

Risk Management Practices of Selected Private Sector Banks in Kerala

Thesis
Submitted to the University of Calicut
for the award of the degree of
Doctor of Philosophy in Commerce

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Declaration

I hereby declare that the thesis entitled **Risk Management Practices of Selected Private Sector Banks in Kerala** done under the guidance and supervision of Prof. (Dr) B. Vijayachandran Pillai, is a record of bonafide research work done by me and that no part of the thesis has been presented for the award of any degree, diploma, fellowship, or other similar title or recognition before.

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Prof. (Dr) B. Vijayachandran Pillai
Doctoral Guide

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List of Abbreviations

ALCO	Asset Liability Management Committee
ALM	Asset Liability Management
AMA	Advanced Measurement Approach
BCBS	Basel Committee on Banking Supervision
BIA	Basic Indicator Approach
BIS	Bank of International Settlement
CAR	Capital Adequacy Requirement
CML	Capital Market Line
CRMC	Credit Risk Management Committee
CSB	Catholic Syrian Bank
CR	Credit Risk
FED	Federal Bank
KRI	Key Risk Indicator
LR	Liquidity Risk
PCA	Principal Component Analysis
PIM	Privileged Identity Management
PR	Profitability
OR	Operational Risk
ORMC	Operational Risk Management Committee
RMC	Risk management Committee
RBI	Reserve Bank of India
SOC	Security Operation Centre
TSA	The Standardized Approach

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Chapter 1

Introduction

1.1. Backdrop

In India Banking Industry has its foundation in the 18th century. The industry witnessed a varied evolutionary experience since then. The initial Banks in India were primarily traders' Banks engaged only in financing activities. Banking industry in the pre-independence era developed with the Presidency Banks, which were transformed into the Imperial Bank of India and subsequently into the State Bank of India.

Reserve Bank of India (RBI) is the Central Bank of India. It was established on 1st April 1935 under the RBI Act of 1934. RBI holds the apex position in the banking structure. The Reserve Bank performs various developmental and promotional functions. The initial days of the industry saw a majority private ownership and a highly volatile work environment. Major strides towards public ownership and accountability were made with nationalization in 1969 and 1980 which transformed the face of banking in India. Indian Banks are classified into Commercial Banks and Co-operative Banks. Commercial Banks include Schedule Commercial Banks and non-scheduled commercial banks. SCBs are further classified into Private, Public, Foreign Banks and Regional Rural Banks. Co-operative banks include Urban and Rural Co-operative Banks.

In recent times, banking industry in India has recognized the importance of private and foreign players in a competitive scenario and has moved towards greater liberalization. Further, in a major move that is set to redefine India's banking space, the Government of India introduced the concept of merger of Public sector Banks. Accordingly, in 2019 Dena Bank and Vijaya Bank were merged with Bank of Baroda. Again, with effect from April 1, 2020 the following mergers were introduced by the Central Government.

- Allahabad Bank with Indian Bank
- Oriental Bank of Commerce and United Bank of India with Punjab National Bank
- Syndicate Bank with Canara Bank
- Corporation Bank and Andhra Bank with Union Bank of India

Among the States in India, the State of Kerala enjoys higher financial literacy and per capita income. The State is one of the biggest contributors to the foreign exchange reserve of the country. Even though the State has a legacy of consumerism, the trend is witnessing a shift towards prospective entrepreneurship and creative management of money. The State of Kerala, God's own country, has a strong banking system. The Private sector Banking plays a pivotal role in banking environment of the State. The conventional banking system in the State was not able to cater to the credit needs of the State which caused the emergence of Private Sector Banks. The first Private Sector Bank in the State was the Nedungadi Bank Ltd which was started in 1899 in Calicut. The earlier developments in modern banking of Kerala were mostly community driven. It is evident that the Syrian Christian community played a major role in modernization of banks in the State. They started their ventures mostly around Trissur, Thiruvalla and Pala. The Catholic Syrian bank and the South Indian Bank were started by them. The first private bank from Nair community was the Cochin Nair Bank in Travancore which later merged with the State Bank of Travancore. The first bank registered under the Companies Regulation Act 1917 was the Ambalapuzha Christian Bank.

During the period of 1939-1945, there was array of Bank failures all over the country. The whole country witnessed 482 bank failures in total out of which 185 banks were the banks from Cochin-Travancore area. This includes big players like the Palai Central Bank and the Lakshmi Bank. The failure of banking system affected the smaller banks badly and some of them merged with larger banks like the Federal Bank Ltd and the South Indian Bank. This period witnessed a lot of such mergers and amalgamations. The four major private sector banks functioning in the

State of Kerala are the Federal Bank, the Catholic Syrian Bank Ltd, the Dhanalakshmi Bank Ltd and the South Indian Bank Ltd.

In the meantime, Banks functioning in all the sectors experience risks of different nature during the course of their day to day activities. The risks indicate unfavourable uncertainties which adversely affect the business and occurrence cannot be accurately forecasted. It is an unfavourable deviation from the expected or desired outcome. The risks result in negative flows in profits and are caused by multiple factors internal and external to the business. In order to enjoy the fruits of success, it is very important to minimize risk by re-engineering the internal processes and to forecast the uncontrollable factors as accurately as possible. The major risks related with Banks can be broadly classified into three viz.,

1. Liquidity risks
2. Credit risks and
3. Operational risks.

Credit risks include the possibility that a debtor to the financial institution make default in the repayment of loans or financial instruments. This is the most common risk faced by banks. The debtors are asked for security before granting of loans in order to cover this risk.

Liquidity risks indicate a situation where a bank cannot fulfill the immediate needs of money of the depositors due to over payment of loans. Here, the financial institutions make a reserve with a certain portion of the deposits in order to meet these risks.

Operational risks are those risks arising out of the internal business functions. In simple words, operational risks mean the risk caused by people, process and systems in the organization. It also includes fraud risks, legal risk, physical risks and environmental risk. The most widely accepted definition of operational risk is that stated by the Basel II regulations. It states that “Operational risk is the risk of loss

resulting from inadequacy or failure of internal processes, people and systems and external events”.

In the later decades of 20th century, the integration of banks increased on a global level and a result a need was felt for a common set of International Regulations on risk management of financial institutions. The Basel convention held in 1988 and 2004 put forward guidelines for management of credit risk and operational risk. The Reserve Bank of India issued guidelines in this respect in light of the Basel III regulations in 2012.

1.2. Significance of the Study

Banks are the agencies that bridge the individual savings to those businesses which form the backbone of the national economy. Banks are the pivotal agencies that play an important role in creation of capital for the growth and development of the country. They ensure safe custody of the savings of common man and provide interest in order to cut down the effects of inflation and to keep intact the value of money. Moreover, banks play an important role in channelizing funds in form of shares and debentures to the fixed capital of the businesses. The role played by banks in foreign trade is inevitable as the businesses can make multi - currency transactions only with the help of banks. Banking serves as the life blood of economy and fuel for the development of the nation in all arenas. Hence, utmost care is needed on the part of authorities concerned to minimize the chances of failures.

Presently, the State of Kerala accounts for 5% of the total Bank offices, 3.53% of the total bank deposits and 3.15% of the advances of the country. However, the state only accounts for 2.76% of the total population of the country. This fact shows that the healthy growth of banking system and soundness of risk management practices and procedures are of utmost importance.

Moreover, in the present era of tough competition, Banks cannot survive and succeed unless they adopt apt and effective risk management practices. The management of private banks are very particular in adopting the best innovative risk

management practices. Hence, the present study attempts to provide better insights on the risk management practices to the employees, investors and regulatory system of the banking industry. The soundness of risk management practices is a major determinant of the value of shares. As the technological advancements are taking place with a high velocity, chances of risk are more. Despite of a tool for reducing human effort, every new technology provides certain loop holes too. As banking industry is one of fastest adoptors of new technologies, risk management practices followed is a major concern of the investors and shareholders of the banks. The better the risk management practices, better is the confidence of investors.

It is hoped that the study would help the banks to identify the gaps in the risk management procedures and practices undertaken by them. The results of the study would provide a better insight into the factors which contribute to the risk of the banks and the role of risk management in improving the profitability of the Bank. The study attempts to identify the factors leading to risks of varied nature and hence the outcome of the study would be useful to the bank managements in the formulation of policies for incorporating changes in the current practices in order to cope up with the newer challenges faced by the industry. It is expected that the outcome of the study will be useful to the employees, investors and regulatory system of the banking industry.

1.3. The Research Problem in Brief

Risk is an inevitable phenomenon in all spheres, particularly in the field of Banking Industry. It is very difficult to eliminate the risks completely from the field of banking business context. However, it is highly inevitable to predict the occurrence of the various risks and which helps to adopt apt and appropriate measures to handle the situation most effectively. In the State of Kerala, the private players have come up with innovative products and services which lead to customer delight. In order to capture a sizeable share of market, the private sector Banks always compete with public Sector Banks. These banks adopt most - latest technological innovations to perform this. No doubt, all these innovative activities lead to different types of risks which hinder the Banks in achieving the aim of maximum profitability. In order to

overcome these risks, the private sector Banks now follow various measures and practices through their separate risk management department.

In spite of the existing risk management system, it is reported that the Private Sector Banks still face different types of risks like credit risks, liquidity risks, interest rate risks, operational risks and foreign exchange risks in their business. Of course, the existing risk management practices affect the profitability of the Private Sector Banks. The occurrence of these risks has significant influence not only on the success of the Bank but also on the customers and the society as a whole. From the available secondary data, it is clear that among the Private Sector Banks working in the State, the Federal Bank Ltd and the Catholic Syrian Bank Ltd are the most suitable candidates in this particular area. These two Banks occupy prominent position among the private banks in the State in the field of risk management. Therefore, it is highly imperative to develop and adopt suitable methodology in order to manage the risks of these private sector Banks most effectively. Moreover, from an exhaustive literature survey conducted by the researcher, it has been found that no systematic and elaborate investigation on the different areas of risk management of the two selected private sector Banks in Kerala has been conducted. At this juncture, it is highly relevant to conduct an investigation on this specific issue. Hence, the present research work has been undertaken.

1.4. The Research Questions

The present research work attempts to investigate into the following major research questions.

1. What are the risk management practices followed by the selected private sector banks in Kerala?
2. What is the level of risk understanding, identification, assessment, monitoring and controlling (risk management process) among the managers of the selected banks?
3. What are the key factors which contribute various types of risks in the selected Private Sector Banks?

4. Does the risk effect significantly influence the risk contributory factors of the Banks?
5. What are the tools and techniques used by the selected private sector banks for efficient risk management?
6. What are the major risk governance practices followed by the two selected Banks?
7. How different types of risks influence the profitability of the selected banks?

From the available literature, it has been found that no systematic and scientific research had been conducted so far in this particular area. Therefore, the investigator proposes to fill the gap through the present study.

1.5. Scope of the Study

The scope of the present research is restricted to an investigation on the risk management practices of the two selected private sector Banks in the State of Kerala namely the Federal Bank Ltd and the Catholic Syrian Bank Ltd. The research attempts to study and compare the processes involved in the risk management of the two selected banks from the perspective of branch managers. Moreover, the work focuses on the specific areas of identification of risk contributing factors, the influence of the effects of risks on the performance and profitability of the banks. The work attempts to analyze the relationship between these risk factors and the effects of risks. Further, the review of various risk governance practices followed by the two selected banks comes under the ambit of the present work.

1.6. Objectives of the Study

The main objective of present investigation is to conduct an in-depth analysis on the risk management practices of the selected two private sector banks working in the state of Kerala namely the Federal Bank Ltd and the Catholic Syrian Bank Ltd. To achieve the main objective, the following specific objectives have been set forth.

1. To examine the existing risk management practices followed by the selected banks.
2. To review and compare the processes involved in the risk management of the two selected banks from the perspective of branch managers.
3. To identify the overall risk contributory factors and to analyze the effect of these risks on the performance of banks.
4. To study the risk governance practices followed by the selected Banks.
5. To analyse the influence of different types of risks on the profitability of the selected Banks.

1.7. Hypotheses

In line with the above stated objectives, the following hypotheses were developed and tested with the help of suitable statistical tools.

Based on Objective No.1

1. H0: There is no significant difference between Catholic Syrian Bank and Federal Bank in the case of risk management practices followed.
2. H0: In the case of strategic direction and policy followed, there is no significant difference between Catholic Syrian Bank and Federal Bank.
3. H0: In the case of risk tackling techniques followed, there is no significant difference between Catholic Syrian Bank and Federal Bank.
4. H0: In the case of risk profile and communication followed, there is no significant difference between Catholic Syrian Bank and Federal Bank.

Based on Objective No.2

5. H0: In respect of risk understanding, there is no significant difference between the Catholic Syrian Bank and Federal Bank.

6. H0: In respect of risk identification, there is no significant difference between the Catholic Syrian Bank and Federal Bank.
7. H0: In respect of risk assessment and analysis, there is no significant difference between the Catholic Syrian Bank and Federal Bank.
8. H0: In respect of risk monitoring and controlling, there is no significant difference between the Catholic Syrian Bank and Federal Bank.

Based on Objective No.3

9. H0: There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effect of credit risks on the performance of the Banks.
10. H0: There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effect of operational risks on the performance of the Banks.
11. H0: There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effect of liquidity risks on the performance of the Banks.
12. Ho: There is no significant difference between Catholic Syrian Bank and Federal Bank in respect of risk contributory factors and effects of credit risks.
13. Ho: There is no significant difference between Catholic Syrian Bank and Federal Bank in respect of risk contributory factors and effects of operational risks.
14. Ho: There is no significant difference between Catholic Syrian Bank and Federal Bank in respect of risk contributory factors and effects of liquidity risks.

Based on Objective No. 4

15. H0: In respect of the risk governance practices followed, there is no significant difference between the Federal Bank and Catholic Syrian Bank.

Based on Objective No. 5

16. H0: The liquidity risks have no significant relationship on the profitability of both the Catholic Syrian Bank and Federal Bank.
17. H0: The credit risks have no significant relationship on the profitability of both the Catholic Syrian Bank and Federal Bank.
18. H0: The operational risks have no significant relationship on the profitability of both the Catholic Syrian Bank and Federal Bank.
19. H0: The credit risks, operation risks, liquidity risks have no significant influence on the profitability of Catholic Syrian Bank.
20. H0: The credit risks, operation risks, liquidity risks have no significant influence on the profitability of Federal Bank.

1.8. Operational Definition of Terms and Concepts

The important terms and concept used in the study are explained briefly below.

- **Risk Management Practices**

Risk management practices refer to the practices followed for assessing the possible risks and taking corrective steps to eliminate or mitigate them.

- **Risk Management System**

Risk management system refers to the total of risk management processes, risk management practices and risk governance.

- **Risk Management Process**

Risk management process is the combination of risk understanding, risk identification, risk assessment, risk monitoring and risk controlling.

- **Risk Understanding**

Risk understanding means to understand the various risks associated with the organization. The risk understanding procedure includes clear definition of organizational hierarchy and understanding the risk management systems of the organization

- **Risk Identification**

Risk identification is a process which includes accessing the strength and weakness of the organization and also prioritization of risks.

- **Risk Assessment and Analysis**

Risk assessment and analysis includes imparting awareness of different risks found and the estimation of the probability of the harmful effects. The risks are assessed by using quantities and qualitative techniques, cost and benefit analysis, credit worthiness analysis and usage of modern tools and techniques.

- **Risk Monitoring and Controlling**

Risk monitoring and controlling is the final step of risk management. It is associated with adoption of a standard reporting system, revision of the country rating, organizational communication and routine reporting.

- **Risk Contributory Factors**

They are those factors which lead to different kind of risks. These factors include rigid risk management strategy, absence of standard reporting, high absenteeism of employees, non - supportive working environment, non - responsive top - level management and absence of smooth flow communication.

- **Effects of Risks**

It is the sum total of effects of credit risks, effects of operational risks and effects of liquidity risks.

- **Effects of Credit Risks**

They are those effects of risks associated with loans and borrowings. The major effects of this risk are reduced bank profitability, increase in NPAs and financial distress. All of them adversely affect the banks reputations.

- **Effects of Operational Risks**

Operational risks means risk connected with banks day to day operations. It includes those risks which occur by virtue of people, process and system of the organization. The effects operational risks include damages to bank assets, damages to bank's reputation, business interruptions and disputes in which banks become legally liable.

- **Effects of Liquidity Risks**

They are those effects of risks associated with liquidity position of the bank. The major effects of this risks include instability of banks, business interruption, damages to banks reputation and disputes in which the bank become legally liable.

- **Risk Governance Practices**

It includes those practices followed by the top - level authority for effective risk management. It includes creation of effective risk management policies by the risk management committee and overall monitoring and controlling.

- **Credit Risk Analysis**

It includes analyzing the possibility of non- repayment of loans and borrowing advanced by the bank. The credit risk analysis is a grand total of credit risk strategies set by board of directors, framing of credit risk policy and proper verification of borrower credibility. It measured by dividing the total debts by total assets.

- **Liquidity Risk Analysis**

This includes the possibility to be in a situation where the bank cannot repay its deposits promptly in the demanded time. The liquidity risk analysis includes clear

definition of liquidity risk strategy and periodic preparation of liquidity risks reports. It is calculated by dividing the total amount of loan advanced by the bank by total deposits received.

1.9. Methodology and Database

1.9.1 Method of Research

The method of the research is both descriptive and analytical in nature. It is descriptive because it is a fact - finding investigation and focuses on particular dimensions of the problem by gathering descriptive information. Since the study uses the statistical methods for analyzing the quantitative data, it can be described as an analytical study also.

1.9.2 Sources of Data

Both the secondary and primary data were collected and used for the purpose of the study.

A. Collection of Secondary Data

The secondary data needed for the study were gathered from the following sources.

- BASEL Committee on Banking Supervision
- Business Line
- Economics Times
- Financial Reports of Banks
- ICFAI Journal of bank Management
- Indian Journal of Finance
- International Journal for Financial Research
- International Journal of Financial Management
- International Journal of Finance Management and Economics

- IUP Journal of Accounting Research and Audit Practices
- Journal of Banking and Finance
- Journal of Business Finance and Accounting
- Journal on Banking Financial services and Insurance Research
- Journal of Banking & Insurance Law
- Journal of Multinational Financial Management
- Journal of Public Financial Management
- Journal of Risk and Financial Management
- Journal of Risk Finance
- Journal of Risk and Uncertainty
- Reserve Bank of India(RBI) (2019), Guide Line for Risk Management
- The Hindu
- The journal of Finance

B. Collection of Primary Data

The present research work is mainly based on primary data. The primary data were collected through observations, discussions and interviews with the chief risk managers at the corporate office and various bank managers of branches of the selected two private sector banks in Kerala.

1.9.3. Sampling Design Adopted

A two - stage sampling method has been adopted for the study. In the first stage sample banks were selected and in the second stage from the sample banks, sample branch managers were selected.

The details of the sample design adopted for the study are shown below.

Stage 1. Selection of Sample Private Sector Banks

For the purpose of the detailed study, two Private sector Banks functioning in the State of Kerala have been selected. These two banks are

- (i) The Federal Bank Ltd
- (ii) The Catholic Syrian Bank Ltd

These two banks have been selected due to two reasons. The first one is that the two banks operate an established system for the management of various types of risks compared to other Private Banks. Moreover, the Corporate office of these two banks has been situated in the State of Kerala.

Stage 2. Selection of Sample Branch Managers

The method adopted for the sample branch managers is described below.

(i) Population

The Branch Managers of the Banks constitute the Population of the Study. As per the records maintained by the Banks as on 31 March 2019, the number of Branches of the Federal Bank and the Catholic Syrian Bank is 1088 and 419 respectively.

(ii) Determination of Sample Size of Bank Managers

The sample size of Bank managers is determined by using US National Education Association Statistical Table and formula by Krejcie and Morgan (1976). The formula applied to calculate the sample size is

$$S = \frac{\chi^2 NP(1-P)}{d^2(N-1) + \chi^2 P(1-P)}$$

S = Required Sample Size

χ^2 = The table value of chi-square for 1 degree of freedom at the desired Confidence level (.10 = 2.71 .05 = 3.84 .01 = 6.64 .001 = 10.83)

N = The population size

P = The population proportion (assumed to be .50 since this would provide the Maximum sample size)

d = The degree of accuracy expressed as a proportion (.05)

Thus, the sample size of Branch Managers of the Federal Bank Ltd is determined as under.

$$S = 3.84 \times 1088 \times (0.5)(1-0.5) \div (0.05^2)(1088-1) + 3.84(0.5)(1-0.5)$$

$$= 284$$

Accordingly, the sample size of the Managers of the Federal Bank Ltd is taken as **284**.

Similarly, in the case of the Syrian Catholic Bank Ltd, the sample size is calculated as follows.

$$S = 3.84 \times 419 \times (0.5)(1-0.5) \div (0.05^2)(419-1) + 3.84(0.5)(1-0.5)$$

$$= 201$$

Therefore, **201** Branch Managers are taken as sample in the case of the Catholic Syrian Bank Ltd.

Altogether, 485 sample branch managers were selected as sample for the investigation. The method of simple random sampling through lottery method has been adopted for the selection of sample bank managers in both the Banks.

A picture of the Population and sample size of the Bank Managers of the selected Banks is exhibited in Table 1.1.

Table 1.1
Population and Sample Size of the Branch Managers

SL. No.	Sample Bank	Population (No.)	No of Sample Managers Selected
1.	The Federal Bank Ltd	1088	284
2.	The Catholic Syrian Bank Ltd	419	201
	Total	1507	485

1.9.4. Tools/ Instruments for Primary Data Collection

In order to elicit the required data from the risk managers of the corporate offices of the two selected banks, a structured questionnaire was developed and administered. The qualitative data required for the study have been collected with the help of a specially designed interview schedule having open-ended questions to collect free responses from the risk managers of corporate offices in the selected banks.

In addition to these, for collecting valuable data from the selected branch managers, another structured questionnaire was designed with four parts namely Part I Demographic Information, Part II Risk Management Practices and Risk Management Process, Part III Risk Contributory Factors and Risk Effects and Part IV Risk Governance Practices and Risks and Profitability Analysis. Further, interviews and discussions were held with experts in the field, the senior managers and officials from the banking sector in order to get an insight into the subject. The specimen forms of the Questionnaires and the Interview schedule are given in the appendixes I, II and III.

1.9.5. Pilot Study and Pre-test

A pilot study was conducted among 60 Bank managers, 30 from the Federal Bank Ltd and 30 from the Catholic Syrian Bank Ltd before finalizing the Instruments for data collection. The questionnaires were cross-checked by the experts in the field like risk managers from the Corporate Offices of the Banks, Branch Managers, Chartered Accountants, Academicians, and their suggestions are incorporated in it. After a pilot study, keeping in view of the findings and observations derived from the pilot study, suitable modifications were incorporated into the questionnaires and thus finalized. Thereafter, the work of collection of primary data from the sample branch managers of selected banks was done.

The survey for data collection was conducted during the period August 2019 to January 2020, covering a period of six months.

1.9.6. Reliability and Validity Tests

For the scale evaluation, reliability and validity testing have been performed.

