

# Blend: A Tapestry of Multi-Disciplinary Narratives

ENGLISH PART - I

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## **13. Financial Risk Management of Banking Sector**

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### **Introduction**

While risk has always been part of financial activity, the 1990's saw risk management become a key business function within banks and other financial institutions. Major reasons for its growth in importance were the massive losses incurred by some huge global companies during the 1990's, which shocked financial institutions into placing more emphasis on risk management and controls. However, industry globalization and consolidation, product complexity and the increasingly sophisticated requirements of customers were already leading to a greater emphasis on ensuring that losses were not incurred due to adverse market conditions, counter party failure, or improper controls, structures or people. These factors led to increased regulation, and banking and financial institutions now have to adhere to the principles of banking regulation advocated by the Basel Capital Accord. They must strengthen internal controls, enhance disclosure and transparency of financial information and ensure effective supervision, in order to maintain the sound operation of the banking and financial markets. This includes identifying and quantifying various risks in advance, as well as establishing and carrying out effective risk management. "The chance that an investment's actual return will be different from the expected return, including the ultimate risk of losing all of one's original investment." "Risk management is the process of assessing risks and taking steps to either eliminate or to reduce them by introducing control measures. The category of companies containing firms that provides

financial services to retail. corporate (commercial) customers. Financial sector embraces banks, investment funds, insurance companies and real estate.

### **Objective of the Study**

1. To study the types of risk.
2. To study the management of credit risk.
3. To study the process of risk.
4. To study the techniques of risk management.

### **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. 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.

### **Financial Risk**

The main financial risks associated with the activities of a bank arise as a result of the bank's operations in the financial sector. In other words, 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.

### **Credit Risk**

Credit risk is the probable risk of loss resulting from a borrower's failure to repay a loan or meet contractual obligations. Traditionally, it refers to the risk that a lender may not receive the owed principal and interest, which results in an interruption of cash flows and increased costs for collection. There is always scope for the borrower to default from his commitments for one or the other reason resulting in crystallization of credit risk to the bank. These losses could take the form outright default or alternatively, losses from changes in portfolio value arising from

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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**

- Measurement through credit rating/ scoring,
- Quantification through estimate of expected loan losses,
- Pricing on a scientific basis and
- 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:

#### **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).

#### **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.

#### **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.

### **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.

### **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.

### **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;

#### **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.

#### **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

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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.

### **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.

### **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.

### **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. 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

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basic objective of risk management is to stakeholders; value by maximizing the profit and optimizing the capital funds for ensuring long term solvency of the banking organization. In the process of risk management

### **Techniques of Risk Management 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,  $GAP = RSAs - RSLs$ . 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.

### **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,  $DGAP = DA - u DL$ . 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)

### **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)

### **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)

### **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

### **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.

### **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.

### **Conclusion**

For any business to grow and stay in the market, management style is a key and Risk management is basically the management style of managing the risks. Risk is inherent in every business and every organization has to manage it according to its size and nature of operation because without it no organization can survive in long run. In addition to that the quantum of risk is higher in finance sector than any other sector.

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