

RISK MANAGEMENT IN BANKING SECTOR -AN EMPIRICAL STUDY

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ABSTRACT

Risk Management is the application of proactive strategy to plan, lead, organize, and control the wide variety of risks that are rushed into the fabric of an organization's daily and long-term functioning. Like it or not, risk has a say in the achievement of our goals and in the overall success of an organization. Present paper is to make an attempt to identify the risks faced by the banking industry and the process of risk management. This paper also examined the different techniques adopted by banking industry for risk management. To achieve the objectives of the study data has been collected from secondary sources i.e., from Books, journals and online publications, identified various risks faced by the banks, developed the process of risk management and analyzed different risk management techniques. Finally it can be concluded that the banks should take risk more consciously, anticipates adverse changes and hedges accordingly, it becomes a source of competitive advantage, and efficient management of the banking industry.

KEYWORDS: Risk Management, Banking Sector, Credit risk, Market risk, Operating Risk, Gab Analysis, Value at Risk (VatR)

INTRODUCTION

Risk is defined as anything that can create hindrances in the way of achievement of certain objectives. It can be because of either internal factors or external factors, depending upon the type of risk that exists within a particular situation. Exposure to that risk can make a situation more critical. A better way to deal with such a situation; is to take certain proactive measures to identify any kind of risk that can result in undesirable outcomes. In simple terms, it can be said that managing a risk in advance is far better than waiting for its occurrence.

Risk Management is a measure that is used for identifying, analyzing and then responding to a particular risk. It is a process that is continuous in nature and a helpful tool in decision making process. According to the Higher Education Funding Council for England (HEFCE), Risk Management is not just used for ensuring the reduction of the probability of bad happenings but it also covers the increase in likeliness of occurring good things. A model called "Prospect Theory" states that a person is more likely to take on the risk than to suffer a sure loss.

2. PURPOSE OF THE RESEARCH

Risk Analysis and Risk Management has got much importance in the Indian Economy during this liberalization period. The foremost among the challenges faced by the banking sector today is the challenge of understanding and managing the risk. The very nature of the banking business is having the threat of risk imbibed in it. Banks' main role is intermediation between those having resources and those requiring resources. For management of risk at corporate level, various risks like credit risk, market risk or operational risk have to be converted into one composite measure. Therefore, it is necessary that measurement of operational risk should be in tandem with other measurements of credit and market risk so that the requisite composite estimate can be worked out. So, regarding to international banking rule (Basel Committee Accords) and RBI guidelines the investigation of risk analysis and risk management in banking sector is being most important.

3. OBJECTIVES THE STUDY

The following are the objectives of the study.

- i. To identify the risks faced by the banking industry.
- ii. To trace out the process and system of risk management.
- iii. To examine the techniques adopted by banking industry for risk management.

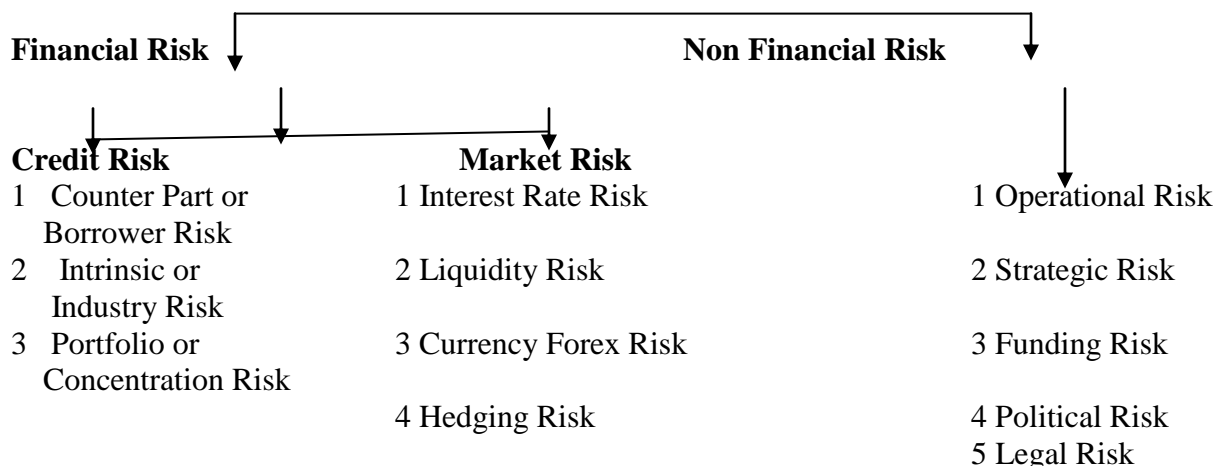
4. RESEARCH METHODOLOGY

This paper is theoretical modal based on the extensive research for which the secondary source of information has gathered. The sources include online publications, Books and journals.