A. Reliability Tests

A reliability test using Cronbach's Alpha was applied to check the internal consistency of the scaled statements in the questionnaires. Reliability refers that a scale generates the same result if measurements are repeated. Cronbach's Alpha for these 117 statements was found 0.853 which is higher than the standard Cronbach's Alpha. Cronbach's Alpha values are found more than 0.70 for all the variables in the schedule and hence it is proved that internal consistency of the scale is high and the questionnaire can be considered as highly reliable. The details are shown in Table 1.2.

Table 1.2
Reliability Statistics

Index	Dimensions	Cronbach's Alpha	No. of Items	SL No. in the Final Instrument
RM	Risk Management Practices.	0.853	12	6.1-6.12
RMP	Risk Understanding	0.833	5	9.1-9.6
	Risk Identification	0.751	5	9.6-9.10
	Risk Assessment and Analysis	0.844	8	9.11-9.18
	Risk Monitoring and Controlling	0.850	7	9.19-9.25
RCF	Risk Contributory Factors	0.847	20	15.1-15.20
RE	Credit Risk Effects	0.851	4	16.1-16.4
	Operational Risk Effects	0.857	4	16.5-16.8
	Liquidity Risk Effects	0.842	4	16.9-16.12
REs	Risks Experiences	0.831	12	17
RGP	Risk Governance Practices	0.860	16	18.1-18.16
RAPPA	Credit Risk Analysis	0.814	5	19.1-19.5
	Operational Risk Analysis	0.832	6	19.6-19.11
	Liquidity Risk Analysis	0.845	5	19.12-19.16
	Profitability Analysis	0.753	4	19.17-19.20

C. Validity Tests

Validity

In order to ensure the validity of the survey instrument, experts in banking and finance sector and academics were consulted to refine the instruments. Questionnaire for the study has been reviewed by a panel of expert and modifications and suggestions were incorporated accordingly (Content Validity). The panel of expert also checked whether the instrument appears to measure what it is supposed to measure (Face Validity). In the present study the researcher has made an effort to ensure whether the instrument contained the major items to be measured to ensure face validity.

1. Construct Validity

Construct validity occurs when the measurement of construct correlates with the theoretical measurement. There are two types of construct validity namely convergent validity and discriminant validity.

2. Convergent validity

Convergent validity is used to find out the construct validity of measurement variables. It indicates how strong the relationship between scores calculated through different ways is. A measurement model is accepted by any of these two criteria viz, the p values of loadings should be less than 0.05 and loading for indicators of all respective. Latent variable should be 0.5 or above for the convergent validity of a measure to be acceptable.

3. Discriminant validity

Discriminant validity is used to ensure whether response from the respondents to the questions are either correlated or not with other latent variables. Discriminant validity coefficients should be noticeably smaller in magnitude than convergent validity coefficients.

1.9.7. Normality Tests

In order to find out the normality of data, skewness and kurtosis were measured. The acceptable values of skewness and kurtosis are within the limits prescribed i.e. ± 3 and ± 10 (Brown, 2010). Hence, it assumed normality is apt and can applied to analysis with parametric test.

1.9.8. Test of Randomness

Run test is used to check whether the set of observation constitutes a random sample from population. It is clear from the result of run test that the p values in general are above 0.05. Therefore, the randomness of data is assumed genuine.

1.9.9. Test of Data Independence

The data independence is ensured only if the value of Durbin – Watson are within the limits of 1.5 to 2.5. In the present study, Durbin - Watson value is in between the limits prescribed. Hence, data independence is present.

1.9.10. Tools Used for the Analysis of Data

The analysis of the data has been done with the help of computer using the statistical software SPSS version 21 and Amos packages. The mathematical and statistical tools like Percentages, Mean, Standard Deviation, t-test, ANOVA, Correlation analysis, Regression analysis, OLS equation, Discriminant Analysis, Structural Equation Modeling with the use of Exploratory Factor Analysis and Confirmatory Factor Analysis were employed for the analysis of the data.

A brief of these tools is discussed below.

▪ Mean and Standard Deviation

Mean is used to derive the central tendency of the data. Percentages are used for comparing information of two different samples. Standard deviation is the square root of the variance. It is calculated to analysis how well means represent data. If the standard deviation is less, it shows data point is close with the mean and vice versa.

- **Independent Sample t Test**

Independent sample t test compares the means of two independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different.

ANOVA

Analysis of variance is used to test whether the means of several samples differ significantly. ANOVA is used to identify the influences among group mean and variation among and between group mean. It can be used as a exploratory tool to explain observations. It is highly useful for comparing three or more mean for statistical significance.

- **Post Hoc Analysis**

In order to find significant difference among the various groups. Post hoc analysis is used. It is often used a multiple comparison technique whenever a significant difference among the three or more sample means has been revealed by an analysis of variance.

- **Correlation Analysis**

Correlation means a mutual relationship or connection between two or more things. It is statistical tool that indicate the extant to with those variable increase or decrees in parallel. Present study used to this technique to analysis the inter relationship between the variables.

According to Francis (2005), the correlation coefficient (r_s) can take any values on a scale from -1 to +1.

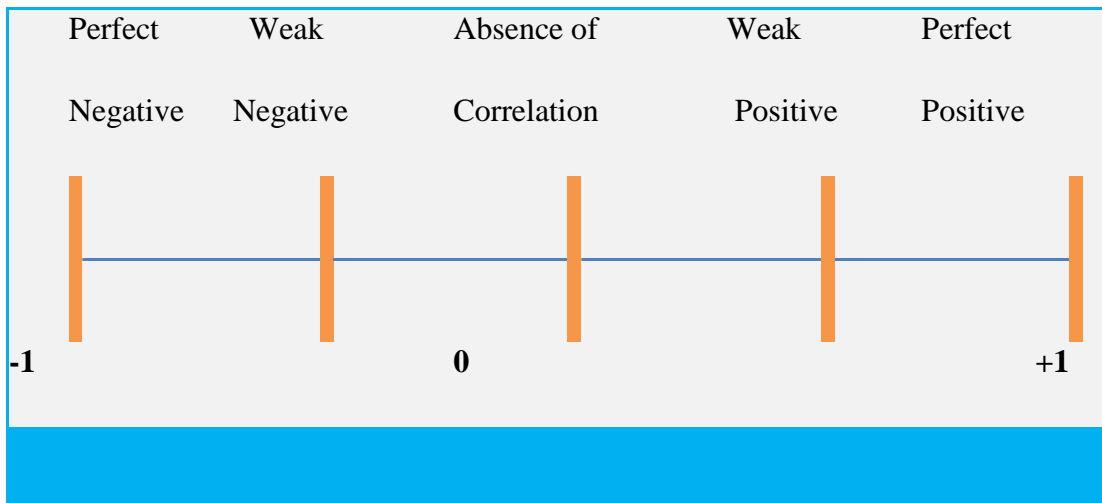


Fig. 1.1 Correlation Coefficient Values

- **Regression Analysis**

Regression means estimating the relationship among variables. It measures the relationship between the mean values of one variable and corresponding value of the other variable. It is a statistical device used to study the relationship between two or more variables that are related.

- **Discriminant Analysis**

Discriminant function analysis is a statistical procedure that classifies unknown individuals and the probability of their classification into a certain group. Discriminant function analysis is broken into a two steps process, one first performs the multivariate test and if statistically significant, proceeds to see which of the variables have significantly different means across the groups.

- **Factor Analysis**

In order to reduce the number of measuring item in to small number of factors, factor analysis is applied. It is also useful to identify the correlation between the variables. Factor analysis used is of two types, namely Exploratory Factor Analysis and Confirmatory Factor Analysis.

▪ **Exploratory Factor Analysis**

In this study Exploratory Factor Analysis is used to extract the factor and to identify the relationship of measurement item commonly used extraction method in factor analysis is principal component analysis, image factoring, alpha factoring and generalized weighted least squares factoring. In order to extract the variable, principal component analysis is used in this study. In principle component analysis, principal component extract highest and least component extract lowest variance. To get best fitted factor vari max rotational method is used. In this method communality above zero and below one is considered as related factor. Communality one indicates that there is no variance with other variable and zero communality implies unrelated variables. In order to know the appropriateness of data, Kaiser – Meyer Olkin (KMO test Barlett's test of Sphericity is calculated. KMO higher than or 0.7 is considered to be significant. In present study both KMO and BTS assure the correlation among the measurement of factor or items.

▪ **Confirmatory Factor Analysis**

Confirmatory Factor Analysis (CFA) is type of statistical techniques used to verify the factors structure of set observed variables. Structural Equation Modeling software is a typically used for performing Confirmatory Factor Analysis. This statistical technique is used to verify the factor structure of a set of observed variables. The researcher used CFA as a first step to assess the proposed measurement model in Structural Equation Model. In order to assess the model-fit the experts recommended different indices. The measures of goodness of fit followed in the present study are absolute fit measures and incremental fit measures

1.9.11. Method of Analysis and the Variables Used

The method adopted for the analysis of data and the variables identified are given below.

1. Review of Risk Management Practices

In order to fulfill this objective, the different practices and strategies followed by the two selected Banks have been examined in detail with the help of primary data collected from the risk managers at the corporate offices (Interview schedule) and managers at the branch levels (Questionnaire) descriptive and inferential analysis has been done with the help of the data collected through these instruments. Independent sample t test and ANOVA with Tukey's are used to evaluate risk management practices and identify the efficient risk management techniques with the help of factor analysis. The variables used for analysis are shown in the following table.

Table 1.3
Variables used for the Risk Management Practices

DV	IVs
Risk management practices	IV1. Strategic direction and policy
	IV2. Risk tackling techniques
	IV3. Risk profile and Communication Flow

2. Analysis of Risk Management Process

The risk management process involves four components namely risk understanding, risk identification, risk assessment and analysis, risk monitoring and controlling. A comparative analysis on risk management process based on these four steps with the help primary data collected from bank mangers of selected private sector banks has been done for fulfilling this objective. A total of eighteen independent variables are identified and analyzed by employing Independent sample t test. These variables are given in Table 1.4.

Table 1.4
Variables Used for the Analysis of Risk Management Process

Sl. No.	Dependent Variables (DVs)	Independent Variables (IVs)
DV1	Risk understanding	IV1. Risk understanding system
		IV2. Risk management policy
		IV3. Risk management responsibilities
		IV4. Level of understanding on risk
		IV5. Structure of accountability
DV2	Risk identification	IV6. Procedure for the systems
		IV7. Strength and weaknesses
		IV8. Rules and responsibilities
		IV9. Procedure of prioritization
DV3	Risk assessment and analysis	IV10. Level of precision
		IV11. Cost and benefits
		IV12. Risk treatment
		IV13. Credit worthiness analysis
DV4	Risk monitoring and controlling	IV14. Usage modern tools & technique
		IV15. Routine reporting
		IV16. Standard reporting system
		IV17. Credit limit of counterparty
		IV18. Country rating

3. Identification of Overall Risk Contributory Factors

In order to identify the key risk contributory factors experienced by the private sector banks, factor analysis has been performed with the help of primary data collected. Based on the four dependent risk contributory factors, 20 influencing/associating issues have been identified and analyzed. The variables used for analysis are shown in the following table.

Table 1.5
Variables Used for the Identification of Risk Contributory Factors

Sl. No.	DV's	IV's
DV1	Working environment and risk management policy	IV1. Standard reporting system
		IV2. High Absenteeism
		IV3. Internal audit
		IV4. Working environment
		IV5. Human resources department
		IV6. Risk management training
		IV7. Duties and roles
		IV8. Review of performance
DV2	Communication gap & loop holes in technology support	IV9. Risk measurement technology
		IV10. Flow of communication
		IV11. Risk scenario
		IV12. Bank management
		IV13. Data storage and backup system
		IV14. Compliance office reports
		IV15. Physical damage
		IV16. Bank system
DV3	Deficiency in systems and procedures	IV17. Risk management strategy
		IV18. Risk management frame work
		IV19. Omission and error
DV4	System intricacy	IV20 Auditing procedure

4. Analysis of Effect of the Risks on the Performance of Banks

In order to fulfill this, a comparative analysis on the effects of the three types of risks namely credit risks, operational risks and liquidity risks on the performance of the selected banks has been done with the help of certain independent variables identified. The analysis has been performed by employing the parametric tests of independent sample t test. The Variables identified for the analysis are shown in Table 1.6.

Table 1.6
Variables Used for the Analyzing the Effects of the Risks on the Performance of Banks

Sl. No.	DVs	IVs
DV1	Effects of Credit Risks	IV1. Reduce profitability
		IV2. Increase NPA
		IV3. Financial distress
		IV4. Affect reputation
DV2	Effects of Operational Risks	IV5. Damage to bank Physical assets
		IV6. Affect reputation
		IV7. Interruption of banking business
		IV8. Creates legally liable to banks
DV3	Effects of Liquidity Risks	IV9. Banks stability
		IV10. Affects goodwill
		IV11. Business interruption
		IV12. Disputes and legally liable

5. Review of Risk Governance Practices

The various risk governance practices followed by the banks for the effective risk management have been identified and analyzed with the help of discriminant analysis. The Variables discussed under this purview are shown in below table.

Table 1.7
Variables Used for Analyzing the Risk Governance Practices

Sl. No.	DV	IVs	
1	Risk Governance Practices	IV1.	Rules and responsibilities
		IV1.	Governance procedures
		IV2.	Compensation policies
		IV3.	Role of supervision
		IV4.	Internal and external report
		IV5.	Functions of risk management committee
		IV6.	Overall business strategy
		IV7.	Risk management function
		IV8.	Risk tolerance
		IV9.	Banks corporate culture

6. Analysis of Influence of Different Types of Risks on Profitability of the Banks

In order to analyze the influence of the three types of risks namely credit risks, operational risks and liquidity risks on profitability of the selected Banks, certain variables have been identified and analysed. The analysis has been performed by employing the parametric tests of Correlation and Regression. The variables used for the analysis are presented in the following table.

Table 1.8
Variables used for the Analyzing the Influence of Different Types of Risks on Profitability of the Banks

DV	IVs
Profitability	IV1. Credit Risk
	IV2. Operational Risk
	IV3. Liquidity Risk

1.9.12. Conceptual Model Developed for the Study

The conceptual framework of the present study is given in Fig.1.2.

Risk management system consists of three important elements. They are risk management practices, risk management process and risk governances which three are interrelated. In order to have an efficient risk management system proper monitoring, coordination and controlling is required from the part of authorities through risk governance practices. Risk management practices leads to risk management process, these include four elements namely risk understanding, risk identification, risk assessment and analysis and finally risk monitoring and controlling. Proper functioning of risk management process influences the outcomes and effects on performance of the intuitions



Fig. 1.2. Conceptual Model of the Study

1.10. Limitations of the Study

The present study suffers from the following limitations.

1. Even though there are different types of risks associated with banking businesses, the present study covers only three major risks namely operation risks, liquidity risks and credit risks. The study excluded all other risks related to the Banking Industry.
2. Most of the selected bank managers provided data about the various aspects related to risk management only from their memory without referring any authentic documents and records. Hence, there may be chances for biased data and will finally affect the result of final analysis.
3. Certain sample Bank Managers showed reluctance during the time of survey in responding sincerely the questions of the researcher due to their busy schedule of official work. In such cases, the researcher has created a rapport

with them and contacted according to their convenience and time and thereby collected the data.

1.11. Layout of the Research Report

The report of the study has been presented in eight chapters as shown below.

Chapter 1 Introduction

The first chapter is the introduction and covers the back ground of the study, significance, statement of research problem, research questions, scope of the study, objectives of the study, hypotheses, operational definition of terms and concepts, methodology and data base, method of analysis and the variables used, reliability and validity testing, conceptual model, tools used for the analysis, limitations of the study and chapter scheme of the research report.

Chapter 2 Review of Earlier Studies

This chapter two presents a review of the available literature on the previous studies on the related area of research. The relevant studies conducted have been classified in to three heads namely BASEL norms and RBI regulation of risk management practices, risk management practices and risk management analysis of banks. These studies are presented in alphabetical order of the author's name. Research gap is also identified in this section.

Chapter 3 Theoretical Framework of Risk Management and Profile of the Sample Banks

Chapter three is devoted to discuss the theoretical framework of the risk management and sample profile of the two selected banks with the help of secondary data.

Chapter 4 Risk Management Practices

This chapter attempts to review and compare the existing risk management practices followed by the two selected banks with the help of primary data collected from the risk managers from the corporate offices and branch managers. The chapter is also

attempt to find out efficient risk management techniques with the help of factor analysis.

Chapter 5 Risk Management Process

This chapter attempts to compare the risk management process such as risk understanding, risk identification, risk assessment and analysis and risk monitoring and controlling with respect of the selected banks and to find out the best techniques of risk identification, measurement and risk controlling. Independent sample t test has been used to evaluate risk management process towards the selected banks.

Chapter 6 Risks Contributory Factors and the Effects of Risks

This chapter deals with the identification of overall risk contributory factors. It also attempts to analyse the influence of effect of risks on risk contributory factors and the performance of the selected Banks.

Chapter 7 Risk Governance Practices and Profitability Analysis

This chapter discusses the risk governance practices followed by the selected two banks with the help of discriminant function analysis. The Chapter also attempts to analyse the influence of different risks on the profitability of the Banks.

Chapter 8 Findings, Conclusions and Suggestions

This chapter contains the summary of the findings, conclusions and suggestions. The chapter suggests a few topics for further research in the field.

Chapter 2

Review of Earlier Studies

The present research work attempts to conduct a comparative investigation on the risk management practices of the two selected Private Sector Banks in the State of Kerala. The work focuses on the specific areas of review of risk management practices, identification of the factors leading to different types of risks, the influence of different types on profitability of the banks, the relationship between the risk contributory factors and the effects of risks, the influence of risks on the performance of banks and the identification of existing risk governance practices.

The researcher has taken sincere efforts to review the relevant literature available with a view to identify exactly the research gap. This has been done by reviewing published and unpublished research dissertations in India and abroad, research articles published in journals, working papers of professional bodies, study reports of different committees and commissions, standard text books in the area and various reports published RBI and different Banks. From the available literature survey, it has been found that different studies have been conducted on the various types of risks like credit risk, market risk, interest rate risk, liquidity risk, operational risk and on risk management practices at National and International levels. Hence, it is quite relevant to examine the available literature on this particular area to identify the research gap. The present chapter is an attempt in this direction.

For the convenience of presentation, the relevant studies conducted have been classified into three major parts as shown below.

- Part I - Studies on BASEL norms and RBI regulations of Risk Management Practices
- Part II - Studies on Overall Risk Management Practices of Banks and
- Part III - Studies on Risk Analysis and Risk Management Performance.

A brief review of available literature coming under the above - mentioned parts is presented in alphabetical order of their author's name in the following pages.

Part I

2.1. Studies on BASEL Norms and RBI Regulations of Risk Management Practices

The studies conducted on BASEL Norms and RBI Regulations of risk management practices can be classified in to two sections. Section A and Section B. Section A deals with BASAL Norms related to Risk Management Practices and Section B is concerned with RBI Regulations and Guidelines of Risk Management Practices. A brief of the relevant studies falling under each section is given below.

Section A

2.1.1. BASAL Norms Related to Risk Management Practices

Alastair Clark (2006) adviser to the Governor of the Bank of England, in the context of BASEL II accord, has analysed capital requirements, cyclicity of credit conditions, increased credit risk transfer and liquidity in banks overall financial position. He found that banks are still a dominant position in respect of major channel for provision of credit and therefore bank capital requirements against credit risk remains important.

Al-Tamimi (2008) reviewed the availability of resources needed for the implementation of BASEL II Accord in UAE banks. The research shows that the banks in UAE had clarity of the advantages, impact and curses on implementation of Basel II Accord. However, it was evident from the research that there was no positive relationship between potential of UAE banks for implementing the Basel II and impact of the implementation. There was no significant difference in the level of readiness of Basel II Accord between the foreign banks and national banks of UAE. The research shows that there was a significant difference in the level of employee awareness on BASEL II among the banks of UAE. The work concluded that there

was a significant difference in the level of the UAE banks Basel II based on employee education level.

Barth, Caprio and Levine (2013) made an attempt to examine the relationship between a set of banking procedures, managerial practices and their influence on the financial health of banks. The study revealed that the capital regulations framed by those countries which have a well - built banking sector and strong regulatory framework for banking in private sector are of greater significance.

Bunea-Bontas, Lazarica and Petre (2009) analyzed how the capital adequacy and risk management was related with their impact on the financial stability of financial system in Romania It also showed that the Basel II played an important role in the development of the unified standards for the adequacy of capital and the codes of best risk management practices on a global scale for the improvement of the integrity and concreteness of financial system and for ensuring the health of global banking.

Cai and Wheale (2007) analyzed the manner in which the Basel Accords have affected the banking industry in China. The study revealed that the risk management and stability of banks have improved after the application of new Basel Accord II. The study also showed that the both the large and small banks have benefited from implementation with of new risk management systems under new Basel Accord.

Dmyktro Hold and YuriyKitsul (2010) explored in context of capital BASEL Accord Committee on supervision of banks, systematic risk and its impact on risk-based capital requirement of high and less capitalized banks. The study was conducted on fifty five large public traded banks holding companies for the 20 years (period from1986 to 2007). Taking the bank portfolio return as market rate of return, they formed the coefficient equation. They concluded that there was significant effect in systematic risk under capitalized banks and there was no effect of market based on capital requirement on capitalized banks.

Jacques de Larosiere (2011) examined the implications of the new Prudential Framework. He explained how the new regulatory code could have some dangerous side effects. The hike in requirement of capital as prescribed by the Basel Committee on Banking Supervision in September 2010 will have its effects on the requirement of own funds which in turn would influence the Bank's profitability. The new risky practices would have an effect on the financial stability of banks.

William Allen (2010) strongly criticized his disagreement on the Basel Committee norms on Banking Supervision announcement which hiked the capital needs as part of Basel III. He pointed out two-fold aims of increasing the capital. The first aim is to increase the liquid assets with the Banks and decrease their dependence on short term funds. It also limits the extent to which Banks can achieve maturity transformation.

Section B

2.1.2. RBI Regulations and Guidelines of Risk Management Practices

Carl Felsenfeld (2007) put forward the patterns of international Banking Regulations and the sources of banking regulations. He conducted the revision of present practices and new transformations in the sphere of control systems and governance. The book tells about a wide range of banking regulatory aspects of the United States, governance of international banking, international bank services and international monetary exchange. There is an attempt for an in-depth scrutiny of different aspects of Bank Regulations and Supervision.

Committee on Banking Sector Reforms (1998) with Chairmanship of Shri M. Narasimham put forward the steps needed for the improvement of banking system by through the focus on prudential management, introduction of technology etc. The committee put forward the Capital Adequacy norms further threw light to include market risk along with credit risk; Capital requirement for open positions of foreign exchanges; further threw light to prudential norms; The detection of ever greening of assets and errant Banks were caught; No recapitalization from the Govt. Budgets; Transfer of Assets to Asset Reconstruction

Co. ; Introduction of Tier II Capital; Asset/Liability Management: Risk Management ; Internal Systems ; Human Resources Management and Technology Up gradation. The Report stressed on the improvement of regulatory measures and practicing of risk management strategies to ensure the health of Banks.

