resistance to Basel II by the personnel of banks is different in different environments.

H6. The perception that successful implementation of Basel II will avert financial crises is different in different environments.

H7. The readiness for implementation of Basel II is affected by type of ownership.

H7.A. Understanding of Basel II is related with ownership type

H7.B. Perceptions related to Relevance of Basel II, its impact and benefits are related with type of ownership

H7.C. Implementation status and acceptability is dependent on type of ownership.
H7.D. Pricing and implementation strategies are dependent on ownership type.

H8. Ability to bear the cost of implementation of Basel-II is related to type of ownership.

H9. Relevance and adequacy of risk management processes is different for different types of ownerships.

H10. The perception regarding the effect of disclosure of information is different for different types of ownerships.

H10.A. The perception regarding the effect of disclosure of information on competence is different for different types of ownerships.

H10.B. The perception regarding the effect of disclosure of information on reputation is different for different types of ownerships.

H11. The amount of resistance to Basel II by the personnel of banks is different for different types of ownerships.

H12. The perception that successful implementation of Basel II in will avert financial crises is different for different types of ownerships.

3.7 Research Design

There were multiple objectives in the present study. At the one hand it was targeted to understand the banks' preparedness and attitude towards the Basel-II accord in two different environments, on the other hand it was targeted to understand the different safeguards provided in the Basel-II accord, its implications and impact on the banking industry in particular and financial world in general. For this purpose exploratory design was the most suitable research design as it explores and describes all the aspects of the problem in detail.

As two different banking environments (India and UAE) and three different types of ownerships (Foreign, Government and Private) were selected,
an observational study was directed to see whether any difference exists in the attitude towards Basel-II recommendations, perceived benefits, acceptance and preparedness towards it.

3.8 Sampling

3.8.1 Sampling Universe

The sampling universe for the study was all commercial banks either of private, government or foreign ownership working within the geographical limits of UAE and India.

3.8.2 Sampling Frame

The sample framed banks based on few parameters which included:

Primary criteria:

1. Top management in full support of implementing Basel II
2. Geographically, India and UAE
3. Adequate coverage of the public, foreign and private banks

Secondary criteria:

1. Tier I CRAR(minimum capital to risk assets ratio)
2. Capital adequacy ratio
3. Number of years of operation

The respondents were chosen on the following parameters

1. The knowledge of Basel II
2. Middle and top management of the banks

3.8.3 Sample Size

Although the study was planned as a survey, however, owing to reluctance of the respondents to participate, the observational part of the study was conducted as a pilot study. A sample size of 30 was selected as according
to Central Limit Theorem, a sample size of 30 or above is considered to represent a normal distribution.

3.8.4 Sampling Method

The study was planned to be a randomized sampling with participation of all members falling in sampling universe, however, owing to reluctance of respondents to disclose information the sampling method has to be finally changed to convenience sampling.

3.8.5 Study Groups

The study samples were divided into two major groups depending upon the environment to which they belonged.

**Group I: Commercial Banks from UAE (n=20)**

**Group II: Commercial Banks from India (n=10)**

3.9 Research Tool

3.9.1 Questionnaire Design

The questionnaire was divided into three parts, first part consisted of questions related to the information related to location of the bank and type of ownership, the second part was related with questions related to industry, the third part was a scale developed to measure the preparedness, attitude and abilities of the participating banks for Basel II. After surveying the related literature, the questions were framed following Delphi technique. For this purpose a team of six persons (from academic, banking and financial sectors) was constituted to propose questions related to various issues related to preparedness of banks towards Basel II accord and their attitude towards various issues related to its perceived benefits and impact on the functioning of bank. An attempt was made to questionnaire exhaustive and illustrative so as to provide maximum reliability.
3.9.2 Tool Testing

The tool was tested by performing reliability analysis using Cronbach alpha coefficient to be the measure for reliability. A cut-off value of 0.7 for the scale was considered to be the criteria for acceptability of the scale. The scale was then subjected to factor analysis using Principal Component Analysis method. For this, factor loadings more than 0.3 were taken as the criteria for inclusion; if multiple factor loadings or low factor loadings were found then the factor loadings were revalidated after rotation. In case of multiple factor loadings even on rotation, the item with highest value in a factor was chosen. Thus, the scale was divided further into subscales. These subscales were subjected to reliability analysis once again, and only those subscales were finally retained in the questionnaire which assured the acceptable reliability.

3.9.3 Measurement

The responses were recorded on Likert Scale, with 0 representing the most negative and 4 representing the most positive response on the particular question.

3.10 Data Collection

There were two sources of data:

3.10.1 Primary Data

Primary data was collected by administering a schedule to the respondents participating in the study.

3.10.2 Secondary Data

The secondary data was collected from numerous sources such as Banks' Annual Report, Reports of Independent Monitoring and Regulatory Bodies, Journals, Books, Internet and Newspapers.

3.11 Time Frame

The study was conducted between October 2007 to March 2008.
3.12 Pattern of Data Analysis

The primary data so collected was subjected to analysis using Statistical Package for Social Sciences Version 15.0. The data has been presented as mean±SD. The following statistical tests were employed:

1. **Cronbach's Alpha**: This was used to measure the reliability of a construct and to maintain internal consistency of the research tool. A cut-off value of 0.70 for scale, and 0.60 for subscales was taken as the criteria for acceptability.

2. **Factor Analysis**: As there were 42 items in the questionnaire, representing different aspects of the problem and sometimes same aspect from different perspectives, in order to recognize the factors that affect the outcome in unison, factor analysis was performed. The number of factors so produced were restrained to 4 in order to ascertain adequate reliability and component membership. The criteria for formation of a component was Eigen value above 1.

3. **Pearson's Chi-square test for Proportions**: Used to see whether the difference in proportion among different groups is statistically significant.

4. **Analysis of variance (ANOVA)**: ANOVA (F-test) was employed to see the differences in mean scores for the items among three different ownerships.

5. **Independent Sample's "t"-test**: Independent sample's "t" was performed to see the differences in mean scores between two different environments.

6. **Confidence Level**: The confidence level of the study was kept at 95%, hence a "p" value less than 0.05 depicted a statistically significant difference.