5. TYPES OF RISKS IN BANKING SECTOR

In view of growing complexity of banks' business and the dynamic operating environment, risk management has become very significant, especially in the financial sector. Risk at the apex level may be visualized as the probability of a banks' financial health being impaired due to one or more contingent factors. While the parameters indicating the banks' health may vary from net interest margin to market value of equity, the factor which can cause the important are also numerous. For instance, these could be default in repayment of loans by borrowers, change in value of assets or disruption of operation due to reason like technological failure. While the first two factors may be classified as credit risk and market risk, generally banks have all risks excluding the credit risk and market risk as operational risk.

VARIOUS TYPES OF RISKS



5.1) FINANCIAL RISK

Financial risk arises from any business transaction undertaken by a bank, which is exposed to potential loss. This risk can be further classified into Credit risk and Market risk.

i) Credit Risk

Credit Risk is the potential that a bank borrower/counter party fails to meet the obligations on agreed terms. There is always scope for the borrower to default from his commitments for one or the other reason resulting in crystallisation of credit risk to the bank. These losses could take the form outright default or alternatively, losses from changes in portfolio value arising from actual or perceived deterioration in credit quality that is short of default. Credit risk is inherent to the business of lending funds to the operations linked closely to market risk variables. The objective of credit risk management is to minimize the risk and maximize bank's risk adjusted rate of return by assuming and maintaining credit exposure within the acceptable parameters.

The management of credit risk includes

- a) Measurement through credit rating/ scoring,
- b) Quantification through estimate of expected loan losses,
- c) Pricing on a scientific basis and
- d) Controlling through effective Loan Review Mechanism and Portfolio Management.

TOOLS OF CREDIT RISK MANAGEMENT.

The instruments and tools, through which credit risk management is carried out, are detailed below:

- a) **Exposure Ceilings:** Prudential Limit is linked to Capital Funds – say 15% for individual borrower entity, 40% for a group with additional 10% for infrastructure projects undertaken by the group, Threshold limit is fixed at a level lower than Prudential Exposure; Substantial Exposure, which is the sum total of the exposures beyond threshold limit should not exceed 600% to 800% of the Capital Funds of the bank (i.e. six to eight times).
- b) **Review/Renewal:** Multi-tier Credit Approving Authority, constitution wise delegation of powers, Higher delegated powers for better-rated customers; discriminatory time schedule for review/renewal, Hurdle rates and Bench marks for fresh exposures and periodicity for renewal based on risk rating, etc are formulated.

- c) **Risk Rating Model:** Set up comprehensive risk scoring system on a six to nine point scale. Clearly define rating thresholds and review the ratings periodically preferably at half yearly intervals. Rating migration is to be mapped to estimate the expected loss.
- d) **Risk based scientific pricing:** Link loan pricing to expected loss. High-risk category borrowers are to be priced high. Build historical data on default losses. Allocate capital to absorb the unexpected loss. Adopt the RAROC framework.
- e) **Portfolio Management** The need for credit portfolio management emanates from the necessity to optimize the benefits associated with diversification and to reduce the potential adverse impact of concentration of exposures to a particular borrower, sector or industry. Stipulate quantitative ceiling on aggregate exposure on specific rating categories, distribution of borrowers in various industry, business group and conduct rapid portfolio reviews.
- f) **Loan Review Mechanism** This should be done independent of credit operations. It is also referred as Credit Audit covering review of sanction process, compliance status, review of risk rating, pickup of warning signals and recommendation of corrective action with the objective of improving credit quality. It should target all loans above certain cut-off limit ensuring that at least 30% to 40% of the portfolio is subjected to LRM in a year so as to ensure that all major credit risks embedded in the balance sheet have been tracked.

ii) Market Risk

Market Risk may be defined as the possibility of loss to bank caused by the changes in the market variables. It is the risk that the value of on-/off-balance sheet positions will be adversely affected by movements in equity and interest rate markets, currency exchange rates and commodity prices. Market risk is the risk to the bank's earnings and capital due to changes in the market level of interest rates or prices of securities, foreign exchange and equities, as well as the volatilities, of those prices. The following are types of market risks;

a) Liquidity Risk:

Bank Deposits generally have a much shorter contractual maturity than loans and liquidity management needs to provide a cushion to cover anticipated deposit withdrawals. Liquidity is the ability to efficiently accommodate deposit as also reduction in liabilities and to fund the loan growth and possible funding of the off-balance sheet claims. The cash flows are placed in different time buckets based on future likely behaviour of assets, liabilities and off-balance sheet items. Liquidity risk consists of Funding Risk, Time Risk & Call Risk.

b) Interest Rate Risk

Interest Rate Risk is the potential negative impact on the Net Interest Income and it refers to the vulnerability of an institution's financial condition to the movement in interest rates. Changes in interest rate affect earnings, value of assets, liability off-balance sheet items and cash flow. Earnings perspective involves analyzing the impact of changes in interest rates on accrual or reported earnings in the near term. This is measured by measuring the changes in the Net Interest Income (NII) equivalent to the difference between total interest income and total interest expense.

c) Forex Risk

Foreign exchange risk is the risk that a bank may suffer loss as a result of adverse exchange rate movement during a period in which it has an open position, either spot or forward or both in same foreign currency. Even in case where spot or forward positions in individual currencies are balanced the maturity pattern of forward transactions may produce mismatches. There is also a settlement risk arising out of default of the counter party and out of time lag in settlement of one currency in one center and the settlement of another currency in another time zone. Banks are also exposed to interest rate risk, which arises from the maturity mismatch of foreign currency position.

d) Country Risk

This is the risk that arises due to cross border transactions that are growing dramatically in the recent years owing to economic liberalization and globalization. It is the possibility that a country will be unable to service or repay debts to foreign lenders in time. It comprises of Transfer Risk arising on account of possibility of losses due to restrictions on external remittances; Sovereign Risk associated with lending to government of a sovereign nation or taking government guarantees; Political Risk when political environment or legislative process of country leads to government taking over the assets of the financial entity (like nationalization, etc) and preventing discharge of liabilities in a manner that had been agreed to earlier; Cross border risk arising on account of the borrower being a resident of a country other than the country where the cross border asset is booked; Currency Risk, a possibility that exchange rate change, will alter the expected amount of principal and return on the lending or investment.

5.2) NON - FINANCIAL RISK:

Non- financial risk refers to those risks that may affect a bank's business growth, marketability of its product and services, likely failure of its strategies aimed at business growth etc. These risks may arise on account of management failures, competition, non- availability of suitable products/services, external factors etc. In these risk operational and strategic risk have a great need of consideration.

OPERATIONAL RISK

Always banks live with the risks arising out of human error, financial fraud and natural disasters. The recent happenings such as WTC tragedy, Barings debacle etc. has highlighted the potential losses on account of operational risk. Exponential growth in the use of technology and increase in global financial inter-linkages are the two primary changes that contributed to such risks. Operational risk, though defined as any risk that is not categorized as market or credit risk, is the risk of loss arising from inadequate or failed internal processes, people and systems or from external events. In order to mitigate this, internal control and internal audit systems are used as the primary means.