Reserve Bank of India, Guidelines for implementation of the New Capital Adequacy Framework (2003) played a major role to see that the Indian Banks have adequate capital as per the regulations of the BASEL Committee on Banking Supervision (BCBS). The Reserve Bank of India came out with a risk asset ratio system for the banks which includes the foreign Banks in India as a for capital adequacy. According to this system, some predetermined risk weighs are given to the funded and non-funded assets and other off-balance sheet exposures. An unimpaired minimum capital funds should be maintained by the banks equivalent to the prescribed ratio on the total risk weighted assets.

Part II

2.2. Studies on Overall Risk Management Practices of Banks

Afsheen Shafeeq and Muhammes Nasr (2010) measure the practices for risk management in banking sector in Pakistan by using the product movement correlation model and calculated the linear relationship of risk management practices and different factors affecting management of risk. It was evident from the study that significant relationship was there among practices for risk management and its various factors affecting risk management practices.

Alam and Maskujaman (2011) reviewed the risk management practices and performance of commercial banks Bangladesh. The primary data was procured from the selected bank managers via questionnaires and descriptive statistical techniques were applied to analyze the data. The study showed that the selected banks of Bangladesh on urge of credit risks, market risks and operational risks. It was also evident that the responsibilities of board of directors of the selected banks were effectively performed.

Al-Tamimi (2002) examines the impact of risk management practices of the UAE commercial banks. The risk management practices of different risks like operational risk, market risk, liquidity risk and credit were studied by using a questionnaire instrument. He conducted a survey through questionnaire technique. He stated that credit risk was the most critical risk for the banks under consideration by using descriptive statistics analysis. The study also revealed that financial statement analysis and inspection by branch managers were the widely used risk identification methods.

Al-Tamimi and Al- Mazrooei (2007) made an attempt to compare the risk management practices of the UAE National banks and foreign banks. The study showed that most critical risks for the UAE commercial banks were operational risk, credit risk and foreign exchange risk. The study also revealed that the UAE banks have good background in risk management. The study made it clear that risk identification assessment variables and risk analysis variables have higher importance in risk management process. It was evident that risk management practices of UAE foreign banks and UAE national banks were quite different.

Andrew Ellul and VijayYeramilli (2010) put forward a risk management index (matrix) for studying the structure; measure the strength of organization and independence of the risk management function at bank holding company in USA. The study revealed that relationship between strength of internal risk control and enterprise wise risk holds true only in period of crisis but also more generally at normal times. They emphasized for strong and independent risk management function for managing risk efficiently in banks.

Anthony M. Santomero, (1996) investigated the financial risk management process in the financial sector; they evaluate the risk management systems and risk evaluation in banking sector. The study revealed that shortcoming of the current method used to analysis risks and the element that are adding in the current procedures of risk management and risk control.

Ariffin, Archer and Kasim (2011) conducted a study on management of foreign banks in fourteen different countries. The study found that similar risks were

threatening the Islamic banks and conventional banks. The study also showed the levels of different kind of risks vary between Islamic banks and conventional banks.

Asma Abdul Rehman (2016) carried out a comparative investigation on risk management practices between conventional banks and Islamic banks in Pakistan. The results revealed that the risk management function is an independent function that is a major part second line of defence. The monitoring of day to day activities of the employees is the responsibility of senior management.

Bilal, Talib and Khan (2013) investigated the risk management practices of banks in economies at emerging stages. They their focus on the risk-averse mechanism and the importance of the Basel-III framework in dealing context of post global recession in banks of middle east and sub-continent. The two fold data collection techniques were applied including personal interviews and questionnaire. It was evident from the study that those banks were concerned about the risk challenges which would possibly occur.

Chief Risk Officer, Alden Toevs (2011) examined the commonwealth bank of Australia stated that the inability of financial institutions to view risk on a holistic basis was the major failure of risk management of the global financial crisis. He says that, the most important problem is due to the Banks focus on individual risk exposures without considering the broader picture and the inability of Banks for consideration of risks on an enterprise-wide basis.

Crouhy, Gala, Marick (2006) have laid down the major principles of risk management. The important suggestion was that risk management culture must start from the Board of Directors level to the lowest level of employees. It was evident that the framework for sound risk management structures was also provided by corporate governance regulations. The results also indicated that firms usually did not have a truly integrated set of risk measures, methodologies or Risk Management Architecture. Moreover their report stressed on the fact that the integrated risk management infrastructure should be covering different areas likes Corporate Compliance, Capital Management and Corporate Governances.

Dalai.G, D.Rutherberg, M.Sarnat and B.Z.Schreiber (1997) analyzed whether risk is intrinsic to banking. It should be noted that risk management had gained importance as per the growing sophistication of banking operations, derivatives trading, securities underwriting and corporate advisory business etc. The study showed the hike in risks is primarily because of the aspects such as following of on-line electronic banking, provision of bill presentation and payment services etc. The credit risks, interest rate risks, foreign exchange risks and liquidity risks are the major risks faced by financial institutions.

Daniel Foos, Larss Nordenand Martin Weber (2009) examined the relationship of increase in amount of loan with the riskiness of individual banks in 16 leading countries. The ten years data were collected from the sample individual banks for a period from 1996-97 to 2006-2007. The relationship of abnormal loan growth with asset risks, bank profitability and bank solvency were taken into account. It was evident that the increase in amount of loan was positively and highly significantly influencing the subsequent loan losses with a lag of two to four years. The study also showed that the abnormal growth in loan is leading to a decrease in relative interest income of banks and lower capital ratios which indicated the decrease in profitability and financial health of banks.

David. H. Pyle (1997) stated the necessity of risk management in financial institutions. He put forward some important factors which lead to risks in Banks and came out with some methods for the mitigation of such risks.

EduardusTandelilin., et al. (2007) analyzed the relation of corporate governance and risk management with performance of banks in Indonesia. They determined the role of ownership structure in corporate governance and examine how the relationship between risk management affects the performance of Indonesia banks. The results of the study showed that the risk management, corporate governance and bank performance have a sensitive relationship with the nature ownership of the financial institution.

Elmer FunkeKupper (2000) examined the risk management practice in banks. A summary of the key risks faced by the banking sector and ANZ's approach to

managing them is explained. The bank's approach is based on three basic elements namely (a) to understand clearly the relationship of risk with shareholder value, using economic value added (EVA) as the major measure (b) a stress-testing regime to find out the financial impact of potential extreme events and a breakdown in risk models and (c) a framework of performance management and decision making .

Fatemi and Fooladi (2006) conducted a study on the credit risk management mechanism of major financial institutions in USA. The primary data was collected through questionnaire. The study revealed that the major reason behind the application of was the knowledge about counter party risk.

Goyal and Prof. Sunita Agrawal (2010) made an attempt to discuss the risk management in Indian Banks with a view to identify various types of risks. Risk and management is core of financial enterprise. They found that financial sector most importantly the banking industry of India is undergoing a changing process. The increasing global competition, loosening of regulations, newer products and channels of delivery is pushing the risk management to the forefront of financial arena of the hour.

Hakim and Simon Neasim (2001) conducted in two major countries in MENA – Egypt and Lebanon, where banking industry is running under market oriented economic regimes. The performance and risk analysis of forty three Lebanon banks and sixty two Egyptian banks were conducted from 1992-93 to 1996-97 on an annual basis by the application of cross section and time series dimension. The results of the study showed that banks in Lebanon are less capitalized than banks in Egypt as a result of steep currency devaluation.

Hassan, A. (2009) in his paper entitled 'Risk Management Practices on Islamic Banks of Brunei' The effectiveness of those practices in tackling major risks was the focus of the study. The paper shows that Islamic banking had also undergone different risks because of the list of offered products with the old products like the conventional banking system. These banks were facing risks like foreign exchange risk, operating risk and credit risk. The major risks faced by these banks were foreign exchange risk, credit risk and operating risk.

Hussien A., Hassan Al-Tamimi et al (2007) reviewed the risk management practices adopted by UAE banks by comparison of the risk management practices of the two sets of banks. They found that the most important type of risks which the bank has to manage are exchange risk, credit risk and operational risk. Also, stated that differences in practices are prevailing in UAE national and foreign banks for risk assessment and risk analysis and risk controlling and risk monitoring.

Kallu Rao (2010) made an attempt to various different problems for identifying the risk and the management of risk. It is showed in the paper that techniques for minimizing the spread of financial contagion and for attaining financial stability. The study shows the agenda for policy making in financial sector namely financial innovation and the re defining of the financial sector regulations.

Katarzyna Zawalinska (1999) analyzed the assets liability management technique and risk management practices implemented by commercial banks, by surveying 34 banks in Poland. He analyzed the safety, profitability and private polish banks by employing more advanced risk management and measurement techniques.

Koziol and Lawrenz (2008) assessed the risks of bank failures. The study revealed that measuring the risk related to bank failures is the major concern of bank regulatory framework. It was stated that for assessing the default risk of the bank financing decisions should be considered as a process which is endogenous and dynamic.

Mathias Drehmann, et al (2010) applied a general frame work simulation for measuring the combined impact of interest rate and credit shocks on profitability and economic value of banks. They examined the macroeconomics factors affecting the risk, profitability of default of borrower of companies and household by applying stimulation technique. The study showed that maturity characteristics of assets and liabilities, re-pricing and off - balance sheet items have an important place in profitability model and economic value of the whole portfolio.

Marin Brogi (2008) examined the size and performance of board of directors and the role of committees in process of risk acceptance of financial intermediaries in

Europe. The analysis was performed with the help of correlation technique. They found that there was a mixed relation was there between compensation, board size and performance even if financial intermediaries poses large board and size of board did not affect the performance adversely

Muhammad Ishtiaq (2015) reviewed the relationship between risk management practices and performance of Pakistani banks. The analysis showed that the risk management practices were effective if and only if there is proper understanding of risk and risk management among the employees of the banks. It was evident that risk management contributes a lot towards the performance of those banks in Pakistan.

Nazir, Daniel and Nawaz (2012) carried out a comparative study of risk management of Islamic banks and traditional banks of Pakistan. They collected the primary data for the staff of the risk management departments by using a structured questionnaire. The study showed that the employees of the bank had a common knowledge of different risks and management of risks in banks.

Pan Song, et al (2008) conducted a study on the risk management policies of the payment system in practice with stimulations and unit cost of loan given in settlement cycle for finding the cost of default that the payment service agency could bear during extending credit facilities. The study answered how to find out the best feasible risk management strategies during provision of credit facilities.

RomzieRosman (2010) examined Islamic banking and risk management practices by presenting a conceptual frame work on risk management practices and process in connection with Islamic banking. The result of the study showed there positive relationship exists among the risk management practices and factors affecting risk management process in the Islamic banking context.

Rosman (2009) pointed out the various factors affecting risk management practices and made a framework for risk management practices. The study revealed that risk understanding, identification, analysis and assessment of the risk where the key factors affecting the risk process. The correlation between risk management process

and various aspects was laid down with the help of a conceptual model and empirical review.

Simon Kwan and Robert A. Ersenbeis (1995) reviewed a sample size of 254 large banks holding companies during period of five years from 1986 to 1991 for measuring the trade off between risk inefficiency and capitalization. The analysis found asymmetries in the relationship of risk capitalization with inefficiency among the banks and put forward some guidelines for improving credit risk management and management practices in large-scale banks.

Santomero (1997) analyzed the risk management processes of different financial institutions in USA. It was evident from the study that complexity of risk management practices were directly proportional to size of the total number of branches the bank had. The study revealed the smaller banks did not have expertise to go for scientific risk management whereas the larger ones applied scientific measures to tackle the risks. He concluded that the bigger sized banks applied highly scientific risk management practices on comparison to small- scale Banks.

Selma, Abdelghani and Rajhi (2013) evaluated the strength of risk management processes of Tunisian banks. The study was employed and conducted a survey among 16 commercial banks in Tunisia with the help of questionnaire. Findings of their study indicated that the bankers were a clear idea about the importance of active risk management Practices.

Shafique, Hussain and Hassan (2013) analyzed on a comparative mode, the risk management practices of traditional banks and Islamic banks of Pakistan. It was evident that the Pakisthani banks are facing a variety of risks, the major ones being equity investment risk, liquidity risk, operational risk, credit risk and market risk respectively.

Shafiq and Nasr (2010) checked the level of understanding of risk management practices among the employees of 15 public sector and 15 private sector banks in Pakistan. It was evident from the study that the major risks faced the banks in Pakistan were operational risk, foreign exchange risk, credit risk, liquidity risk

and interest rate risk. It was also found that there were a lot of risky daily operations from the part of banks.

Sokolov (2007) examined the risk management practices of banks in Estonia giving importance to e-banking. A survey was conducted among local and foreign banks in Estonia by using a structured questionnaire. The study followed by descriptive analysis and study revealed that the major risks connected with e-banking are legal risk, operational risk, reputational risk and strategic risk.

Thirupathi Kanchu M., Manoj Kumar (2013) reported that risk management is all about applying of proactive strategy for planning, leading, organizing, and controlling the different risks that come to the daily and long-term functioning of the organization. The paper also identified the risks came across by the banking industry and analyzed the risk management process. This paper lays down different techniques taken by banking industry for management of risk.

Wu, Chiou-Huey, Huang et al (2007) explored the banking industry in Taiwan including local and foreign banks for risk management practices in term of the BASEL norms. The study stated that top management support is necessary for the effective management of risk.

Wood and Kellman (2013) evaluated the procedures of risk management carried out in 6 Barbadian banks. It was evident that the Barbadian banks have now come to the feeling that the strength risk management practices is the key factor for success of banks. The common risk which affected the selected banks was market risk, interest rate risk, credit risk and country risk. The result of the study indicated that these banks were good at managing risk even the economic condition around was highly dynamic and unstable.

Part III

2.3. Studies on Risk Analysis and Risk Management Performance

The relevant studies on the area of risk analysis and risk management performance can be classified in to two sections. Section A: Studies on Risk Analysis of Commercial Banks and Section B: Studies on Risk Management Performance.

Section A

2.3.1 Studies on Risk Analysis of Commercial Banks

For the purpose of discussion, the studies conducted on risk analysis of Commercial Banks can be classified in to four groups as follows.

1. Studies on Credit Risk Analysis
2. Studies on Interest Rate Risk Analysis
3. Studies on Liquidity Risk Analysis
4. Studies on Operational Risk Analysis

A brief of the relevant studies falling under each group is given in the following pages.

1. Studies on Credit Risk Analysis of Banks

Ajay Pathak (2005) analyzed the credit risk exposure on long term infrastructure project; banks should be vigilant about the credit risk in the project with long gestation periods. It was evident that the Infrastructure development has high correlation with macro - economic factors like the GDP and rate of growth of the country which influences income generation and timely recovery of the given loans.

Bostjan Aver (2008) examined the macroeconomic factors affecting the systematic credit risk of banks in Slovenia using statistical software like SPSS banking loan portfolio data from 7 years (December 1995 to November 2002). The study was conducted with specific statistical tools like multiple liner regression, factorial

analysis and the conclusion was that factors like employment/ unemployment rate, short term /long term interest rate have great role on the range off credit risk.

Bodla B.S and RichaVerma (2009) conducted a study on implementation of the credit risk management frame work by Indian commercial banks. They employed by survey method for collecting data. The study showed that board of directors of 94.4% of public sector banks and 62.5% of the loans of private sector banks has approved credit risk. On contrary in the case of other banks, authority was the credit policy committee. It was evident from the study that credit risk management in India is fully based on guidelines of RBI irrespective of size and sector of banks.

Brigitte God billion Camus and Godlewski et al. (2005) studied how type of information affects the credit risk management of the bank. The frame work information would be hard or soft information. It was revealed that soft information gives benefits to the banks and allows the banks to reduce allocation of capital for VaR coverage.

Christina E.Weller (2008) examined how the change in banking system has enhanced the risk management technique in banking system of Romania during globalization. By employing ARIMA technique by using secondary data collected from various national banks, the researcher found out the level of risks in interest rate, credit risk and operations. It was evident that if there is a positive correlation exists between credit risk and interest risk, then risk management strategies improve non-performing assets, credit operation and deposit mobilization in banks.

D.E.Allen and R.J.Powella (2011) conducted a study on credit risk measurement methodologies, different techniques of credit risk measurement models and compared them by highlighting the benefits and shortcoming of each technique. The study employed external rating approaches, financial statement analysis model and Merton\KMV view.

Evelyn Richard, et al., (2007) presented a constructed modal for understanding credit risk management in Tanzanian commercial banks, an economy whose financial sector is less developed. It was evident from the study that elements of

credit risk management are different in various commercial banks operating in a less developed economy from those in an economy that is highly developed.

Jon Frye and Eduard Pelz (2008) presented a credit risk model with capital of banks at Risk (CaR) for forecasting distribution of charge offs at commercial banks in USA. The study identifies and manages inherent banks credit risk. They analyzed outstanding loan balances in 12 categories. The study concluded that credit risk was concentrates mostly in lending for construction.

Mohammed Amiru and Robert Hinson (2006) analyzed how credit risk has influenced capital structure, lending decision and profitability of banks in Ghana by using a panel regression analysis. It was evident that less than 11 per cent of Ghana banks were having credit risk. More than 86 per cent of assets were financed by debts and the average lending rate of the bank was around 28 per cent. The study also revealed that capital structure of banks had a positive relation with size of the bank, assets, lending and liquidity.

Mrudul Gokhale (2009) examined the subject of adequacy of capital in Banks. The study showed that Banks have focus on the aspect of credit risk. A shift is there from the qualitative risk assessment to the quantitative risk management. Due to the regulatory insistence on capturing risks for the purpose of capital charge, specialized risk models are made. Banks use these models to precisely quantify the potential losses arising due to various risks viz., credit risk, operational risk and market risk.

Nor Hayati Ahmad (2004) conducted a study to compare the factors which affect credit risk in working of Islamic banks and conventional banks operations in Malaysia from 1996 to 2002. The study showed that both Islamic and conventional banking had same effects of funding cost, leverage, risk weighted on credit risk, even if Islamic banking comes across different impact of management efficiency, provision on regulatory capital loan loss of their credit risk.

Rajashree Dutta Purkayastha (2017) pointed out various aspects of risk management of banking sector in India as a whole with a special reference to the credit risks management. The study revealed that some banks are doing well than

their competitors as reflected by their risk scores and asset quality and highlighted the identification and adoption of more measures for internal control.

RasmusKattai (2010) examined the credit risk model which was constructed for banking system in Estonia. The model includes non-performing assets, economic condition, unemployment, interest, credit growth and inflation. They performed sensitivity test for determining the profitability of bank clients servicing their debts. The model focused the major role of growth as the most important factor influencing the health of banking sector in the current scenario.

Rekha Arunkumar and Koteswar (2006) studied that the nature of banking business itself is the greatest virtue for the most important risk confronted by it, which is nothing other than credit risk. A major portion of the capital is earmarked for the credit risk which is important for the health of banking business. The study showed that a significant part of the concentration of the risk managers is credit risk which account to 70 percent of the total time expended in this venture. They stated that the operational risk and market risk are the major one and thus emphasized that attention should be given to the credit risk management of banks.

Richard et al. (2008) analyzed the system of credit risk management of commercial banks in Tanzania when compared to developing countries. The result of the study suggested that the credit risk management of commercial banks which operates in the developed countries is significantly different from that of the less developed nations.

S.K.Bagchi (2005) stated that credit risk is the risk which dominates in Banking. This occupies roughly 90-95 per cent of the total risk. The other part is occupied by Market Risk and Operations Risk. It was evident that a well- developed Risk Management framework must pay more attention to Credit Risk and Market Risks. The study also showed that in instituting the risk management framework, Banks are giving equal importance to these three Risks viz., credit risk, operational risk and market risk.

Simantinee Sheela P (2017) investigate the credit risk management impact on profitability and liquidity in select Indian commercial banks. The study concluded that there is existing relationship between credit risk management and profitability and liquidity.

Sokolov (2007) conducted a study on the risk management practices of banks in Estonia with emphasis on e-banking. Questionnaires were developed and survey was conducted in various local and foreign banks of Estonia. According to the descriptive study, it became evident that the major risks associated with the e-banking sector were strategic risk, legal risk and reputational risks.

Tobias Michalak and Andre Uhde (2009) analyzed the impact of influence of credit risk securitization on stability of banks using a sample of 743 securitization transactions made by fifty five banks in Western Europe and Switzerland during the period of ten year (1997 to 2007). They applied different statistical tools like regression analysis and Z test for this analysis. The study revealed that the credit risk securitization was negatively influencing the financial health of western European banks.

Vasanthi Peter and Rajesh Peter (2006) assessed the possibility of default risk based on income and other demographical factors like the education level, marital status and occupation and their impact on the default risk. The study showed that in the case of mortgage default, the negative equity risk is the major driver of default risk and is evident in the loan to value ratio.

2. Studies on Interest Rate Risk Analysis of Banks

Amadousy (2005) conducted a study on the interest rate risk management of banks and government securities portfolio in Indian industry. It was evident that using duration and value at risk models that some banks in public sector and old private sector banks are most affected by interest rate risk.

Brandon Lockhart. G (2006) studied using firm fixed effect regression analysis, the advantages of interest rate risk management of commercial banks in USA. The

study revealed that use of derivatives and listing in NYSE or AMEX needs employing derivatives for hedging their interest rate exposure. It should be noted that the market does not appreciate the hedging effects of derivatives.

Charumathi Balakrishnan (2010) examined the interest rate risk in Indian Bank, which is one of the major public sector banks in India, using the technique of gap analysis. They concluded from the study that the bank is subjected to interest rate risk despite management of interest rate risk.

Iia Patnaik and Ajay Shah (2002) investigated the interest rate risk in the India banking system measuring interest rate risk of a sample of major banks of the Indian banking sector estimating the influence upon equity capital. The study shows that about 66 per cent of the banks researched stood to gain or lose over 25 per cent of equity capital in the event of 320 bps moves rate of interest. It was evident that the stock price of about one third of the banks chosen for the study had significant estimate.

Luis Vasco Pinherio and Miguel. A. Ferrera (2008) examined the hedging practices efficiency of overseeing the movements in interest rate and management of duration gap among 371 banks. It was evident that average managers don't have the ability to forecast and most of the banks concentrate on core business (deposits and loans) where asset and liability management should be considered as profit centre.

Oliver Entrop, Christop Memmeel et. al. (2011) attempted to find out the interest rate from the perspective of German Banks. The tools like time series accounting based model was used for more than 1000 German international banks from the period of 1999 to 2005 for estimating the maturity and cash flow structure of banks assets and liability. It was evident that across sectional variation of interest rate, bank's risk is more wrathful than that of benchmark module in differentiation of high risk and low risk banks.

3. Studies on Liquidity Risk Analysis of Banks

Alshatti (2015) analyzed how bank liquidity management influences the profitability in commercial banks in Jordan for the period of seven years (2005 to 2012) using data in the Amman Stock Market. They constructed a regression model with profitability being measured by ROA and ROE. The investment ratio, net credit facilities/total assets, liquid ratio, capital ratio liquid ratio and quick acid ratio which are independent were calculated and analyzed.

Dawood Ashraf (2010) conducted a study on the effect of changes in portfolio risk influences the capital adjustment in the situation of risk - based capital regulation using cross sectional time series in commercial banks of USA. The simultaneous equation model was applied for the analysis. Those banks usually increase their portfolio concentration for increasing their regularity capital ratio

Evan Gatev Till Schuermann Phillip E. Strahan (2009) examined a systematic analysis, using hundred large banks based on market capitalization during the period of 10 year the period was 1990 to 2000. Regression specification, conditional mean volatility and robustness tests were done to analyse reduction of bank liquidity risk by combination of deposit taking and commitment lending. It was evident from the study that combining deposits and commitment lending are providing liquidity risk hedge for banks

Jain Cai and AnjanV.Thakor (2008) study how interbank competition influences the credit risk and liquidity risk .They used the risk free interest rate as benchmark. They analyzed the credit risk through stochastic loan returns were to find out effect of the study on loan market. It was evident that use of bank deposit meet to liquidity gap may make liquidity risk more worse and inter-bank competition increase loan liquidity and reduce credit risk and liquidity risks which in turn decreases banks overall risk.

Konadu (2009) carried out a study on liquidity trends of selected banks to find out the profitability trend of the banks chosen with the objective to analyze and establish the connection of bank liquidity and profitability levels in Ghana. They collected the

data for the period from 2006 to 2009 from commercial banks listed at the Ghanaian Stock Exchange including the Standard Chartered Bank Ghana Ltd, SG-SSB Ltd and Cal Bank Ltd.

Mwangi (2014) conducted a study to check the effect of liquidity risk on commercial banks in Kenya. They adopted a descriptive research design with the commercial banks as target population listed as at 31/12/2013. Their data were collected from published accounts (secondary sources) of commercial banks including statement of income statement, financial position and other disclosures.

Lev Ratnovski (2007) reviewed the option for banks liquidity risk management and found that both liquidity and transparency are important hedges and can be combined in risk management subject to leverage policy of the bank, and policy response on multi - tasking. It was evident that more liquidity banks will be withstanding small shocks and more transparent banks withstanding large shocks as well.

Thomas D Jeitschko and Shin Dong Jeung (2008) examined the characteristics of risk return profile of a bank portfolio demonstrating that the risk of a bank can either fall or hike with capitalization. They presented in an empirical manner (1) Difference in risk capitalization relationship across highly and less capitalized banks (2) among publically and non publically traded banks that risk-capitalization relation is sensitive to relatively determinants of assets risk.

Yoram L and skroner and Jacob Paroush (2008) developed a model of bank management with structure of asset and liability liquidity for finding out the exposure of banks to liquidity risk. They concluded that increased competition in deposit market will reduce the liquidity shortage.

4. Studies on Operational Risk Analysis of Banks

Adhivarahan (2001) attempts in his research article to analyze the provisions of Information Technology Act 2000 and its impact on the operations of banks. The study has pointed out that the number of incidents of on-line breaches and online fraud

is at its peak in India. It was found that that the cyber - crimes incidents in banking sector should be treated with utmost care. For doing this, a statutory body similar to 'Internet Fraud Centre' in the United States is suggested to be formed in India.

Benton, (1990) states that as the information technology started to influence every sector, there is a positive influence on the profitability, productivity, and efficiency of banks around the globe. However the of bank frauds are also increased. Hidden threats are there for the effective functioning of financial institutions. The study examined the mechanism of how bank frauds are taking place and also has put forward some remedial measures. He suggested that that the banks need to invest additional resources in online transaction to find out frauds like tracking bad transactions, scrutinizing orders, negotiating in case of trouble with the banking transactions etc.

Lyambiko (2015) made an attempt to determine the operational risks management practices and financial performance in commercial banks of Tanzania. He found out the sources of operational risks exposures among commercial banks in Tanzania. A descriptive research design was adopted with a target population of 36 licensed commercial banks.

Maiké Sundmacher (2007) examined the relationship between bank capital and operational performance and put forward alternative measurement technique for assessment of bank's operational risk level. The result of the study showed that the appropriate category may be selected by the institutions depending on their risk management /measurement capabilities. The imposed capital charges of the bank will be less costly if the bank have more specialized risk measurement system.

Section B

2.3.2. Studies on Risk Management Performance

Aebi, Sabato and Schmid (2012) conducted a study on the corporate guidance and financial performance of banks at the time of recession of 2007-08. The relationship between corporate governance and risk management performance

were analyzed. The effect of these measures on the total performance of bank was also measured.

Afriye and Akotey (2013) investigated the credit risk management practices and the relationship of the credit risk with profitability of banks in Ghana. The figures used for measurement of bank profitability were the return on equity and return on asset. The scale of credit risk management was made by using the loan ratio and capital adequacy ratio of the banks.

Al-Khouri (2011) conducted a study on different banks in GCC countries to know about various risk factors which affect their performance. A total of 43 banks were covered under the study. A ten year period data from 1997-98 to 2007-08 was used for the analysis. They employed return on asset and return on equity for measuring the performance of the banks.

Altunbas et al. (2000) examined the efficiency of banks in Japan by evaluation of internal risk factors. The liquidity risk was calculated using liquidity ratio and the quality of risk management was measured by using non - performing loan ratio. The result of the study was that ignorance of risk and quality factor lead to the overstating of size of the bank. The study showed that there is scale efficiency in controlling internal risk factors by both larger banks and smaller banks.

Ariffin and Kassim (2011) analyzed the how risk management practices are related to the financial performance in the Malaysian Islamic banks. . They used both primary data and secondary data for assessing this relationship. The study revealed the importance of risk management in the financial health and performance of banks. It showed that return on asset is correlated positively with the strength of risk management practices.

Ariffin (2012) investigated the liquidity risk and disclosures and also to identified how the liquidity risk is related with the financial performance of Malaysian Islamic bank. The study was conducted on a sample of the six large Islamic banks in Malaysia. The study revealed that reporting of liquidity risk is given much importance yet and disclosure of risk management practices of banks is of utmost

importance for trust corporate market participants and also for the development of corporate governance of these banks.

Berk (2005) has studied how risk management practices influences the financial performance of banks. It was evident that firms who have more risk aware had higher financial performance and more efficient in management of assets.

Hakim and Neami (2001) studied how the profitability of banks is affected by various levels of liquidity, credit and capital in Egypt and Lebanon. The study showed that profitability is positively correlated with a directly proportional to an increasing function of their amounts lending activity and identified a strong relationship between adequacy of capital and the return of commercial banks.

Hsiao et al. (2010) analyzed the influence of financial restructuring on the efficiency of operations of commercial banks in Taiwan. The data from the sample 40 commercial banks relating to six-year period from 2000 – 2005. The technique of data envelopment analysis was used for the study. The performance of risk management of these banks was analyzed with the help of nonperforming loan ratio and capital adequacy ratio.

Karim, Chan and Hassan (2010) examined the connection between efficiency of Malaysian and Singapore banks and the level of nonperforming loans they have. The parametric approach was used to find out the cost efficiency. The fact that Malaysian banks and Singapore banks had different had similar cost efficiencies came into light. The results also suggested that the Singapore banks had an upper hand in cost efficiency than those in Malaysian banks.

Kao et al. (2011) conducted a study on financial health and performance of Taiwanese financial holding companies taking into account the strength of risk management practices. The period of the study was from 2001 to 2009, the period which witnessed a big global recession. The study showed that lack of adequate capital and proper levels of liquidity were the major reason for the inefficiency of banks and increasing them to an optimum level would change the

whole situation. The study also recommended for strong controlling of the bad debts faced by banks.

Maghyereh and Awartani (2014) studied of how the performance of the banks affected by market power, risk taking activities and regulations of banks in GCC countries. The study showed that performance of the banks is positively affected by the banking regulations in these countries. The study also showed that effective risk management contributes a lot to the success and longevity of financial institutions in the area under consideration.

Oluwafemi et al. (2013) showed through his study there is high level of correlation between strength of risk management practices and performance of banks in Nigeria. The results of the study also suggested that cost of bad and doubtful debts and inverse relation with performance and financial health of banks there.

Poudel (2012) studied on how the non-performing loan ratio and capital adequacy ratio affects the performance of banks in Nepal. The study suggested that performance of bank under the purview of the study was mostly affected by capital adequacy ratio and non - performing loan ratio. The study also revealed the fact that strength of risk management processes is the most important factor affecting success and failure of the financial institutions in Nepal.

Tabari, Ahmadi and Emami (2013) investigated the relationship between strength of liquidity risk management practices and performance of banks in Iran. The study was conducted in 15 banks of Iran during the period of seven years that is from 2003 to 2010. They analysis multiple regression model with bank specific variables and macroeconomic variables. This was used to find out how the performance of banks is related to liquidity risk.

Tandelilin et al. (2007) studied on the performance of banks is affected by strength of risk management and corporate governance practices in Indonesian banks. The major focus of the study was the measures taken for improving the awareness about

corporate governance practices. The results of the study showed that awareness about the corporate governance practices is a key factor for the success of the bank.

2.4. Identification of Research Gap

Thus, from the foregoing review of literature on risk management practices in the banking sector at the State, National and Global levels, it is clear that none of the studies, reports and research works had made any attempt to conduct a detailed research on the risk management practices of the two selected Private Sector Banks in the State of Kerala. Further, no attempts have been made to identify the factors leading to different types of risks and to examine the influence of different types of risks on the profitability of the Private Sector Banks. None of the studies have attempted to examine the relationship between these risk factors and the effects of risks and to identify the practices for effective risk governance with reference to Private Sector Banks in Kerala. Therefore, in this context, the present research work is a novel attempt undertaken by the researcher to fill the lacuna.

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Chapter 3

Theoretical Framework of Risk Management and Profile of the Sample Banks

The present research attempts to investigate into the risk management practices of selected private sector banks in Kerala. Hence, it is highly relevant to examine a theoretical framework of risk management system of the banking sector. The present chapter fulfils this specific aspect. For the purpose of effective discussion, the chapter is divided into three sections. Section A deals with a theoretical backdrop of risks and risk management. Section B discusses the role of RBI and BASEL norms to minimize the risks and that of C is concerned with the profile of the sample banks.

Section A

3.1. Theoretical Backdrop of Risks and Risk Management

Risk is a haunting nightmare for an individual and for an organization too, like physical risk or financial risk. According to the survey, an individual was always afraid to lose anything of value that is mainly financial. And so is the case with an organization too, they are concerned about losing their income. As we are all aware, nobody is allowed to expand or gain anything more without taking risk, except because of modernization, liberalization, and increasing competition. And this has created problems not only for an individual but also for banks and financial institutions. Banks must minimize or curb these risks in order to retain and expand on the market. Through the principle of risk management, guidelines have been developed or will serve as a roadmap to reduce the risk factor for a banking organization.

3.1.1. Risk - The Concept

The word 'risk' can be used to mean "risk at sea" in Latin. Risk can be described as something that loses value or is balanced against the probability of gaining value. Values may be of any kind, such as health, financial, emotional health and so on. Danger may also be viewed as an association with vulnerability. The definition of risk is subjective; the magnitude of a risk is measured by individuals and is different for people. There is some danger to any human being and according to their own decision, they identify the risks.

Unplanned incidents with financial implications leading to loss or reduced earnings may be described as a risk. A risky plan is either one that has future gains or an inevitable loss. Danger is created by ambiguity or potential unpredictability. Benefit or loss creates in commercial and industry risk depending on how it is handled. The uncertainty of the possible outcome can be defined as the risk. Danger is the chance of anything negative. Risk management consists of a method of risk evaluation, risk mitigation to an appropriate level and risk maintenance.

Risk management seeks to reduce its consequences after the risks are identified. A variety of management strategies is used to do this. For example, by using insurance, derivatives or re-organizing the whole project, the risk can be minimized.

Some financial intermediaries must be risky. They sell the holder liabilities that are "convenient," one of which is risk taking on behalf of the holder. Banks, which were once identified as risk machines, are the biggest risk-taker. This is a fair description, since all forms of risks are revealed. But what is the danger to return to the basics?

Professor Harry Markowitz stated that risk cannot be divorced from return: asset risk has no importance but in relation to their portfolio.²⁰ financial intermediaries, like every other company, aim to optimize income and shareholders' value. Banks make heavy use of leverage in order to gain benefit. The minimum risk-free rate (rfr), i.e. the bill in treasury or government bond rate, which can be charged by a bank without risk is the higher returns associated with higher risk, (referred to in figure 1 as a "risk-free premium").

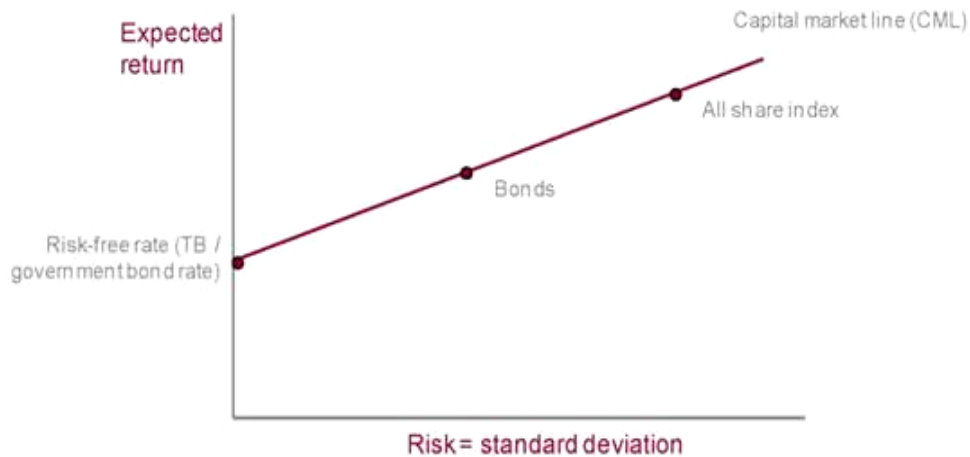


Figure 3.1 Relationships between Risk & Return

Financial intermediaries therefore need higher rates with a higher risk profile, and try to maximize return at a specific risk or mitigate the risk for a given return level (the capital market line is called the CML).

Risk is commonly characterized as the uncertainty of potential outcomes or the likelihood of a negative result.

The variance or the standard deviation of returns around the mean yield is typically calculated. Profitability is therefore contingent on risk management and it is clear that the financial intermediary's solvency can be threatened with insufficient risk management. It is important to bear in mind that financial intermediaries, particularly banks, have a key role in managing risk because, for example, their core business is generally linked to actual, not financial, assets, as compared to corporate entities. They "function," for example. Insufficient corporate risk management can trigger losses, but their solvency is probably not jeopardized.

It is necessary to note early on that banks are able to safeguard nearly all aspects of interest rates and returns on modern financial markets. For example, a bank may cover its margin (with rate swaps); guarantee the return of an obligation (with options); implement caps and floors at paid and won rates, etc. What does that mean,

however, the response is simple: the financial intermediary decreases risk, thus pushing the CML down to decrease revenues.

Banks must take risks to make their investment attractive. The trick is the reimbursement for threats. This is why bank's risk management regulations do not limit the risk takeover process to the degree that risks are removed. Intermediaries cannot be too careful for the financial sector.

Is it possible to mitigate the risk without sacrificing the return? The response is a clear "yes" and is integrated into the concept of portfolio theory: diversification and correlation. In terms of portfolio management, the essence of the Harry Markowitz theorem is that risk is minimized by portfolio diversification, as long as the portfolio assets are not perfectly correlated and the risk is further minimized as correlation increases from +1 to -1. Typically, banks are well distinguished.

3.1.2. Types of Risks in Banks

Risk can be characterized as decreases in the firm value due to business environment changes in this context. The key causes of loss in value are usually defined as:

Risk to the market is the shift in net asset value because of changes in underlying economic conditions, such as interest rates. Credit risks are adjustments in the net asset value due to changes in the counterparties' perceived ability to satisfy their contractual obligations. Operational risks are the result of costs caused by transactions irregularities, such as failures to settle, non-compliance with regulatory requirements and insufficient collections.

The risk of performance involves losses incurred by a lack of careful supervision or use of acceptable procedures by employees. Commercial Banks are usually at risk as follows:

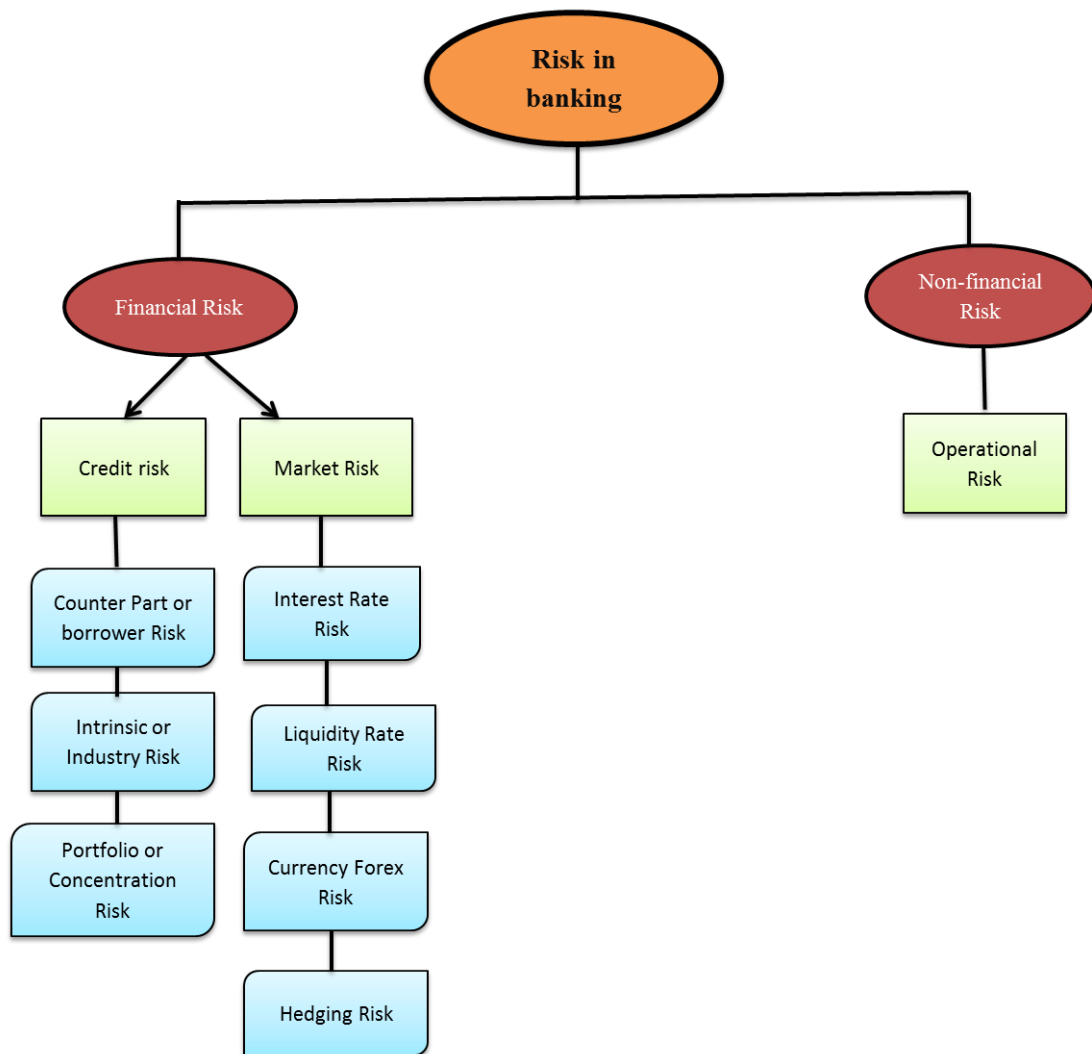


Figure 3.2 Types of Risks

1. Credit Risk

The most common definition of the credit risk is the probability, in line with agreements, that a creditor or counterpart would fail to comply with his obligations. It is the possible loss incurred by the borrower's inability to satisfy its commitments under negotiated conditions. The risk of borrowing as financial intermediaries is one of the oldest and most critical risks for banks. Commercial banks can lose because of credit risks most likely. In general, as the default risk is higher, so are the banks' lending premiums, which contribute to a rise in the net interest margin.

The risk of credit is the risk resulting from the risk of borrowers not paying loans. While the credit risk is primarily defined as the risk of non-payments, banks are also liable in this category for overdue payments. Often the borrower becomes insolvent as a result of these cash flow threats. Therefore, this risk can only be avoided if the bank carries out a detailed check and sanctions loans only for persons and companies not vulnerable to income loss over the loan duration. Credit rating agencies have ample details so that the banks can determine this in an informed manner.

A bank's profitability is highly vulnerable to credit risks. Thus, the bank's profitability may be significantly affected even though there is a slight increase in credit risk. Therefore, banks have established a wide range of initiatives to counter these threats. In order to minimize certain risks, for example, banks still have such funds in reserves. When a loan is made, the provision account has a certain amount of money. Banks have also begun to use methods such as structured finance to reduce such risks. Securitization assists in eliminating the concentrated risk from the Bank's books and disseminating it to the different capital market investors. Credit derivatives, such as credit default swap, have also been developed to assist banks in a credit default situation.

Unpaid loans were a by-product of bank management; they are and will still be. This is understood by modern banks and is able to deal with the situation without being insolvent before a catastrophic loss occurs.

➤ **Types of Credit Risks**

The common types of credit risks are:

- (i) Transaction Risk: Risk relating to specific trade transactions, sectors or groups.
- (ii) Portfolio Risk: Risk arising from concentrated credits to a particular sector / lending to a few big borrowers/lending to a large group.

➤ **Management of Credit Risk**

1. Credit policy enforcement.
2. Identification of applicant and background verification by report of market / status from previous banking firms, reputation credit rating agency, etc.
3. Inspection of pre-sanction.
4. Compliance with individual / group exposure requirements.
5. Assessment of the value of creditors, including checks and moderations, based upon verification of tax returns and other documentary evidence, as required, in compliance with Asset Liability Declaration.
6. Judicious use by delegates of loans and non-loans powers.
7. Evaluation by balance sheet review and evaluation of cash flow statements of term loans, working capital needs and non-funded faculties including guarantee, LCs.
8. Advise the creditor of the terms of penalty.
9. Monitoring progress development in a specific sector / activity to prevent concentration.
10. Credit rating monitoring movement, particularly declining ratings. One of the signs of deterioration of the quality of the credit portfolio is the rise in the percentage of B-ratings, and the rise in A-ratings, as A-ratings have declined. Suitable steps to change the role should be taken.
11. Management of the NPA: the propensity of slippages and new accounts introduced in the NPA segment shows the efficiency and consistency of management of recovery and evaluation of new development.
12. The growth trend in off-balance sheets like L / Cs, guarantees, etc. needs periodic monitoring. There must be close monitoring of the patterns of the transfer of L / Cs and invocation of guarantees.

2. Market Risks

Besides loans, banks hold a substantial share of shares. Some of these assets are kept due to the bank's treasury activities, i.e. to the short- term parking of capital. Many securities, however, are often held as collateral on the basis of which banks have issued customers loans. The banking sector is therefore interconnected with the capital markets sector.

Banks are faced in different ways with market threats. For example, if they hold a large share, they are exposed to equity risk. Banks must also keep foreign currencies by design to expose them to forex risks. In the same way, banks lend to products like gold, silver and property that often put them at risk.

Banks essentially use hedging contracts to minimize these risks. They use derivatives that can be traded freely on any stock exchange. Using contracts such as forward-looking, options, and swaps, banks are nearly able to escape market risks.