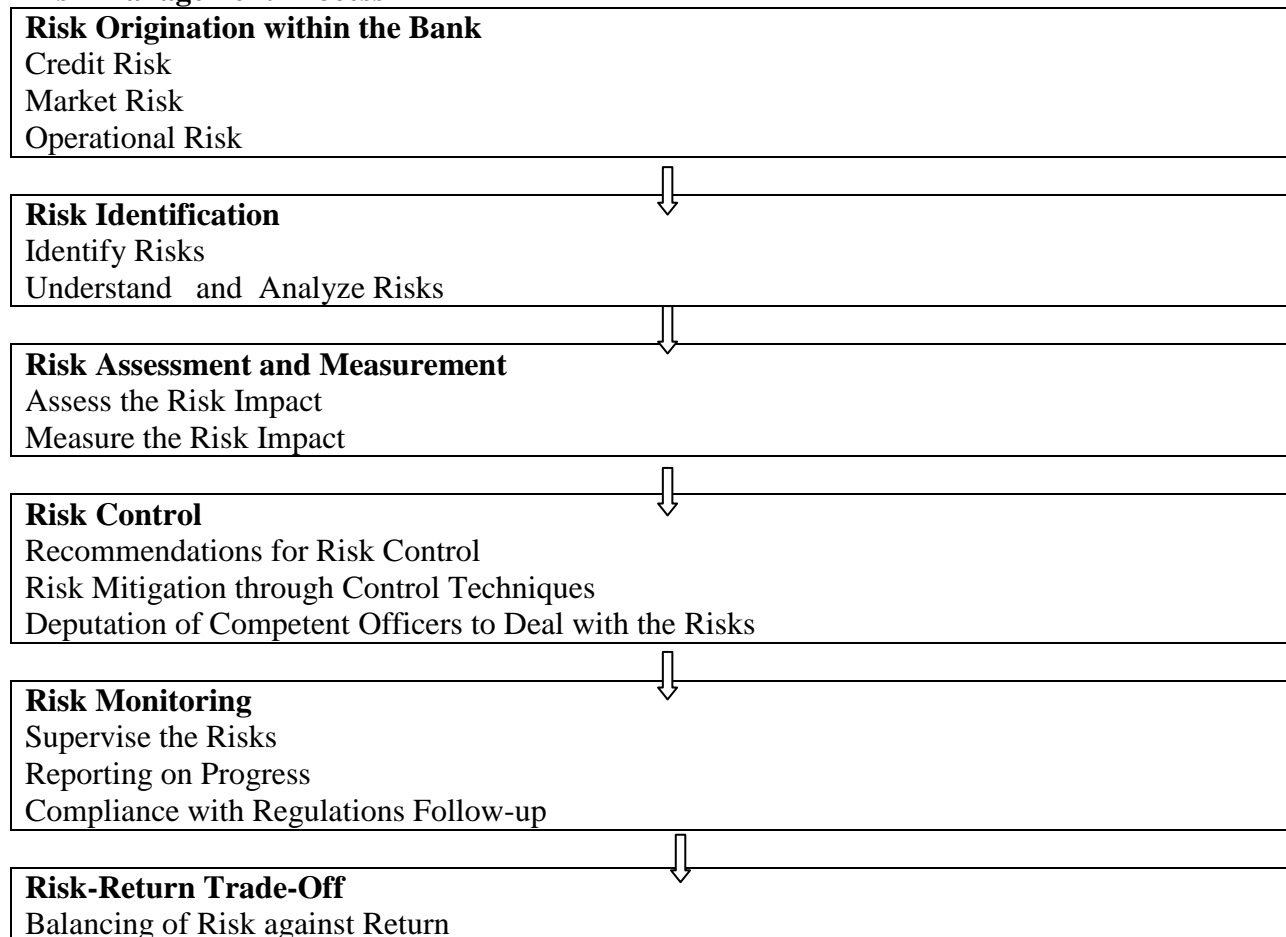
Risk education for familiarizing the complex operations at all levels of staff can also reduce operational risk. Insurance cover is one of the important mitigators of operational risk. Operational risk events are associated with weak links in internal control procedures. The key to management of operational risk lies in the bank's ability to assess its process for vulnerability and establish controls as well as safeguards while providing for unanticipated worst-case scenarios.

Operational risk involves breakdown in internal controls and corporate governance leading to error, fraud, performance failure, compromise on the interest of the bank resulting in financial loss. Putting in place proper corporate governance practices by itself would serve as an effective risk management tool. Bank should strive to promote a shared understanding of operational risk within the organization, especially since operational risk is often intertwined with market or credit risk and it is difficult to isolate.

6. PROCESS OF RISK MANAGEMENT:

To overcome the risk and to make banking function well, there is a need to manage all kinds of risks associated with the banking. Risk management becomes one of the main functions of any banking services risk management consists of identifying the risk and controlling them, means keeping the risk at acceptable level. These levels differ from institution to institution and country to country. The basic objective of risk management is to stakeholders; value by maximising the profit and optimizing the capital funds for ensuring long term solvency of the banking organisation. In the process of risk management following functions comprises:

Risk Management Process



7. TECHNIQUES OF RISK MANAGEMENT

a) GAP Analysis

It is an interest rate risk management tool based on the balance sheet which focuses on the potential variability of net-interest income over specific time intervals. In this method a maturity/re-pricing schedule that distributes interest-sensitive assets, liabilities, and off-balance sheet positions into time bands according to their maturity (if fixed rate) or time remaining to their next re-pricing (if floating rate), is prepared. These schedules are then used to generate indicators of interest-rate sensitivity of both earnings and economic value to changing interest rates. After choosing the time intervals, assets and liabilities are grouped into these time buckets according to maturity (for fixed rates) or first possible re-pricing time (for flexible rates). The assets and liabilities that can be re-priced are called rate sensitive assets (RSAs) and rate sensitive liabilities (RSLs) respectively. Interest sensitive gap (DGAP) reflects the differences between the volume of rate sensitive asset and the volume of rate sensitive liability and given by,

$$\text{GAP} = \text{RSAs} - \text{RSLs}$$

The information on GAP gives the management an idea about the effects on net-income due to changes in the interest rate. Positive GAP indicates that an increase in future interest rate would increase the net interest income as the change in interest income is greater than the change in interest expenses and vice versa. (Cumming and Beverly, 2001)

Duration-GAP Analysis

It is another measure of interest rate risk and managing net interest income derived by taking into consideration all individual cash inflows and outflows. Duration is value and time weighted measure of maturity of all cash flows and represents the average time needed to recover the invested funds. Duration analysis can be viewed as the elasticity of the market value of an instrument with respect to interest rate. Duration gap (DGAP) reflects the differences in the timing of asset and liability cash flows and given by, $\text{DGAP} = \text{DA} - u \text{DL}$. Where DA is the average duration of the assets, DL is the average duration of liabilities, and u is the liabilities/assets ratio. When interest rate increases by comparable amounts, the market value of assets decrease more than that of liabilities resulting in the decrease in the market value of equities and expected net-interest income and vice versa. (Cumming and Beverly, 2001)

c) Value at Risk (VaR)

It is one of the newer risk management tools. The Value at Risk (VaR) indicates how much a firm can lose or make with a certain probability in a given time horizon. VaR summarizes financial risk inherent in portfolios into a simple number. Though VaR is used to measure market risk in general, it incorporates many other risks like foreign currency, commodities, and equities. (Jorion, 2001)

d) Risk Adjusted Rate of Return on Capital (RAROC)

It gives an economic basis to measure all the relevant risks consistently and gives managers tools to make the efficient decisions regarding risk/return tradeoff in different assets. As economic capital protects financial institutions against unexpected losses, it is vital to allocate capital for various risks that these institutions face. Risk Adjusted Rate of Return on Capital (RAROC) analysis shows how much economic capital different products and businesses need and determines the total return on capital of a firm. Though Risk Adjusted Rate of Return can be

used to estimate the capital requirements for market, credit and operational risks, it is used as an integrated risk management tool (Crouhy and Robert, 2001)

e) Securitization

It is a procedure studied under the systems of structured finance or credit linked notes. Securitization of a bank's assets and loans is a device for raising new funds and reducing bank's risk exposures. The bank pools a group of income-earning assets (like mortgages) and sells securities against these in the open market, thereby transforming illiquid assets into tradable asset backed securities. As the returns from these securities depend on the cash flows of the underlying assets, the burden of repayment is transferred from the originator to these pooled assets.

f) Sensitivity Analysis

It is very useful when attempting to determine the impact, the actual outcome of a particular variable will have if it differs from what was previously assumed. By creating a given set of scenarios, the analyst can determine how changes in one variable(s) will impact the target variable.

g) Internal Rating System

An internal rating system helps financial institutions manage and control credit risks they face through lending and other operations by grouping and managing the credit-worthiness of borrowers and the quality of credit transactions.

8. CONCLUSIONS

The following are the conclusions of the study.

- ❖ Risk management underscores the fact that the survival of an organization depends heavily on its capabilities to anticipate and prepare for the change rather than just waiting for the change and react to it.
- ❖ The objective of risk management is not to prohibit or prevent risk taking activity, but to ensure that the risks are consciously taken with full knowledge, clear purpose and understanding so that it can be measured and mitigated.
- ❖ Functions of risk management should actually be bank specific dictated by the size and quality of balance sheet, complexity of functions, technical/ professional manpower and the status of MIS in place in that bank.
- ❖ Risk Management Committee, Credit Policy Committee, Asset Liability Committee, etc are such committees that handle the risk management aspects.
- ❖ The banks can take risk more consciously, anticipates adverse changes and hedges accordingly; it becomes a source of competitive advantage, as it can offer its products at a better price than its competitors.
- ❖ Regarding use of risk management techniques, it is found that internal rating system and risk adjusted rate of return on capital are important.
- ❖ The effectiveness of risk measurement in banks depends on efficient Management Information System, computerization and net working of the branch activities.

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