The risk of loss from adverse shifts in the financial market rates and bond, equity or asset prices (interest and exchange price). The volatility of underlying risk factors and the bank's portfolio's vulnerability to fluctuations in these risk factors is determined by the market risk exposure of a bank.

Interest rate risk is of great concern to banks because of the nominal value of their reserves and the lack of maturity of asset liability.

Some investigators stressed the positive effect on banks of higher interest rates. Potential shifts in earnings are the result of currency fluctuations, adverse currency positioning or shifts in the Treasury Division's share price.

➤ Types of Market Risks

(i) **Interest Rate Risk:** Risk felt, when changes in the interest rate structure put pressure on the net interest margin of the Bank. The various types of interest rate risks are detailed below:

- **Basis Risk:** It is the risk that the Interest rate of different Assets/liabilities and off balance items may change in different magnitude. The degree of basis risk is fairly high in respect of banks that create composite assets out of composite liabilities.
- **Embedded Option Risk:** Option of pre-payment of loan and fore- closure of deposits before their stated maturities constitute embedded option risk
- **Yield Curve Risk:** Movement in yield curve and the impact of that on portfolio values and income.
- **Re-price Risk:** When assets are sold before maturities.

(ii) **Foreign Exchange or Forex Risk:** This risk can be classified into three types.

- **Transaction Risk** is observed when movements in price of a currency upwards or downwards, result in a loss on a particular transaction.
- **Translation Risk** arises due to adverse exchanges rate movements and change in the level of investments and borrowings in foreign currency.
- **Country Risk.** The buyers are unable to meet the commitment due to restrictions imposed on transfer of funds by the foreign govt. or regulators. When the transactions are with the foreign govt. the risk is called as Sovereign Risk.

➤ **The management of market risk involves:**

- (a) Identification of the risk;
- (b) Measurement of the risk;
- (c) Monitoring of the risk; and
- (d) Controlling of the risk.

The Basel Committee on banking supervision has recommended several tools and approaches for addressing the issues relating to market risk that the trading portfolio of a bank is exposed to.

3. Operational Risk

In order to be successful, banks must perform major operations. In the interest of bigger banks, economies of scale work. Therefore, it is exceedingly difficult to maintain clear internal procedures on such a broad scale.

The operational risk exists because of the bank's everyday operations' inability to execute business processes. For instance, payment on the incorrect account or executing an incorrect order during trading in markets will involve the operational risk. Neither of the banking divisions is immune to operating risks.

Operational risks occur mostly due to the jobs of the wrong individuals, or alternatively whether IT systems break down. A delay in internal processes may also lead to disastrous mistakes. For example, because it has not introduced adequate internal controls, Barings Bank ended in bankruptcy. On the derivatives market there was a trader who was able to bet so much that Barings Bank stock was destroyed and the bank actually stopped being present.

The probable financial loss arising from a failure in everyday operating processes. Operational risk implies not only bank operations failures but also failure factors, such as terrorist attacks, management failures, competition and natural disasters. This is largely unchecked and unpredictable. Additional losses incurred by internal procedures, people and the operating system can occur from a lack of control in order to avoid any illegal or improper transactions, frauds or inaccurate reporting.

➤ Management of Operational Risk

a) Credit Related

1. Security post – title check, search report, appraisal, payment of property taxes mortgage to the bank.

2. Security certificates and security fees-stamping, signatures, testing, registration / link with the relevant authorities.
3. Compliance with sanction terms, including credit procedure, audit and legal vetting, where applicable. Where relevant.
4. Track the end-usage of funds by checking the ledger accounts, checking after sanction and demanding billets / receipts for term borrowings.
5. Asset insurance with particular attention to performance adequacy, protected risks and renovation.
6. Testing of borrowers' inventory statements, measurement and device documentation of drawing power. Monitoring with the creditor of the Stock / book debts / machinery declarations, including, where applicable, charging penal interest on failure to apply.
7. Periodic appraisal of mortgaged land.
8. Follow-up of financial statements and other accounting analysis data. Annual accounting analysis. Annual account assessment and account management not investigated after three months.
9. The internal / external / competitive / income auditors and the regulatory authorities have found out that they have remedied differences.
10. Income Recognition Criteria Enforcement.
11. Compliance with supply criteria after taking the security benefit, borrowers' and guarantee values into consideration.
12. Issue Credit Recognition – Description of Properties.
13. NPA portfolio management, i.e. updating, recovery and compromise steps to be taken. management
14. Proceedings are lodged in time and court proceedings are followed up.

15. Time to enforce decrees.

b) Cash Department

1. Cash and checks for travellers are held under dual supervision.
2. In cash, the ceiling limits set by the headquarters are maintained below.
3. Cash safe keys maintenance record.
4. An irregular screening and payment of receipts.
5. Inbound and outbound cash movements scrutiny.
6. Daily sorting of notes issuable and unissued.

c) Staff and Establishment Department

1. Staff rotation at regular intervals should be done.
2. Having a request for leave promptly and the approved official sanctioning leave.
3. Leave record maintenance.
4. Show of Name Boards, Reserve Bank of India Licenses, Government, Local Authority.
5. Delete sensitive waste papers, old handbooks and old records according to the defined procedures.
6. If posted, every armed guard must be qualified / named according to the current guidelines.
7. Secure arms (gun) and ammunition, arms permit renewal, etc.
8. Daily alarm system check / service.
9. Lease deed - validity guarantee.
10. Compliance with tenders and delegation of asset and other expenditures procurement powers.

11. Deduction and allocation to government immediately of the Income Tax at Source on wages and surplus per IT laws.

d) Computer (Applicable to Computerized Branches)

1. Password management: adhesion of the device and procedural procedures manual, disables users on leave and deletes users resigned / finished off the banking service, etc. Management of Password: Password management.
2. Updating user profiles in compliance with written requests and manager approval only.
3. Assignment of machine control rights according to the manager's judgment and authorization.
4. Monthly analysis of access rights in view of the sufficiency of numbers in each and every group.
5. Monitoring Server Room access solely in compliance with the manual for systems and procedures.
6. At the end of the day, systems back-up are kept securely and routinely off-site. Systems backup are also processed.
7. Disaster Recovery Plan papers, their quarterly report and research. Papers

e) Deposits (Savings/Current/Term)

1. Strict compliance with the requirements of your Customer (KYC) when new account and accounts transactions are opened, suspected transactions are registered, etc.
2. Examination of new accounts after all agreed requirements opened and approved opening the accounts.
3. Compliance with the laws of the income tax on paying deposit at source and deduction of the tax.

4. Monitoring of weaving of accounts where checks are often returned for financial purposes.
5. Dormant accounts segregation, dormant accounts with separate signature cards.
6. Transaction screening of employee accounts.
7. Compliance with the anti-money laundering laws.

f) Housekeeping

1. Balancing of accounts / leaders and registers, including daily check-ups by branch officials.
2. Inter-branch / inter-bank reconciliation accounts.
3. Reconciliation and control of multiple accounts of suspense.

g) Miscellaneous

1. Secure handling of vouchers and bundling.
2. Printing and signing of the General Ledger, General Ledger Balance Sheet by officials.
3. Profit and cost analysis Provide for separate accounts for revenue and expenditures.
4. Expenditure management and waste prevention expenditures.
5. Timely compliance with different audit reports.
6. Reparation of the complaint of consumers.

h) General

1. The processes and procedure should be closely studied by branches. Branches can use the instructions handbook, the credit policy booklet and other supplied books extensively.

2. Circulars from time to time remind updated / new policy initiatives on internal control. Follow these circulars and take them to the attention of all employees.
3. Cooperate in ensuring smooth internal audit results to audit officers of the Inspection and Audit Division.
4. In order to get the record of irregularities, the branch managers / other officers can spend some time per day with the qualified auditors, if any.
5. As far as possible, branches can fix anomalies that the auditors themselves have noted during the audit.
6. Audit reporting should be immediately complied with and compliance reports sent by the divisions to the audit agencies for completion within the specified time span.
7. Sensitive stationary management such as cheque books, deadline receipt books and demand draught books should be given high priority.
8. Detailed attention should also be paid to safeguards and preventive monitoring in terms of fraud prevention.

4. Interest Rate Risk

The risk of anticipated sales being adversely affected as a result of changes in the trend and interest rate levels is the rate of interest risk. As mentioned above, banks are intermediaries between creditors and borrowers, and their liabilities and assets are not balanced by tenor (maturity term) and form of interest rate (fixed or floating), since creditors have different borrowers' requirements. Banks have the function of satisfying creditors and borrowers. They are also vulnerable to the danger of interest rates.

There are three elements to interest rate risk:

- The **bank margin** - Banks aspire to get the highest rates they can trading on the liabilities (deposits and loans) and the lowest rates they can negotiate; the difference between them is the margin of banks.

- The interest rates are either *floating* (variable) or *fixed*.
- The term to maturity (tenor) of the *fixed rate* assets and liabilities.

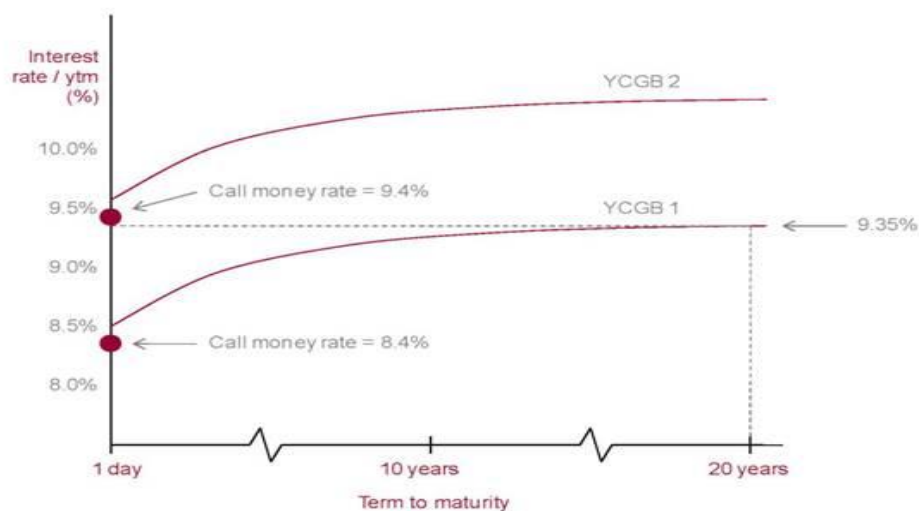


Figure 3.3 Yield Curve Shift

➤ **Management of interest rate risk**

Basically, banks can handle the risk of interest rates with two options:

- The essence of your liabilities and assets is "physically" adjusted in accordance with its risk appetite, i.e. only those that adhere to the bank's risk profile.
- Make use of the money and other derivatives to adjust the essence and risk-based appetite of their liabilities and properties.

The first choice is not a choice because banks gather customers and keep their companies by doing the business the customers want to do. In several nations, banks use the second alternative to adjust the profile of their assets and liabilities by using derivative markets. The key methods used are:

- The exchange rate of interest.
- Caps and floors (and necklaces) interest rate.
- Advance rate offers.

- Advanced interest rate.
- Futures and options for these potential interest rates.
- Spot market tools choices.
- Swaptions (i.e. swap rate options)
- Arrangements to buy back.

Interest rate risk management cannot be carried out without a risk calculation by the bank. Two key interest rate risk measures exist:

- Analysis of gap repressive interest rate.
- Analysis of length.

5. Liquidity Risk

Another risk inherent in the banking industry is liquidity risk. The risk of liquidity is that if the depositors are here to withdraw their money, the bank would not be able to fulfill its obligations. This risk is part of the framework of fractional reserve banks. This scheme therefore only holds back a portion of collected deposits as reserves, and uses the remaining deposits to construct loans. Therefore, the bank wouldn't have enough liquidity if all the institution's depositors were to withdraw their money at once. It is called a bank run. This case. In the history of modern banking, this has happened numerous times.

The possibility of liquidity in modern banks is not strongly concerned. This is due to the central bank's support. In the event of a bank operating, the central bank redirects all its money to the bank concerned. The depositors will only be reimbursed if they request their deposits. This restores depositor confidence in bank finances and prevents bank running.

Many banks in modern times faced bank runs. None of them, however, has been insolvent because of a post-bank central bank establishment.

Owing to the absence of cash or cash equivalents, banks' existing and potential financial commitments arise from defaults or in capabilities. In order to meet the liquidity requirement of depositors, the larger the risk of losses associated with the disposal of illiquid assets, the higher the liquidity risk facing banks. However, besides depositors, banks committing loans are exposed to the risk of volatile liquidity demand for their borrowers.

➤ **Types of Liquidity Risk**

- **Funding Liquidity Risk** – the risk that a bank will not be able to meet efficiently the expected and unexpected current and future cash flows and collateral needs without affecting either its daily operations or its financial condition.
- **Market Liquidity Risk** – the risk that a bank cannot easily offset or eliminate a position at the prevailing market price because of inadequate market depth or market disruption.

➤ **Management of Liquidity Risk**

The following aspects should be monitored regularly

1. Deposit structure, bulk and retail deposits and
2. Bulk deposit percentage

3. Ratios of

- (A) Low cost deposits to total deposits.
- (b) Liquid assets to short-term liabilities.
- (c) Long-term assets to long-term liabilities.

6. Other Risks

- Equity Risk

It is at risk for failure as a result of a negative price shift in the bank's stock market. Equity risk is a "capital risk inherent in the retention of equity in a specific investment." Equity risk also means equity in businesses by buying securities and not necessarily refers to a risk of paying in property in the property or building equity.

The standard deviation of a security's price for a number of periods is the indicator of risk used in stock markets. In this particular safety above and below the mean, or average, the standard deviation would describe normal fluctuations. However, since most investors do not see deviations above the average return as a "risk," some economists prefer other ways to calculate them.

- Moral Risk

Many countries' recent bailouts of banks have created another risk, the moral risk. The bank or its shareholders are not facing this risk. The taxpayers in the country in which banks operate instead face this risk. Banks are used to taking unnecessary risks. You will sustain returns if your gamble pays off. However, if the danger fires back, taxpayers will suffer the losses as bailouts. This model, too large to fail, has driven banks to chase profit recklessly. While central banks use audits to ensure that secure business practice is followed, banks are not subject to regulatory oversight nowadays to a risky business.

- Business Risk

The banking sector is greatly advanced and diversified today. Banks today have a wide range of strategies to choose from. Once such a plan has been selected, banks must concentrate on achieving their strategic objectives in the long term.

There is always the chance of a given bank choosing the wrong approach. The bank will incur losses and ultimately become acquired or can actually fail as a result of

this wrong decision. Consider the case of banks like Mutual and Lehman Brothers in Washington. The banks have chosen the path of subprime growth. Its policy was to be the favoured lender for persons with lower loan ratings. The entire spectrum of sub-prime lending, however, was limited, and these banks also suffered horrible consequences, as there were high exposures to such loans.

Banks have no means of minimizing the risks generated by improper business goals. What was the right priority and what was the wrong one? The only answer to this question is in retrospect. As Lehman Brothers focused its efforts on subprime loans, it must have seemed strategically right!

- **Reputation Risk**

Reputation is an immaterial commodity of severe significance in the banking industry. Banks such as JP Morgan bank, Citi bank, Bank of America etc. have all had stellar reputations and been operating for hundreds of years. They will make more business profitably with these reputations.

Customers want to collect their money in areas they feel are practicing sound and responsible business practices. Therefore, if there is news in the media that a certain bank projects in a negative light, the banks business will be affected. For eg, Citi bank has recently been shown to manipulate forex prices with its own trading partners by conducting false transactions. Once regulators discovered the predatory practices of Citibank, they charged the bank with massive fines.

Beside the sanctions, the bank's credibility also plummeted when consumers discovered out they were using market-based coercion as a bank out practiced fair trading practices. Many prospective customers could as a result of this discovery that caused monetary loss due to reputation loss, have shifted their business from Citi bank. By ensuring that banks are never involved in any unfair or deceptive activity, they will protect their integrity. Banks must also continually ensure that they can be a nice and trustworthy bank through their efforts in public relations.

- **Systemic Risk**

Systemic risk stems from a dynamic and interconnected network in the financial system. Consequently, a bank's failure can also lead to the failure of many other banks. This is because in many transactions, banks are counterparties. Therefore, if one bank does not, the other banks' credit risk event becomes a reality.

As a consequence of the failure of your counterparty, you must cancel those properties. This cancellation also results in other banks' bankruptcy and appears to take on an irresistible domino. Systemic risk is a really poor situation. For example, when the 2008 subprime crisis arose, the whole global financial system seemed to crumble. Therefore, the very existence of the financial system makes them vulnerable to systemic risk. Systemic risks impact not a single bank but the whole system. Thus, in the event such a danger arises, there is very little that a bank can do to defend itself.

Therefore, bank management needs a great deal of experience, as many forms of risks must be mitigated. Some of these risks can be avoided while the other risks can best be avoided by banks.

- **Money Laundering Risk**

The use of banking networks and the proceeds of crime to hide the origin of illegal money (drugs, corruption, accounting fraud and other forms of tax evasion, etc.).

- **Information Technology Risk**

It is linked to IT, including network failure, disabilities, hacking, malware attacks, and poor system integration.

- **Marketing Risk**

This risk relates to various aspects of the bank's marketing and branding, including image management, marketing of goods and publicity.

- **Human Resource Risk**

This is a risk that is created by the lack of recruitment in the right place, improper recruitment practices, failure to give employees feedback on results, over dependence on key personnel etc.

3.1.3. Risk Management - The concept

Risk Management refers to the process of predicting and assessing the possible risks, and then taking certain corrective steps to eliminate or mitigate them. Many organizations or institutions actively practice risk management to reduce the risk they face in the near future. Whenever an institution decides on acquisitions, it tries to assess the amount of financial risks involved. Financial risks can be high inflation, recession, stock market instability, bankruptcy, and so on. The quantity of such risks depends on how a company or entity invests in financial instruments.

In this way, fund managers or investors conduct or exercise risk management to minimize or restrict certain risk exposure to investment. For example, investing in a fixed deposit may be less risky than investing in the stock market. Since equity investments are more risky than fixed deposits, equity analysts and investors will therefore diversify their portfolios to reduce the risk.

Risk Management activities in banks are newer for India, but the risk management model has gained significance due to increased competition, increased uncertainty and market fluctuations. As a result of risk management, the quality of Indian banks governance has improved and the corporate governance practice has been strengthened as well. The key aspect of the risk management model is the minimization or elimination of the risks associated with ad services provided to banks and the need for an effective risk management system to reduce the internal and external risks.

Indian banks need to develop models or structure for managing risk, because international banks are becoming more competitive worldwide, implement new financial products and instruments, and enhance de-regulation. The Indian banking sector has made substantial technical, quality and so on and begun to diversify its

horizons rapidly and broaden their horizons. However, due to rising globalization, liberalization and growth, these banks are facing some risks. In bank risk, therefore, as higher risk plays an important part in earnings, higher returns would be. Therefore, fair costs and returns must be preserved.

➤ **Components of Risk Management**

Thus, the essential components of any risk management system are –

- Risk Identification i.e. identification and description of any risk category in connection with a product or service transaction or form of service;
- Risk calculation i.e. calculation of possible losses under different scenarios, risks and timing;
- Control-i.e. risk. Framework for policies and directives that identify risk boundaries for a specific transaction, not just at the individual level

After knowing what risks are, we will now suggest the assessment element of risks. Risk assessment in the process of risk management is a very critical step. Some risks such as exchange risk, interest rate risk, etc. can easily be quantified. Although there can be no mathematical deduction of certain risks such as nation, operational and so on. They can be correlated and measured only qualitatively. Certain risks can be calculated with the aid of a modern mathematical and statistical method such as risk value etc. It is therefore important to assess and quantify the risk. Only then will the next step in risk management be tried.

3.1.4. Importance of Risk Management in Banks

We have seen until now how risk management operates and how necessary the risk is to be curbed or reduced. This article discusses how risk management is important for banking institutions, in particular in financial institutions and banks, and in general. To-date banking industries had not been exposed to risks but were exposed to different forms of risk as the financial risks and non-financial risks were increased because of the intense competition.

The role and method of risk management in banks is complex, so that banks are attempting to use the simplest and most advanced models for risk analysis and assessment. Banks should have scientific experience and capacity to resolve the risks involved in the integration process. In order for large banking organizations to compete effectively, internal risk management models should be created. Head offices should be educated in risk modelling and analytical methods to carry out risk management in banks at a more desirable stage.

3.1.5. Risk Management Process

Life is not sure in some words. In other words, life is unpredictable. This is partly because we can't predict or foresee the future. I know that tomorrow, when working in the fields, I'm able to reach a massive stash of gold. But all we can do as human beings is assuming what will take place with our currently available information and experience.

Risk Management is 'the systematic implementation, in the context-defining, recognition, reviews, evaluation, care, monitoring and communication, of management policies, processes and practices. Risk management for all organizations, regardless of scale, location and nature is important. Risk management in organization consists in defining, assessing and priorities risk and then using organized, cost-effective allocation of resources to mitigate, track and regulate the possibility or effect of such risk, on the basis of such assessment and prioritization.

Sea shifts in the Indian banking sector have occurred in recent years. India's financial and banking system has increasingly been liberalized. There are deregulation of interest rates, emergence of new players, new instruments and new institutions. In addition, prudential regulations are extended and control at different levels improved. In the field of external financial policy, the exchange rate is motive, the FDI and the FII are increasingly being liberalized and the economy's inflow of capital or its repatriation and operation are now being limited to a minimum.

Banks and regulators have been working steadily to understand and quantify the risks they are exposed to in recent years in the new liberalized economy in India. With India's world economy, the banks realize that different types of risks are significant. The risk involves credit risks, market risks, operational risks, reputational risks and legal risks with the use of quantitative risk modelling techniques. On 20 October 1999, RBI released the Banks first set of risk management guidelines. This is the method of detection, review and precautionary measures to avoid the possible risks in advance. Risk management is made prominently when a organization spends financially to recognize and resolve the economic threats and their impacts.

➤ **Steps of Risk Management Process**

Risk management as a process involves the following broad steps:

1. Identify the Circumstances

Before it can be clearly measured and mitigated, it is important to understand the conditions under which a risk occurs. Firstly, it helps to define the limits on which the risk is constrained in identifying the relationship between institution and the context in which the risk resides. Take the environment in which the organization works or the operational environment into account, for example, in the strategic sense.

2. Risk Identification

Risk identifying is the method of understanding the particular hazard-related risks. The existence of flammable objects, for example, is a danger, and fires are a particular risk. Risk recognition doesn't mean that management needs to take into account distant opportunities. In the case of a mass murderer who comes on the plant during the night and takes the flame - retardant liquid as a danger for the danger, management cannot distinguish. In the next step, you can only reduce such a remote risk.

Risks may be classified in legal, physical, financial or ethical terms.

Legal risks include liability to all business parties, including shareholders, consumers, vendors, workers or any other person concerned, revoked by a specific incident not in compliance with federal, state or local legislation. Injuries and physical properties, such as property, plant, vehicle, inventory, ground etc., are part of physical hazards.

The financial liabilities include the organization's financial assets including loans, charges receivable, attendance charges, additional charges, insurance premiums, rentals, lawsuits for harm and fines.

Ethical threats are a real or potential harm to the organization's credibility or values.

3. Risk Assessment or Risk Evaluation

Risk evaluation or evaluation includes the awareness of different hazards found and the estimation of the dangers and the probability of the harm. The above example of a serial killer is a very dangerous but insanely unlikely risk and is listed as such. And a person falling through a leaky pipe is a high risk and it is a major risk to an employee stationed under a computer that drops at all times. The measurement takes severity and probability into account two variables. A very dangerous and very likely risk is critical and a very bad and doubtful risk is moderate and so forth.

This phase includes the evaluation of the likelihood of occurrence and the subsequent effect on the risks that will have the highest impact and should thus be handled first of all of the risk factors established. A combination of the effects of chance and the impact of consequences can be used for the estimation of the priority of the risk.

The probability of occurrence can be based on the 5 scale: 1 - strange, 2 - unlikely, 3 - possible, 4 - like and 5 - almost certain. Likewise, impacts on: 1 - Negligible, 2 - Minor, 3 - Moderate, 4 - Major, 5 - Catastrophic can be increased. The higher the parameter combined value, the higher the risk factor for mitigation should be prioritized.

If the risk is minimal or appropriate, minor adjustments / therapies may be continued. They should be tracked constantly, however. If the risk is high, prior to the implementation of the original plan it should be minimized.

4. Risk Control

The risk must be monitored until the risk is measured. If the worker operates under the machine, which is going to collapse on it at any point, the key consequence of risk management is to transfer the worker from below and then to repair the machine, so that none of it is affected. The measures are therefore immediate directions to avoid the risk and to isolate or better eradicate the danger. The hierarchy of risk management comprises, according to their value, danger elimination, danger replacement, danger elimination, restrictive management exercise, equipment provision etc.

The standard risk management options are listed below. These options offer various solutions for various risks found in the previous steps:

Risk acceptance – for example, taking part in a sports event poses an implicit risk of minor injury.

Risk avoidance is either a decision to continue in the expected direction or opt for a less dangerous, alternative path compatible with the final target. A NGO which seeks funds may, for example, decide that a cultural event is a better way to raise funds rather than holding a sporting event.

Reduce the danger likelihood or effect, or both, in the face of a crisis, for example, use of a full safety kit for players in a given sporting event.

Risk transfer is another choice, primarily through the purchase of insurance. Even re-insurance has become popular nowadays and can still be seen as a back-up. Additional options include rental arrangements, exemptions, disclaimers, tickets and warning signs.

Danger retention may be another tactic if you know it is an intrinsic part of the case. For example, if the risk is not part of the game, the business does not work, consider

a sports betting club. The risk inherited provides the participant with an underlying incentive for wagering.

Risk financing involves allocating financial resources in order to bear the risk effects if they arise. This is a situation in which risk impacts are manageable and are not as high for any company to trigger bankruptcy or the like.

It must be recorded after the control measures are enforced. This has some advantages, for example an appreciation of what has been done to deal with the risk, which ensures that similar risks can be handled in this manner, that enough has been done to mitigate and reduce risks and due care, etc. This is a well-known activity

5. Monitor and Review

The monitoring and review as the final step require an understanding of the effect on the danger and the risk of control mechanisms created. If the danger does not pose the same risk that was meant to be monitored, the monitoring system is judged as successful and an enhanced approach needs to be established if not successful. This monitoring is relevant if there is no mistake and no risk continues

3.1.6. Risk Management Structure

The choice of a centralized and decentralized structure is an essential issue in creating a suitable risk management structure. The overall trend is to centrally manage risk with an integrated management feature, to take advantage of knowledge on aggregate exposure, natural exposure networking, economies of scale and simpler reporting to senior management. The Board of Directors should specifically be responsible for identifying the risks faced by the bank and for making sure that the risks are handled adequately. By determining the Bank's risk and risk carrying ability, the Board should set risk limits. At the organization's level, an autonomous risk management committee or Executive Committee of the senior executives who report directly to the Board of Directors should be assigned overall risk management.

It is aimed at encouraging one group to assess the total risk that the bank faces and to decide the amount of risks that are in the best interest of the bank. The Committee should also improve responsibility for the risks and the Bank's success in the field of line management at the same time. The primary role of the Committee on Risk Management should be to define, track and evaluate the bank's risk profile. The Committee should also draw up policies and procedures check the pricing models of complex goods, review the risk trends as business changes take place and identify new risks.

Risk policy should explicitly identify prudential quantitative limits on different segments of banks' operations. Internationally there is a tendency to allocate portfolio or credit risk and risk value / winning (market risk) thresholds for portfolio standards. In order to calculate the effect of unusual two market conditions, the Committee should design stress scenarios, and to track the difference between real portfolio value volatility and the risk behaviour. The Committee should also track the operating departments' compliance with different risk parameters.

- The presence of a strong quality-consistent MIS is a prerequisite for developing an efficient risk management framework. However, in order to maintain data integrity and reliability the current MIS needs a significant upgrade and reinforcement of the information collection computer.
- Risk management is an intricate task requiring expertise and skill. Banks have moved to use advanced risk measurement and management models. In order to compete effectively with their rival's big banks and those operating in international markets should build internal risk management models. Since the domestic market is embedded in foreign markets, the banks should be expert and knowledgeable in the scientific handling of different types of risks. The key personnel in the Head Offices should be educated in risk modelling and analysis techniques at a more sophisticated stage. Consequently, all banks should aim to improve employee skills.

- Given the diversity of the bilingual profile, implementing a standardized risk management system in India is challenging. The design of risk management functions must be bank-specific, determined by the scale, complexity and efficiency of the MIS. The proposed guidelines provide only broad criteria, and each bank can develop its own systems consistent with its architecture and expertise for risk management.
- An approach to the risk management committee is adopted globally. The Credit Policy Committee (CPC) tracks the risk to credit / counter-parties and the risk to countries while the Asset-Liability Management Committee (ALCO) deals with various forms of risk. There is also a parallel two-way approach to competition and reputation threats in banks. Banks could also create a single, integrated credit and market risks management committee. In general, ALM policies and procedures set out the market risk policies and procedures, and the loan policy and procedures address credit risk.
- While there are constant market variables for credit risk quantification, credit variables are kept constant in market risk calculation. Economic crises have shown a close association between exposed risk of the economy and credit risk in some countries. Exposures from international exchanges, which are assumed by companies which do not have natural hazards, will raise the credit risk facing banks. The volatility of collateral values also affects the quality of the loan book significantly. In order to assess the effect of market and credit risk on the financial strength of the bank, it is thus important to incorporate both the operations of ALCO and the CPC. Banks may also suggest incorporation into their loan risk assessment process of market risk elements.

Section B

3.2. Role of Regulatory Authorities to Minimize the Risks

This section briefly explains the role of RBI and BASEL frame work for the effective risk management in banking sector.

3.2.1. Role of RBI in Risk Management in Banks

- Purpose and Application

Risk management involves knowing and controlling the risk climate of the Bank and taking steps to ensure that risks are managed at an appropriate level in compliance with the appetite of risk of the Bank as illustrated in the risk appetite statement where applicable. The policy on the management of this mechanism is set out in this document at a high level by the bank.

- Policy Objective

Reserve Bank's Strategy for Risk Management seeks to ensure that the Bank's strategy and organizational goals are accomplished in compliance with an appropriate risk management system. It follows agreed risk management principles and guidelines, particularly those employed by public and financial institutions.

The Bank's strategy is based on the premise that risk management plays an important role in managing the organization, and that management is therefore explicitly accountable. Line managers are responsible for evaluating their risk situation, enforcing effective controls and tracking the performance of these controls. The Bank's executive committee complements this process with a analysis of key business risks.

The Bank is committed to ensuring that successful risk management remains central and a key management capability in all its operations. The aim is to ensure that risk management is incorporated into the Bank's processes and culture and thus contributes to its core goals.

- Application

This Strategy extends to all aspects of the Bank's operations. For its execution, the Deputy Governor, assistant governors or heads of departments responsible for those fields shall be responsible.

➤ Policy Components

- Coverage

At both the level of business ("top-down") and business ("bottom-up," the Bank defines, assesses and manages the risk. This mechanism covers a broad range of risks, including compliance with political, strategic, business, credit and operational risks. It aims to ensure that all risks facing the Bank are adequately defined and monitored.

- Risk Profile and Risk Appetite

The Bank aims at carefully monitoring its risk profile. This suggests that it could be severely jeopardized if mismanaged risks lead to degraded activities and financial losses and/or damage to the Bank's image if its substantial government obligations are properly carried out. The risk appetite statement of the Bank describes the Bank's appetite for major risks when explaining the operational elements in the Risk Management System. Management of the Bank is mindful of the strong aspirations of its central bank by the society.

- Roles and Responsibilities

As the Bank's responsible authority, the Governor is responsible for the entire administration of the Bank, but the regular administration of the different areas in the Bank, including risk management, is assigned to the Deputy Governor, assistant governors and heads.

The Reserve Bank Board and the Payments System Board oversee the risks inherent in the Bank's monetary and banking strategies, financial stability and policy roles. The risks directly relevant to shareholders of Note Printing Australia Limited (NPA), which remains the responsibility of both the NPA Board and its management, are also controlled by the NPA Reserve Bank Board.

A formal government delegation shall be made to the Risk Management Committee (RMC) to track the total risk management activities of the Bank, excluding the risks

in the preceding paragraph. There are several senior officers and the Committee is presided over by the Deputy Governor. It has the purpose of ensuring that, in compliance with this Policy; risk is defined, evaluated and effectively managed. The RMC shall provide the Board of Auditors and the Executive Committee with a semi-annual report of its operations.

The RMC will form working groups to develop strategies for bank-wide risk management, for example the continuity of operation. The Committee maintains monitoring of these areas from a risk manager point of view, and RM provides the Bank with sufficient communication. The RMC may request a 'one off' risk assessment of either a method or across functional lines from the Department for Risk and Compliance (RM) if it is decided to be suitable.

The management of risks, including related control and ongoing monitoring processes, is still a responsibility of the Bank in each region. RM and the appropriate field(s) should immediately report the risks found by one area which may have consequences for the other areas of the Bank. Events which have (or may have) significantly unfavorable effects ('incidents'), not protected or otherwise occurring other than in compliance with Bank policies and procedures must be reported to the RM promptly. It is the duty of all workers to adhere to processes and procedures designed to mitigate the risks associated with their job. You must also alert management to any danger or event you become aware of during your job. Any possible gaps or changes to the control system that they find should also be addressed with their management. RM offers risk management systems with ease, collaboration and guidance to assist areas in managing their risk environment in a way consistent across the Bank. However, on behalf of the regions, the Department does not perform risk management or take responsibility for these risks or ownership. The Head of RM is a member of the RMC and reports to the Deputy Governor.

In order to ensure risk identification and key controls to reduce these risks are well-designed and operational, the Audit Department is undertaking a risk-based audit programme. This involves a review of the system for the Bank's risk management,

risk documents for each region, and sample testing controls. Audit department reports on the efficacy of controls and any recommendations made for change separately to the Board of Audits Committee. The RMC (and, in the case of major bank audits, the Bank's managers) also have copies of these reports available. Audit Department shall also prepare an annual review, based on the findings from the internal audit work performed over the period, on the Audit Committee, of the overall adequacy and quality of the internal controls of the Bank. RM is protected by internal audit evaluations. The RMC may also commission an external independent evaluation of its work.

- Framework for Managing Risk

The risk framework of the Bank is intended to allow the Bank to understand and communicate its risk profile, ensure that risks remain reasonable, determine how risks are likely to develop as a result of new operations or operating environment changes and help to remediate risk quickly. This approach is consistent with the principles of the three lines of defence model, which builds on a series of layered defences which align risk-taking responsibility with risk control responsibility.

Departments own and handle risks and have controls to maintain risks within the organization's appetite; second line offers a professional risk and compliance management service; third line maintains the quality of management, risk management, and internal inspections in the management of the senior management, mainly in the audit department. The Bank's general approach is to follow a second line in which additional confidence is required in the acceptability of the residual risk. This is expressed in the Bank's second-line operations by a mixture of centralized autonomous functions, departmental functions, main risk and enforcement information centres, and centralized control functions. Department heads are responsible for maintaining an open atmosphere for workers in their jobs, procedures and controls and for ensuring that employees do not undergo reprisals.

The Bank's architecture aims to resolve the Bank's entire risk continuum through a corporate and company risk evaluation. This System is in line with the agreed Australian Standard (ISO 31000-2018 Risk Management).

- *Identification and review of the Bank's major risks.*
- *To determine these risks and to decide whether or not they are appropriate.*
- *Incorporate effective control mechanisms in line with the Bank's Risk Appetite Statement, in order to address these risks.*
- *To handle unacceptable risks by making responses to unacceptable risks found, including action on the possibility or effect of an incident and the drawing up of contingency plans.*
- *Recording these practices, accompanied by risk manuals or associated documents with summary tables (risk registers), primary types of reporting.*
- *Tracking, contact and evaluation continuing.*

The system is continuously applied across the bank, but individual areas should define and evaluate the risks in their own areas and determine the controls in place to cope with these risks and decide whether, considering their impacts and the mitigation costs, a certain risk should be mitigated in full or in part. If a residual risk is considered unacceptable, it would be the duty of the 'resident' region to devise and execute/control a correction plan. The RMC and the Executive Committee of the Bank control this phase where the remaining risk is not judged to be 'medium' or 'very low.'

If risks are seen as 'cross-sectional' or 'normal' – that is, owned and controlled by one region (e.g., IT-related hazards) – the risk is conveyed and action is implemented between the relevant regions. A suitable liaison and consultation with external entities whose activities may inform the Bank's risk environment are also created.

➤ Policy Management

- Administration

The Risk and Enforcement Department administers this Procedure.

- Monitoring and Review

If there is an essential adjustment to the Bank's risk management system, the strategy is revised biennial or more regularly. The Risk Management Committee must approve the Policy Changes.

- Communication

The Policy is available on the website and on the Intranet of the Bank.

3.2.2. Basel Committee on Banking Supervision

The existence of their businesses attracts different types of risks, such as credit risk, market risk (including risks related to interest rate, foreign exchange risk and risks related to liquidity), operational risk, reputational risk, business risk, strategic risk, systemic risk. The danger to banks is due to the business of banking conducted under Section 5(b) of the Banking Regulation Act, 1949 as 'banking' means accepting deposits of money from the public for lending or investment, repayable upon request or otherwise and withdrawing them by cheque, bill, order or other. Section 5(c) also describes any organization that transacted the bank business in India as banking company. This is also called the mediation method, which contributes to the above-mentioned dangers. Section 6 of the Banking Regulation Act (1949), subsections A to O, defines further the functions of banks which expose the banks more to the aforementioned risks.

At the end of 1974, in response to significant disruptions in the international currency and banking markets (in particular the bankruptcy of the Bankhaus Herstatt in West Germany), the Basel Committee-initially known as the Committee of Banking Regulations and Supervisory Practices-was set up as the central bank governors of the community of ten countries.

The Committee, based in Basel at the Bank for International Settlements, was set up as a forum for regular cooperation among its Member States in banking monitoring

issues, with the goal of strengthening financial stability by enhancing the standard of banking surveillance worldwide. The first meeting of the Committee was held in February 1975, and there were regular meetings three or four times a year afterwards.

The Basel Committee has, since its inception, extended the members of the G10 since 28 jurisdictions to 45 institutions. The Committee has developed a set of international bank regulatory principles, beginning with the Basel Contract, first published in 1975 and checked many times, most notably its seminal publications on the capital adequacy agreement widely referred to as Basel I, Basel II and most recently, Basel III.

- **Laying the foundation: international cooperation between banking supervisors**

One important goal of the Committee's work at the start was to close gaps in international surveillance so that no bank would be untouched by surveillance and (ii) sufficient and reliable surveillance across Member jurisdictions. The paper published in 1975, called the "Concordat", was a first step in this direction. The Concordat sets out the guidelines for the sharing of supervisory liability between host and home supervisory bodies for international branches, subsidiaries, and joint ventures of banks. As a concept for supervising banks international businesses, the Concordat was amended and reissued in May 1983.

An amendment to the Concordat of 1983 was published in April 1990. This supplement was intended to enhance the cross-border flow of prudential information between the banking supervisors and information exchange between supervisors of participants in financial markets. The minimum requirements for the overseeing of international bank groups and their transnational establishments were re-formulated and published in July 1992 as such Concordat principles. The requirements were shared and asked to be supported by other banking supervisors.

A joint working group comprising supervisors from non-G10 jurisdictions and Offshore Centers, the Committee issued its Report on the regulation of cross-border

banking in October 1996. The paper made recommendations to resolve the barriers to successful centralized monitoring of international banks cross-border operations. After the study had been endorsed by supervisors from 140 nations, the alliance between supervisors in their countries of origin and host countries was forged.

The participation of non-G10 supervisors also played an important role in formulating the main principles in the following year's Committee for successful banking supervision. This paper was inspired by a 1996 G7 Finance Ministers study calling for effective regulation in all the major financial markets including emerging economies. In September 1997, when first written, the paper set out 25 critical principles which were deemed successful by the Basel Committee. In addition, after many updates, the document now covers 29 principles, including the need for early intervention and prompt supervision behaviour, supervisory requirements and compliance with reporting criteria, most notably in September 2012. The study contains 29 principles.

➤ **Three Pillars of Basel Committee**

- **Basel I: the Basel Capital Accord (Minimum Capital Requirement)**

In the first pillar, the Bank is expected to have minimum capital. A minimum capital requirement of 8% of risks is retained in the new system.

The focus of Basel II is on improving risk calculation. The updated methods for calculating credit risk are more rigorous than the present agreement. The measure of operating risk is suggested for the first time while the measure of market risk remains unchanged.

Capital adequacy quickly became the focal point of the Committee's activities with the groundwork laid for oversight of internationally active banks. At the beginning of the 1980s, the Latin American debt crisis increased the Committee's concern that major international banks capital ratios weakened at a period when international risks were on the rise. With the help of the G-10 Governors, members of the Committee agreed to avoid the deterioration of the capital requirements and to work for greater integration in the calculation of capital adequacy. This led to a broad

consensus on a weighted approach to risk measurement on and off the balance sheets of banking firms.

The Committee was strongly accepted that a multinational agreement was necessary to improve the stability of the international banking system and eliminate a source of competitive imbalance caused by differences in national capital requisites. The Basel Capital Accord was accepted by the Governors of the G10 Council and issued to Banks in July 1988 following comment on the consultative paper published in December 1987.

By the end of the year 1992 the 1988 agreement mandated the introduction of an 8 per cent minimum ratio of capital to risk-weighted assets. In the end, not only in the Member States but also in virtually every country with active foreign banks, this system was put into practice. The Committee released a statement in September 1993 stating that banks in the G10 countries with foreign banking operations met the minimum requirements laid down in the Agreement.

Over time the Agreement was still supposed to adjust. In November 1991 it was amended to specify more specifically the general provisions or the general stock of losses for loans which could form part of the calculation of capital appropriations. An adjustment was made in April 1995 to recognize the impact of the bilateral networking of bank credit exposure on derivatives and to extend the matrix of add-on variables, to take effect at the end of that year. A further paper describing the consequences of the multilateral networks was released in April 1996.

The Committee also refined the risk-taking process, which is the subject of the 1988 Agreement. The Committee released a Capital Agreement amendment to incorporate the business risks (or the Market Risk Amendments), in January 1996, after two consultative procedures, to come into force at the end of 1997. This was structured to include within the Agreement a market risk capital provision resulting from banks' foreign exchange exposure, exchanged debt securities, equities, product and options. One of the important aspects of the market risk Amendment was that for the first time, the banks had been enabled, subject to rigorous quantitative and qualitative criteria, to use internal models for assessments of market risk capital

requirements. Much preparatory work has been conducted in collaboration with securities regulators for the market risk kit.

- **Basel II: the new capital framework (Supervisory Review Process)**

In order to ensure that banks have sufficient resources to support all risks, monitoring review has been implemented to promote and improve risk management technology to track and manage their risks. Supervisory review mechanism was introduced. There are four main concepts in the method

- a) Banks should have their own overall capital suitability evaluation framework in relation to their risk profile and their own capital level control policy.
- b) Supervisors should study and analyze the evaluation and methods for internal capital adequacy and their capacity to track and ensure that regulatory equity ratios are adhered to.
- c) Regulators should expect banks to operate in excess of the required regulatory capital requirements and be capable of requiring banks to retain more than the minimum capital.
- d) Supervisors should attempt to interfere at an early stage in order to avoid a fall in capital below the minimum threshold and should demand immediate redress if capital is not reported or rehabilitated.

A plan for a new system for the adequacy of capital replacing the 1988 Agreement was submitted by the Committee in June 1999. This culminated in the introduction in June 2004 of a revised capital system. The revised structure, commonly called "Basel II", consisted of three pillars:

1. Minimum standards for capital aimed at improving and expanding the guidelines laid down in the 1988 Agreement.
2. Capital adequacy supervisory review and internal evaluation process of an organization

3. effectively exploit disclosure to improve the discipline of the market and foster the practice of sound banking

The new structure was designed to better represent the underlying risks in terms of regulatory capital requirements and to cope better with financial innovation of the recent years. The reforms were intended to reward and promote further progress in risk measurement and management. Nearly six years of intense planning preceded the publication of the system in June 2004. During this time, in order to build substantially more risk-sensitive capital demands, the Basel Committee consulted extensively with banking industry leaders, oversight body, central banks and external observers.

The Committee turned its attention to a business book following the publication in June 2004, which concentrated mainly on the banking book. A consensus paper on the handling of the trading books of banks under the new system was released in July of 2005 by the Committee in close cooperation with the International Organization of Security Commissions (IOSCO), the international body of securities regulators. In an extensive document published in June 2006, Basel II: International integration of capital measurements and capital requirements, this new text was incorporated into June 2004 text: a revision of the structure-Systematic edition.

The new Rules were introduced, but with various timescales by Committee members and some non-members. The need to authorize such methods to risk calculation in many jurisdictions was a problem faced by supervisors around the globe under Basel II. Whilst this was not a new idea for the supervisory community-a similar provision was included in the market risk amendment of 1996-Basel II broadened the scope of such approvals and needed more coordination between home and host supervisors. The Committee provided information sharing guidelines in 2006 in order to help overcome this issue, followed by advice in connection with advanced measuring approaches to operational risk concerning supervision cooperation and assignment process.

- **Basel III: Market Discipline**

Market discipline provides banks with clear incentives to conduct their business efficiently, efficiently and economically. A number of disclosure criteria are suggested in order to determine the adequacy of a bank's resources, risk exposure, etc. These communications should be made at least semi-annual and, if possible, more regularly. Qualitative disclosures can be released periodically, such as risk management targets and policies, definitions etc.

The need for a fundamental strengthening of the Basel II system was made clear even before Lehman Brothers collapsed in September 2008. With too much debt and insufficient liquidity reserves, the bank sector has come through the financial crisis. These vulnerabilities were followed by insufficient management and risk management and unsuitable rewards. These factors were illustrated by the mispricing of credit, liquidity and surplus credit growth in the dangerous combination.

In response to these risk factors, in the same month in which Lehman Brothers failed, the Basel Commission released Principles for sound liquidity risk management and supervision. Another package of papers, especially regarding the management of some complicated securitization positions, off-balance sheet vehicles, and trading book exposures was published in July 2009, to improve the Basel II capital system. These changes were part of a wider initiative to reinforce globally involved banks 'legislation and supervision in light of the financial crisis' shortcomings.

The Governors and Supervisory Directors (GHOS) Group declared higher global minimum level for commercial banks in September 2010. This was followed by an agreement in July on the overall framework of the capital and liquidity reform programme, now known as "Basel III". At the G20 Leadership Summit in Seoul in November 2010, the new requirements for capital and liquidity were endorsed and later decided on at Basel's meeting in December 2010.

The Commission released (and revised) the draught standard in mid-December 2010. Basel III was the international mechanism for the assessment, requirements and surveillance of liquidity risks and Basel III: the worldwide regulatory framework for more efficient banks and banking systems. The improved Basel system assessments, strengthening and expanding to a number of areas the three pillars defined by Basel II. Between 2013 and 2019, most of the changes are progressive:

- Tighter regulatory capital standards for quality and quantity, in particular to reinforce the central position of common equity;
- An additional layer of common stock, which limits, when violated, payments to support the minimum requirement of common capital, the capital conservation buffer;
- A countercyclical capital buffer that limits banks' involvement in system-wide credit booms to limit credit bust losses
- leverage ratio-minimum capital absorbing in relation to all assets of the bank and exposure to off-balance sheets, regardless of risk weighting
- Liquidity criteria-a minimum liquidity ratio (LCR), which seeks to provide enough money to fulfil financial needs over a 30-day period of stress, and a longer-term ratio (NSFR) which is intended to resolve maturity mismatches in the whole balance sheet Net Stable Funding Ratio (NSFR)
- Additional systemically relevant bank specifications, including the additional absorption of losses and improved cross-border monitoring and resolution arrangements

The Committee concentrated from 2011 on improving capital requirement estimates. In the framework of Basel II, the risk-based capital criteria were extended to cover:

- Capital requirements for central counterparties exposures of banks in 2012 (initially an interim strategy, updated in 2014)

- in 2013, non-centrally clearing margin requirements and capital requirements for the equity of banks in funds
- a structured approach to calculate counterparty exposure to credit risk by improved previous credit risk assessment methods for derivatives transactions in 2014
- A stronger structure for measuring securitization capital requirements in 2014 as well as the establishment of broad exposure limits that would restrict the overall loss a bank would face should a counterparty unexpectedly fail.
- A updated structure for market risk following an overall analysis of the conditions for trading book capital in 2016
- a centralized and improved reporting criteria system to represent the Basel Standards creation

The Commission concluded its post-crisis Basel III reforms in 2017 with the publishing of new rules on the measurement of credit risk, credit value adjustment and operating risk capital requirements. Final changes also include a revised leverage ratio, a leverage buffer for systems-related global banks and a production floor focused on a revised structured method to minimize banks' use of internal models to minimize risk-based capital requirements. These final reforms fix the flaws in the regulatory structure before the crisis and provide the regulatory basis for a resilient financial system serving the real economy.

The revisions had as their main aim the reduction of excessive risk-weighted asset variability (RWA). A large variety of actors lost confidence in the recorded risk-based capital ratios of banks at the height of the global financial crisis. The Committee also underlined a troubling amount of heterogeneity in bank measurement of RWA in its own empirical studies. The regulatory framework changes would help re-establish credibility when measuring the RWA by improving the robustness and risk sensitivity of structured approaches to loan risk and

operational risk, reducing internally modeled policies and applying a new leverage and performance level to the risk-based setting.

Section C

3.3. Profile of the Sample Banks

This section deals with brief profile of sample private sector banks namely Catholic Syrian Bank Ltd and the Federal Bank Ltd.

3.3.1. The Catholic Syrian Bank Limited (CSB)

The Catholic Syrian bank started operations with sanctioned capital of Rs 5 lakhs on 1 January 1921. The bank only concentrated in Kerala during the first two decades of its functioning. Banks, particularly those in Kerala, were jolted, and many of them got their lives after the 1938 crash of the National Quilon Bank of Travancore and the 1960 Palai Central Bank. In the course of the time, numerous small banks reached the point of failure and the public trust shook. In order to reinforce the sector's foundation, the mergers and mergers of small banks with larger banks have put the number of banks within controllable limits. The Catholic Syrian Bank Ltd was active in the liability and properties of five small and medium-sized banks in Kerala in 1964-65. During the years that followed, the growth programme started gained momentum.

The Bank was included in the Reserve Bank of India Act 1934 in August 1969 as the Second Schedule. In 1975, when its overall deposit reached Rs.25 cores, the Bank became A class Scheduled Bank. The need for training to workers seemed very significant, and the establishment of a training college in 1975 was therefore a modest start. The Bank joined the foreign exchange market the same year. At an early level the Bank accepted processes as an important management method, and by implementing a data processing system simplified its accounting procedures. Since November 1975 IBM data processing machines were used to reconcile inter-branch accounts. The 70s saw the creation of a new Indian Banking community. Nationalization of banks put social regulation on commercial banking and imparted new ethos to it. The resulting growth was a huge increase in banks with a distinctive

effect on remote country belts. Unique schemes have been established that lead to the diverse lending needs of farmers and other self-employed small-scale road transport industries. The Catholic Syrian Bank Ltd did not hesitate to take up the challenge and over 75% of its customer base belongs to the smaller, poorer population. With about 80% of the branches in rural and semi-urban districts, the Bank has a large rural base. Capital market funding and instruments for the capital market are expanding, and initiatives are taken to perform research in domestic equity so as to resolve potential challenges. The Bank has also built its machinery to increase its corporate finance market share in the coming days. Birla Sun life Insurance Company, Ltd. is part of the Bank's Life Insurance Product Marketing Arrangement and New India Assurance Company Limited is part of its Marketing Arrangement. At Present the Bank has arrangements for binding its mutual fund products into five firms. The bank currently has a network of 334 branches / extension counters, including 5 NRI branches, 5 branches SSI, 5 branches of industry finance and 4 branches of operation. The Bank is also preparing to open more companies in a staggered fashion. During the period 2005-2006, the Bank constructed 21 new ATMs at various locations. There are currently 71 ATMs in the Bank. There are 109 branches in ATM networked and it will be proposed that by the end of March 2007 all branches will be included in the ATM Network.

On 26 November 1920, the Bank became 'The Catholic Syria Bank Limited' under the Indian Companies Act, 1913. On April 14, 1987 the RoC granted a fresh corporate certificate under the Business Act of 1956. By postal ballots of 4 May 2019 and by letter bearer of reference numbers D BR.PSBD.No.8231/16.02.060/2018-19 dated 1 April 2019, the Shareholders of our Bank have approved the change of name from 'Catholic Syrian Bank Limited' to 'CS Bank Limited' and the change of RBI to 'Resolution of the Bank of CSB' by letters bearing reference number DBR.PSBD. A new incorporation certificate under the Companies Act 2013 and a fresh license with no was subsequently given by the RoC on 10 June 2019. The RBI granted the MUM-147 dated June 28, 2019 to the Indian banking company, rather than our earlier license dated June 19, 1969, following a change in our Bank's name,

under our current name. In the second schedule of the RBI Act, with effect from 10 June 2019, we changed the name of our bank to 'CSB Bank Limited.'

➤ **Vision Mission**

“CSB aims to be a leading bank based in South India that aims to excel in providing products that meet the needs of targeted customer segments, assisted by outstanding service through our branches and technology-driven initiatives in a compliant and controlled manner. We want to build a culture of pride for our employees, motivated by success and efficiency, which should ultimately contribute to sustainable business growth and produce superior returns to our shareholders.

➤ **Major Events and Milestones**

1920: Incorporation of our Bank.

1945: The Bank celebrated its silver jubilee.

1964-65: The Bank took over the assets and liabilities of six small and medium sized banks located in Kerala.

1969: The Bank was included in the second schedule to the RBI Act.

1970: Bank celebrated its golden jubilee.

1972: Opened our first branch in the state of Maharashtra in Mumbai.

1973: Opened our first branch in the state of Karnataka in Bengaluru.

1975: Received license to deal in foreign exchange and mechanized reconciliation of inter-branch transactions.

1978: Set up a staff training college.

1980: The Bank celebrated its diamond jubilee.

1995: The Bank celebrated its platinum jubilee.

2003: Changed the logo and colour scheme to create a new image of our Bank.

2004: Total business (advances plus deposits) crossed 50,000 million.

2007: An aggregate investment of Rs 332.97 million was made by AIF Capital Development Limited, GPE III Mauritius Direct Investment Limited and Siguler Gruff BRIC Mauritius in our Bank.

2009: Total business (advances plus deposits) crossed Rs 100,000 million.

2013: Total business (advances plus deposits) crossed Rs 200,000 million. Entered into an agreement with Edelweiss Tokio Life Insurance Company Limited to distribute life insurance products.

2015:

- Obtained approval of the FIPB for increasing the FDI limit in our Bank to 74% of the paid up share capital of our Bank.
- Public launch of mobile banking.

2016:

- Entered into an agreement with HDFC Standard Life Insurance Company Limited to distribute life insurance products.
- Entered into an agreement with Reliance General Insurance Company Limited to distribute insurance products.
- Entered into an agreement with ICICI Prudential Life Insurance Company Limited to distribute life insurance products.
- Entered into an agreement with ICICI Lombard General Insurance Company Limited to distribute general insurance products.

2018: RBI accorded its approval to FIHM to acquire 51% of the post issue paid up share capital of our Bank.

2019: Established Bank's two wheeler loan business. The Bank changed its name, logo and color scheme.

➤ **Products and Services of Catholic Syrian Bank**

The Catholic Syria Bank's goods and services are intended to ensure optimum value for customers. As a client of the bank, financial stability and high returns can be ensured. Some of the well-known portions of the bank's services are:

- Insurance
- Personal Banking
- Loan and financial services
- Advances
- NRI services

All these segments are concerned with consumers' needs and expectations and keep pace with emerging consumer trends.

Insurance is a central component of Catholic Syrian Bank products and services. Long-term insurance and short-term insurance advantages are valid. Auto insurance, life insurance, home insurance and many more can be used by the bank. Some of the most common insurance products available:

- Classic Life Premier
- Simply Life
- Supreme Life
- Children's Dream Plan
- CSB Health Care Support
- CSB Travel Support Scheme

➤ **NRI Facilities and Services of Catholic Syrian Bank**

The Catholic Syrian Bank provides a variety of superior facilities and financial solutions to non-resident Indians to expand its overseas presence. Most banking operations are transmitted electronically, making it simpler, simpler and more pleasant to deal with. Four of the bank's well-known financial reports are:

- FCNR Account
- RFC Account
- NRO Account
- NRE Account

In addition, NRIs that wish to develop business and commercial bases in India are also provided with loans and advances. Any of the following are:

- Short- and long-term loans instead of long-term deposits for reasons other than investing in the country of some kind.
- Loans can also be issued in any part of the world to take apartments or buildings.
- The loans shall also be issued against shareholder and other types of securities and separate categories of immeasurable assets.
- Loans will be issued in place of the RIBs. The loans are made for commercial or personal purposes.
- Housing loans for procurement, upgrading, renovation and refurbishment purposes are issued.

➤ **Personal Loans**

NRI loan services are available as part of the Catholic Syrian Bank Ltd group of personal loans. Loans are rendered here to the Catholic Syrian Bank to NRIs against NRIs' term deposits. These loans may be used for the purchase of housing in India.

Catholic Syria Bank Ltd. also offers loans on immovable property, shares and securities to NRIs. Such loans may be used for bank-specified purposes. NRI loans

issued against Resurgent India Bonds by the Catholic Syria Bank are also issued. Catholic Syrian Bank Ltd can use loan housing granted to NRIs to acquire, refurbish and repair houses. Catholic Syrian Bank Ltd. Casy Mithra also belongs to the group of personal loans from Catholic Syrian Bank Ltd. This project accounts for a cumulative loan amount of 25, 00 lakh and a minimum loans amount of 0, 50 lakhs. Working persons are liable for the loan, but there are a variety of loan terms.

➤ **Car Loans**

The VIP car loan scheme and the ordinary car loan scheme provide Catholic Syrian Bank Ltd Car loans.

VIP Car loans are provided to customers with financed limits greater than or equal to '25 lakhs by Catholic Syrian Bank Ltd. Car loans are also applied in this group to customers with term deposits equal to or greater than 25 lakhs. Many other terms and condition of loans extended under this category often apply in this category.

Vehicles such as a car, jeep and van can be purchased for personal use under the general car loan scheme of Catholic Syria Bank Ltd. Loans here shall be applied to individuals with the required income or property, who shall guarantee a borrower's daily capacity for repayment of loans.

Gold loans by Catholic Syrian Bank Ltd are widely accepted. It should be noted that. Gold sales up to '750.00 for every gramme are equipped with finances. For Hallmarked Gold, special rates are available. It is also referred to as Kanakashree.

Education loans are available in India and abroad for funding studies. Indian residents are also issued with Catholic Syria Bank home loans. The Catholic Syrian Bank Ltd loans for a variety of categories are therefore accessible and have attractive conditions.

➤ **Growth of Catholic Syrian Bank**

In 1969, the Status of Scheduled Bank was awarded to the Catholic Syrian Bank; and in 1975, after more than '25 crore' deposits, the Bank was adapted to be 'A' Scheduled Bank. There are roughly five NRI branches, 5 industrial sectors, 5 SSI

branches, and four service branches, in addition to the domestic branches. Many of these divisions work together to provide high-quality facilities and services.

The Catholic Syrian Bank is one of India's well-known private banks and a country-wide preferable organization for many customers. It provides a range of customized solutions and high-level services that meet customers' expectations and desires and help them achieve financial stability. The Catholic Syrian Bank, a well-known financial organization for the agricultural sector, has a high presence in rural areas in India.

3.3.2. The Federal Bank Limited

Federal Bank Limited has over a thousand branches of Kerala and ATMs across various countries, and is a major Indian commercial bank in the private sector located in Aluva. The Bank is a leader in the field of technology use for its operations among conventional banks in India and was one of India's first to computerize all its industries. As part of its strategy to position itself as a financial supermarket and to improve customer comfort, the Bank offers its customers a range of services, such as internet banking, mobile banking, on-line billing, collectible fees, depository services, cash management, commercial banking services, insurance and mutual fund products to its customers.

The Federal Bank's history dates from the time of pre-independence. On 23 April 1931, the Bank had been incorporated under the Travancore Federal Bank Limited, Nedumpuram Regulation of 1916. The visionary banker and founder Late K.P. Hormis took over in 1945, establishing a national bank. The name of the bank was changed on 2 December 1949 into The Federal Bank Limited. The Bank became a scheduled commercial bank under the Second Schedule of the Reserve bank of India Act of 1934 of 20 July 1970, which is authorized under the Banking Regulation Act of 1949 and on 11 July 1959. The bank is currently listed on BSE, NSE and the London Stock Exchange in 25 States, Delhi and four European Territories.

➤ **Vision**

It is the most admirable bank with a high emphasis on micro, medium or medium-sized enterprises that is digitally activated.

➤ **Mission**

Devote balanced attention to stakeholders ' interests and expectations, especially:

- Customers: meeting and even exceeding consumer requirements by the provision of appropriate goods and services, the use of single windows and 24 hour 7-day week principles, the utilization of improved business resources, customer calls, alternative distribution networks, the cross-selling of products and services to fulfil the customer's desires in a wide range of ways.
- Shareholders: Steady shareholder value increase.
- Staff: Establish a high degree of pride and loyalty for the Bank in each employee.

➤ **Major Events & Milestones**

- As at 31 March 2018, the bank comprised 1252 subsidiaries of 1696 ATMs and 231 cash equipment. The bank is also headquartered in Abu Dhabi and Dubai and has its representative offices in Gujarat (GIFT City), as well as an IFSC Banking Unit (IBU). The company was established in Nedumpuram, near Tiruvalla, in Central Travancore, under the Travancore Act, with an approved capital of 5,000 rupees. K.P.Hormis founded the Bank. They started businesses in agriculture and industry related to Auction Chitty and other Banking transactions.
- The Bank's registered office was moved to Alluvia in May 18 1945. They opened their first subsidiary and started operations at Alluvia. The second branch of Angamally was opened in 1946.

- The bank was renamed Federal Bank Ltd on 24 March 1947. The Bank was opened at Perumbavoor in April 1947 in its third branch.
- The Bank was approved by section 22 of the Banking Companies Act 1949 in 11 July 1959. A number of cooris were floated one by one by the Bank. During the same time, they introduced a variety of new deposit schemes.
- The St. George Union Bank Ltd was merged with the Bank in 1965. It was combined with the bank in 1968. Martha Dom Commercial Bank Ltd.
- In 1975, 53 branches were founded by the Bank. In 1976, 42 branches were opened.
- In 1982, as part of the restructuring and centralization of the operations the Bank moved the International Banking Segment to Cochin.
- In November 1984, the Department of Agricultural Finance was formed in the context of an organizational redesign recommended by the National Institute of Bank Management (NIBM).
- The Bank founded the Department of Human Resources and Industrial Relations in July 1985. They have also mounted Br's first ALPM-a Wipro Banker (Advanced Ledger Posting Machine). The branch of Alluvia-Bank Junction.
- The administrative building complex was inaugurated in 1987. The bank started operations in 1989 as a trading banking business.
- The Bank released the public query in March 1994.
- The bank opened its first ATM in Ernakulum North on 17 February 1997.
- The Bank started to link all the companies based in the Bangalore metro in 2000 with Any Where Banking (ABB) in Bangalore. In association with NSDL, they began Depository Services. Also, Internet Banking was introduced under the name 'FedNet' with Infosys Technologies Ltd software support.

- In 2001, the bank entered into a connection with Escotel Communications to launch mobile banking services using SMS technological technology. They also entered into marketing agreements with some commercial companies. They are also launching the latest 'Suraksha' deposit scheme for elderly people. The bank has entered INFINET as part of RBI's financial network.
- In February of 2002, full-fledged systems were set up in Mumbai to promote the online trading of securities through RBI's Negotiated Dealing Systems (NDS).
- In 2003, the Bank launched Anywhere Banking, which made transactions from more than 300 interconnected branches easy.
- In 2004, the Bank reached a 100% interconnectivity level across all its industries. They have launched a new retail offering to fund IPOs and public concerns of their own customers through an equity subscription scheme. The bank jointly and for premium collection through its industries ICICI Prudential Life Insurance Company Ltd and launched new e-Pay services from the Fed.
- In 2005, JRG Securities Ltd. forged a relationship with the Bank to lend to initial public bids (IPOs). The Bank became India's first Real Time Gross Settlement (RTGS) bank in all its branches.
- Ganesh Bank was successfully incorporated into the network of the Bank on September 2 2006 with the Bank, and the 32 branches.
- In 2008-08, the Bank opened its Abu Dhabi Capital Representative Office for the bank's gateway across the Middle East as well as a branch between GCC countries' current customers and GCC branches in India.
- 71 branches and 73 new ATMs were opened in 2010-2011. As of 31 March 2011, there were 743 and 805 branches and bank ATMs compared with 672 and 732 in the last financial year, respectively.
- The bank opened its second 24x7 Customer Service Contact Center with different capabilities in November 2011. Fed Jyothi, the first branch in

Maharashtra to adopt ICT Financial Inclusion model, was signed in December 2011 with the SAB BANK by Fed Jyothi.

- In April 2012, IMPS was introduced by the Federal Bank with its cell phone, which offers immediate credit on the beneficiary's account for the interbank transfer service. In August 2012, Tiruvalla Muthoor in Kerala opened its 1000th branch of the Federal Bank. The Bank's total workforce exceeded 10,000 in December 2012.
- In March 2013, the 3rd Currency Chest of the Federal Bank was opened in Mumbai. In the month Trivandrum International Airport opened the "Money Exchange Bureau" of the bank. At the end of financial year 2012-13, the Federal Bank crossed Rs 1 lakh crore of total company. Value adjusted services were launched by NRI customers to its Website by the Federal Bank in May 2013.
- In August 2013, Fed Book launched the first electronic passbook launched in India by the Bank; Federal Bank is the first bank to sponsor the White Label ATMs.
- In February 2014, the total number of branches of Federal Bank has crossed 1150. Fed Book is a mobile app through which customers can access their passbook details. In this quarter, the bank continued to increase its spectrum, adding 32 branches and 47 ATMs to the tally at 1174 branches and 1359 ATMs by 31 March 2014.
- In March 2015, the Federal Bank joined the Startup Village in Kerala and Mob ME Wireless in order to launch India's first Based Fin Tech Accelerator programme, a unique programme aimed at accelerating the growth of technical innovation within the financial sector. The partnership led to the launch by the Federal Bank of Scan N Pay of an innovative payment app for Smart phones in June 2015 of two new variants of Visa card for its customers, Platinum and Gold 'N More.

- Federal Bank has launched mobile reloading missing call-based banking services in December 2015.
- Missing call-based bank transfers services were introduced in January 2016 by Federal Bank. The KSEB electricity bill payment facilities were introduced by the Federal Bank in March 2016. A strategic partnership with Phillip Capital (India) Pvt was formed by the Federal Bank in April 2016. Phillip Capital Group, a subsidiary of the Singapore-owned group, has 1252 branches of its business and 1516 ATM services, with effect from 31 March 2016. PIS services are provided for NRIs. Ltd.
- In the selected countries of Andhra Pradesh and Kerala, the Bank opened maximum number of branches.
- The Launchpad was launched in June 2016 by the Federal Bank. The Launchpad is a one-stop facility that provides advice on custom-based banking services to emergent businesses that want to set up start-ups in various sectors, such as High Technology Farms Biotechnology Digital Financial Services etc. The Federal Bank released its application 'Lotza' in August 2016, the Unified Payments Interface (UPI).
- On 15 November 2016, The Federal Bank announced the bank's approval to open a representative office in Manama Bahrain as well as to open an office on DIFC Dubai, UAE.
- The Bank had 1252 branches and 1667 ATMs as of 31 March 2017.
- On 8 November 2017 Federal Bank announced that the bank has been authorized by Reserve Bank of India to open representative offices in Kuwait and Singapore. In the acquisition of the NRI customers of the bank, the overseas representative's office in the GCC countries and the NR virtual desk continue to play a major role.
- In Year 18, the bank formed ties with three major NRT brokerage companies for investments in Indian equity markets in the portfolio Investment Scheme (PIS). The bank's entire company surpassed in Q4 March 2018 the leading amount of Rs 2 lakh crores.

- In 2018 the bank partnered with Supply Co. in Agri and the company promoted partnerships with various small-scale and marginal farmers and the Bank.
- In 2018 the Bank partnered with Supply Co. Entire transactions are consolidated in order to provide timely and reliable service and increases the productivity of business customers in foreign exchange / trade finance.
- In the financial year 18, the Bank introduced the concept of Trade Hubs for foreign exchange operators in all metro towns and other large centers to make trading transactions more efficient.
- In compliance with its approval by the Board of Directors of the Bank to acquire the substantial minority share of up to 26% of ECPL, the Federal Bank advised stock exchanges on 11 May 2018 that the Reserve Bank of India had approved the acquisition of up to 19.90 percent of Enquires Capital Private Limited Equity's equity capital (ECPL).

➤ **Products and Services**

- **Personal Banking**

The bank provides a wide range of banking products and services such as saving accounts, deposits, personal loans, ATM services, tele-banking services, RTGS, insurance etc.

- **NRI Banking**

The bank offers a wide range of NRI services through all its branches. Non-Resident Indians (NRI) can open Non-Resident External (NRE), Non-Resident Ordinary (NRO) accounts in Indian Rupee. You can also have Foreign Currency Non-Resident (FCNR) accounts in six foreign currencies approved by Reserve Bank of India (US Dollar, British Pound, Euro, Japanese Yen, Canadian Dollar and Australian Dollar). Returning NRIs can open Resident Foreign Currency (RFC) account with any of their branches.

- **SME–Business Banking**

The bank offers a parameterized loan and various current account products tailor-made for each sector under SME. Competitive pricing, relaxation in collateral security, collateral free loans with CGTMSE cover, customization in various current account products, cash management services, internet bill payment facility etc are some of the features of their products which makes them a real friend of entrepreneurs.

- **Corporate Banking**

The bank offers customized structured products to meet the specialized requirements of corporate, institutions and business clients. Each member of their Corporate Finance team brings with him a wealth of transaction experience across transaction varieties and sectors to cater to you better. The bank has emerged as one of the leading private sector banks in the country, in providing a gamut of products for industry, trade and infrastructure sectors. The bank serves a wide range of customers across varying industries, segments and regions.

Over the past decade, risk management in banking has shifted, primarily in reaction to reforms that arose from the global financial crisis and the penalties imposed in its wake. But significant developments are a foot that indicates risk management in the next decade will see much more sweeping change. Theoretically, risk management in banking is described as the logical creation and execution of a plan to deal with possible losses. Typically, the aim of the banking industry risk management techniques is to monitor the exposure of an organisation to loss or harm, and to protect the value of its assets.

The theoretical background relating to risk management and a brief profile of sample banks have been discussed in the present chapter. Among the objectives of the present research work, the first one is to review the existing risk management practices followed by private sector banks in Kerala. That has been the subject matter in the next chapter.

Chapter 4

Risk Management Practices

In the previous chapter an attempt has been made to examine a detailed theoretical framework of risk management in banking sector in India and a brief profile of the selected two private sector banks in Kerala namely Catholic Syrian Bank Ltd and the Federal Bank Ltd. In addition to this, the role of regulatory authorities in the management of risks in banking sector in the country has been narrated with the help of secondary data. Among the various aspects of the present research work, the review of different practices followed for the management of risks by the selected private sector banks constitutes the first and basic area. This is the first objective of the present investigation. Therefore, the present chapter attempts to fulfil this specific objective.

In order to fulfil this objective, the different practices and strategies followed by the two selected Banks have been examined in detail with the help of primary data collected from the risk managers at the corporate offices through Interview schedule and managers at the branch levels through Questionnaire. The descriptive and inferential analysis has been done with the help of the data collected through this instruments. Independent sample t test and ANOVA with Tukey's test are used to evaluate risk management practices of selected banks.

For the purpose of discussion, the chapter is divided into two sections. Section A discusses the risk management practices of the Federal Bank Ltd and the Catholic Syrian Bank Ltd. Section B is concerned with overall analysis of major risk management practices of the Banks.

Section A

4.1. Risk Management Practices of the Sample Banks

4.1.1. Profile of the Sample Bank Mangers

The first section of the survey instrument was designed to gather information about the respondent's demographic characteristics. Before entering into the analysis based on objectives, it is quite relevant to examine a profile of the selected sample banks mangers. This current section presents descriptive statistical analysis. This analysis covers various demographical characteristics of respondents such as gender, age group, education and experience. This has been presented in following table.

Table 4.1

Demographic Profile of Sample Bank Mangers

Variable		Frequency	Percent
Gender	Male	262	54.0
	Female	223	46.0
	Total	485	100.0
Age group	20-30	129	26.6
	30-40	123	25.4
	40-50	115	23.7
	50-60	118	24.3
	Total	485	100.0
Education	Graduate	156	32.2
	Post Graduate	183	37.7
	Professional	146	30.1
	Total	485	100.0
Experience in years	0-10	122	25.2
	10-20	138	28.5
	20-30	108	22.3
	30-40	117	24.1
	Total	485	100.0

Source: Primary Data

Table 4.1 shows the attributes of the respondents, it is clear that majority (54%) of the respondents are male bank managers. Out of 485 respondents 223 are female bank managers. It is seen that 26.6 per cent of the respondents falls the age group of 20-30 years and 25.4 per cent of respondents belong to the age group of 30-40 years. The lowest share of respondents is from the age group of up to 40 -50 years (23.7%).

As regards educational background, 32.2 per cent of respondents are graduates, 37.7 per cent of the respondents are with post graduation qualification and 30.1 per cent of the respondents are professionals. In the respect of experience, 28.5 percent of respondents have the experience of 10 to 20 years and 25.2 per cent of respondents have got only less than 10 years of service. It is seen that only 22.3 per cent respondents are with the experience of 20 to 30 years.

4.1.2. Risk Management Practices of the Federal Bank Pvt Ltd

A. Missing Values

In statistics, missing data or missing values occur when no data value is stored for the variable in an observation. Missing data are a common occurrence and can have a significant effect on the conclusions that can be drawn from the data. The data collected from 300 respondents using structured questionnaire was entered in SPSS 21.0 software. Missing responses were noticed in 10 cases, hence removed.

B. Outliers

An outlier is an observation point that is distant from other observations. An outlier may be due to variability in the measurement or it may indicate experimental error; the latter are sometimes excluded from the data set. An outlier may cause serious problems in statistical analysis. In this study, outliers were noticed in 6 cases, hence removed. Ultimately, data from 284 respondents were used for analysis

A brief of the practices followed by the Federal Bank Ltd for managing the risks is presented in the following pages.

The response from the officials shows that the Federal bank considers risk management as a major tool for staying the present competitive environment. From

the primary survey, it has been found that the risk tolerance level of the bank is excellent which helps to maintain a good competitive position. Definitely, the bank formulates various creative strategies in order to manage the different types of risks. The risk management practices and policies of the bank are developed with the active participation of the board of directors.

The Basel norms, RBI regulations and objectives of the bank are taken into account before framing the risk management policies. The individual roles and responsibilities are explained in the policy document in order to have an effective risk management framework. The risk management policy is implemented with almost concentration in the branch level. The bank has a well-integrated control system. The bank has developed its organizational structure in such a way that risks are well identified and there are no loopholes in the risk monitoring system. The internal control is so strong so that the bank is very much vigilant about the maintenance of an acceptable level of risk throughout. The compliance officer remains vigilant about the occurrence of compliance issues and solves them in time.

The bank has adopted sophisticated tools for risk management, both of qualitative and quantitative in nature. The bank provides due care to the backup data and it ensures good flow of communication between the different levels of hierarchy.

4.1.3. Risk Management Department

From the survey it is understood that a separate department has been functioning in the Bank to handle the risks. The risk management policy of the bank is developed with the view that the bank does not take risk by chance, but only by choice. The officials reported that following are the different types of risks commonly experienced by the bank.

- Credit risks
- Operational risks
- Liquidity risks

- Interest rate risks and
- Liquidity risks.

A regular review of the risk management practices is performed by the Bank. Moreover, proper up gradation has been done with new citations and newer technologies. This is carried out strictly in accordance with the guidelines issued by the Reserve Bank of India from time to time. Due importance is given to adopt the best practices prevailing in banking industry in the Country. The control of risk management of the whole bank is in the hands of a Chief Risk Officer. He is responsible for the integration the risk management procedures of all branches.

The risk confronted by the bank is managed with a set of policies, systems and processes. These processes, system and policies are reviewed on a regular basis. The bank makes sure that all these procedures are in line with the risk profile of the bank. The following two systems are practicing.

- The Risk and Control Self Assessments (RCSA) system and
- A set of Key Risk Indicators (KRI).

These help in identifying properly and controlling the risks faced by the bank. The new products, which appear in the product list of the bank and the existing ones are checked and scrutinized for identification of risk possibilities. The restructuring of the organizational hierarchy is also performed for this purpose. The bank has a separate team of technically brilliant personnel who monitors the transactions of the bank worldwide and solves the issue to make sure banking without hassles. This team also deals with fraud and AMI issues.

4.1.4. Compliance Function with Basel Framework

The basic indicator approach is used to deal with operational risk, standardized approach for credit risk and standardized approach for market risk for allocation of capital charge as per Basel guidelines. The bank develops new systems and data build up in order to shift to latest approaches.

➤ **Regulatory Compliance**

The policies of bank are framed by taking into account the compliance with Basel III Norms and other RBI Guidelines. The compliance department takes special care on the same. The compliance function is strong and independent. The department monitor and co-ordinates with a strong policy framework developed by the bank. The policy helps to ensure the effective monitoring and co-ordination of the compliance functions in the Bank. The bank reviews a policy on a regular basis as the issuance of new government guidelines. The bank has a policy manual in which the policy for compliance is clearly written this serves as the compliance catalogue for different branch offices. It remains up-to-date as per the current guidelines. The online and offline procedure for compliance function of the bank is well described in the manual. The monitoring officers make sure that the branch is functioning as per the compliance function. The employees of the bank are given training sessions on a regular basis to make sure that they work according to the compliance functioning. Circulars, puzzles and tailor-made sessions are used for imparting the compliance culture in the bank.

4.1.5. Unique Risk Management Practices of the Federal Bank

The survey data revealed that the Risk Management Practices of Federal Bank has the following unique features.

- The directors of the bank strictly monitor the risk management procedures of the bank.
- The risk management committee, which is constituted by some of the director, is focusing on the risk management in all level of the organizational structure.
- The risk management department is highly integrated which monitors and co-ordinates risk the risk management process.
- The department is divided into three portions, which are tailor made for to cope up the credit risk, operational risk and market risk respectively. The mid office

strictly monitors the treasury activities. This mid office is a part of integrated risk management department.

- The risk management process is influenced by business continuity plans and information security plans.
- The transaction monitoring cell works 24x7 to check and monitor transactions done in the bank and make sure these transactions are safe and secure.
- There is regular review of risk management policies from the part of board of directors.
- The bank has also formed risk management committees at the executive level which includes asset liquidity management committee, credit risk management committee, business continuity management committee, operational risk management committee and infrastructure security committee. They review the risk management policies and ensure the functional efficiency of the bank.
- A senior executive at the level of chief risk officer bears the responsibility for identification, measurement and monitoring of risk.
- The custom of the bank is that the Chief Risk Officer should report to the Managing Director and CEO of the bank. The bank is of the opinion that as of now there is no material risks, which threaten the functioning of the bank. The material risks are those risks which arise as part of carrying out the routine business activities.

➤ **Transaction Monitoring and Fraud Prevention**

The bank has a well- developed Transaction Monitoring and Fraud Prevention department, which has well developed technological tools for the purpose. The transaction monitoring teams stays vigilant on online transactions, core banking etc. The bank has this monitoring team working for 24 hours. This team takes care of suspicious transaction even in the late hours of the day. The team also conducts KYC verifications to make sure that the bank operates in line with the KYC norms.

➤ **Internal Control Systems and their adequacy**

The Bank has a very well developed and strong internal control system which has evolved over the years. It is designed as per the size, scale and complexity of the branches of the bank. The audit policy of the bank clearly defines the structure and authority of internal audit function. The Audit Committee approves the audit policy document. This document undergoes regular revisions in accordance with Basel III Norms. The Inspection and Audit Department checks the control system on a regular basis and makes sure that it can cope up with new developments taking place in banking system. The process and system are checked regularly for its compliance with the internal rules, accounting practices and the norm of regulatory authority. The changes and checks as per the findings of the audit reports are done in each and its follow up.

The responsibility of internal auditor is earmarked with the head of Inspection and Audit Department to stay in line with requirements of Section 138 of the Companies Act 2013. The internal auditor should directly report to the Audit Committee of the board of the bank. The different types of audit in the bank includes management audit and risk based internal audit. The risk rating of different branches is calculated by risk based internal audit. The serious and important findings are presented before the Inspection Review Committee of Executives and to the Audit Committee. The offset audit is also leveraged by the bank which helps internal control systems in a viable and cost - effective way.

4.2. Risk Management Practices of the Catholic Syrian Bank Pvt Ltd

A. Missing Values

The responses collected from 222 respondents using structured questionnaire was entered in SPSS version 21.0 under different variable names. To identify missing variables a frequency test was done. Missing responses were noticed in 15 cases where respondents fail to mark their responses related to certain questions which were critical in analysis point of view and hence these cases were removed.

B. Outliers

Outliers are created due to various reasons such as data entry errors, sampling errors as well as biased responses from the respondents. Similarly, outliers were noticed in 6 cases, hence removed. Finally a total of 201 respondents were considered for final analysis.

In this section an attempt has been made to examine the practices followed by the Catholic Syrian Bank Ltd and the results of the primary survey in this respect are given below.

The response from the officials of Catholic Syrian bank indicates that the bank has an excellent risk tolerance level. The better strategic position of the bank is the result of strength of risk management. The Board of Directors of the Bank gives utmost care in framing and approving the risk management policies. The involvement of the board is notable at the time of framing of those policies. The people process and systems are designed with a view to ensure the adoption of proper risk management practices in the Bank. The role and responsibilities of every staff are clearly defined and regular revision of the risk management policy is done with proper gradations and updates. The management ensures the fineness of implementation of the policy at the branch level. The policy stands really good at tacking the present market risks. The policy is framed after taking into account the human resource policy of the organization also.

The organizational structure of the bank is made by taking into consideration the possibilities of risk and risk management. The bank has a good system of risk identification and risk reporting and monitoring system. The framework of risk management is validated and controlled well. The bank has faced only a healthy level of risk to the date and level of integration of the risk management system is also good. There is a clear definition of the roles and responsibilities of the compliance officer and he treats those issues which he come across with utmost care and responsibility.

The risk management practices, both quantitative and qualitative, are framed after careful scrutiny of the risk profile of the bank. The backup data setup of the bank is also excellent. The organization takes special care to ensure that information is flowing from the lower level to higher level smoothly.

4.2.1 Risk Management Policy

The risk management framework of the bank is framed in such a way that it is sufficient to deal all type of risks. The framework is not just confined to the Pillar II credit risk, market risk etc. The framework identifies measures and manages each material risk in the best way. The risk management policy of the bank has a high level of integration, which makes the risk governance structure independent. The bank puts into practice the risk management policy in reliable and independent manner.

4.2.2 Uniqueness Risk Management Practices

The following are the unique features of the risk management practices of the bank as reported by the officials during survey.

- The balancing of the trade off between risk and return and optimization of return on capital are identified as the major objectives of risk management. The major types of risks, which the banks come across, are credit risk market risk and operational risk.
- The risk management measures mainly aim at identification, prioritization, quantification, control and minimization of risks. All these procedures are done to achieve an optimum risk reward profile.
- A good level of integration is ensured by the bank in its risk management measures. A good risk management architecture is developed for ensuing the integration of these practices.
- The risk management policies and processes are framed with the active participation of the board.

- The subcommittee of risk management supports the board in this venture, which in turn gets support from executive committees like Credit Risk Management Committee, Asset Liability Management Committee and Operational Risk Management Committee.
- The risk management policy framework is implemented with the supervision of all these committees on a whole.
- The incorporation of Basel II Norms in the procedures of bank started in FY 2007-08. The bank yearly presents capital ratios as per the norms of Basel III.
- The bank has also taken into account the regulations of Pillar 1 of Basel II and III norms for implementing in the risk April 1, 2013. The Bank has also been in tune with the regulatory guidelines on Pillar I of Basel II and III

➤ **Vigil Mechanism and Human Resources**

Over the years, the bank has constructed a vigilant mechanism or system to monitor unethical, suspected and behavioural frauds. Using this mechanism, the directors, employees, stakeholders, Non-governmental organizations and the public can submit complaints. This vigil mechanism is strictly monitored by the audit committee and the chairman of the audit committee directly hears the complaints of director and employees who use this mechanism for reporting their grievances. Special care is taken to ensure that each and every employee get access to the vigil mechanism in case of any grievances. The bank also organizes sessions on a regular basis which includes awareness sessions on fraud and risk management, sessions for imparting compliance, vigilance workshops, preventive vigilance audits, sessions which introduces track record of modus operandi of frauds etc. The bank ensures that it raises a cream of empowered employee who has cent percent commitment towards the vision of the bank. The bank has developed an organizational environment which builds trust and sense of co-operation between its employees. It respects the rights and dignity of every employee. The bank develops, cement and updates its HR policy by a continuous process. The HR department serves as the light house to success for the bank. The HR policy of the bank clearly defined beyond doubt.

➤ **Inspection and Vigilance**

The audit and inspection mechanism of the bank plays an important role in assisting the management for better control of operations of the bank. The system adopts up-to-date supervision and control measures and undertakes diversification of functions for better performance of the bank. The bank ensures the reliability and effectiveness of the inspection mechanism for branches and other administrative frameworks. The bank ensures independent working of the inspection system and it checks on a regular basis the people, process and systems to ensure their compliance with the current policies of the bank.

The robustness of internal control is ensured without hindering the growth of the organization. The department of inspection also imparts awareness among all branches regarding their operations to ensure that all of them stay in line with rules and regulations of the bank. Various audits like information system audit, KYC audit, concurrent audit, currency chest audit, risk based internal audit, the department also does management audit of zonal offices and gold loans audit. The concurrent audit is done by a team of well acclaimed chartered accountant firms. The audit committee of the board does the monitoring of the internal audit system of the bank. It also looks after the policy and procedural framework formed by the bank on a regular basis.

Now a day, the Offsite surveillance system is used for the internal control of the different branches of the bank as it is recognized as a major tool in the current CBS system. For protecting the bank from future losses, the violation of norms, irregularities and revenue leakage and monitored and control by a special cell under the inspection department.

The executive called the chief of internal vigilance heads the internal vigilance department of the bank. This position is formed as per the stipulation of RBI guidelines, He is deputy general manager of inspection audit and vigilance. This department informs the senior management of the bank about vigilance related issue and helps them to tackle the same. The department helps in updating and improving the control systems and ensures the compliance of banking procedures with the

regulations. The department carries out quick rides and inspectional in zonal offices, branches and other departments on a regular basis in order to tackle issues related to preventive vigilance.

➤ **Internal Financial Control Systems and their Adequacy**

The reliability of preparation of financial reports and statements is ensured through the internal control system and procedural framework of the bank. The effectiveness of internal control system is also check and scrutinized by the bank on a regular basis.

4.2.3. Compliance Function of Bank

Different frame works are made by bank to assure the compliance function. It includes, Anti Money Laundering (AML), Know Your Client (KYC) and Combating of Financing of Terrorism (CFT) as per guidelines of Reserve Bank of India. For this purpose, the RBI has issued Prevention of Money Laundering Amendments and the FATE. The policy framework includes custom identification, customer acceptance, monitoring transactions and risk management. The compliance of KYC, AML and CFT is ensured by a PMLA cell, which work at the head office of the bank. All transactions carried by each and every branch is strictly monitored by a software developed by the bank. The mischievous transactions which the software comes across are reported to the FIU-IND. New Delhi. The compliance and PMLA Department is headed by Department director who is no one other than the Managing Director and CEO of the bank. This officer bears the primary responsibility for KYC, AML and CFT compliance and also FATCA and CRS reporting.

The guidelines of KYC, CFT and AML are made into practice by the KYC nodal officer at each branch. The employees of the bank are given training in the areas of KYC, AML and CFT in the staff training college. Online education along with circulars is used to impart knowledge for this purpose. The bank tells the staff about to attend courses on KYC, AML and CFT. The compliance with statutory provisions of legislations like Reserve Bank of India Act, Banking Regulations Act, Foreign

Exchange Management Act and PMLA Act is ensured by the compliance cell. This department implements the compliance with very strict observation of all branches and departments.

The IBA and BCSBI standards and guidelines are also observed in the procedures of the bank by the compliance cell. The compliance of bank on these regulations are monitored by compliance officers at branch level and reports to the Chief Compliance Officer. This compliance officer acts as nodal officer between the regulatory authorities and bank. The chief compliance officer also assists the senior management in dealing with the compliance issues of the bank. The compliance issues are also monitored by an inbuilt software which also ensures proper submission of returns to the bank. The compliance cell provides awareness to the employee on compliance needs to different banking regulations and minimizes the unfavourable effects of non-compliance on the bank.

4.2.4 Risk Management and Compliance

The balancing of the trade off between risk and return and optimization of return on capital are identified as the major objectives of risk management. The major types of risks which the Banks come across are credit risk market risk and operational risk. The risk management measures mainly aim at identification, prioritization, quantification, control and minimization of risks. All these procedures are done to achieve an optimum risk reward profile.

A good level of integration is ensured by the bank in its risk management measures. A good risk management architecture is developed for ensuring the integration of these practices. The risk management policies and processes are framed with the active participation of the board. The subcommittee of risk management supports the board in this venture, which in turn gets support form executive committees like Credit Risk Management Committee, Asset Liability Management Committee and Operational Risk Management Committee. The risk management policy framework is implemented with the supervision of all these committees on a whole. The incorporation of Basel II norms in the procedures of bank started in FY 2007-08. The bank quarterly presents capital ratios as per the norms of Basel III.

The bank has also observed the guidelines of Pillar 1 of Basel II and Basel III norms. The capital change on credit risk is calculated according to the standard approach and market risk as standard deviation method. The basic indicator approach is used to calculate the capital change for operational risk. The expected credit losses as per LFRS regulations is also found out by bank for 2016 March, 2017 March and 2018 March.

Section B

4.3. Overall - Risk Management of the Federal Bank and the Syrian Catholic Syrian Bank

The analysis of survey data on the overall risk management practices yields the following results.

4.3.1. Techniques Adopted by the Banks for the Identification of Risks

The officials of the selected private sector banks opined that that they have been implementing various techniques for identification of risk. They reported that important techniques adopted include-

- SWOT analysis
- Auditing
- Risk survey
- Scenario analysis
- External reports
- Checklist analysis and
- Documentation review.

The private sector banks come across many varieties of risks including interest rate risk, liquidity risk, operational risk, market risk, credit risk and foreign exchange risk. The preview of risk also includes strategic risk and environmental risk. From the survey it is found that the major risks confronted by the Federal bank are credit risk and operational risk and of that by the Catholic Syrian bank is credit risk and operational risk.

4.3.2. Factors Leading to Different Kinds of Risks

In the opinion of managers dealing with the risks, the following are the major reasons for risks.

- Changes in external environment
- Deficiencies in internal systems
- Procedural deficiencies
- Absence of adequate information
- Absence of smooth flow of information
- Communication gap loop holes in technology support and
- Workforce problems in the organization.

Similarly, the managers reported that the chief causes of credit risks of the bank are

- Incorrect Client details
- Internal fraud
- Employee collusion
- Loopholes in tracking of fraudulent transactions
- Poor loan underwriting and
- Laxity in giving credit.

As per the survey, the prominent factors causing operational risk includes

- Unethical employment practices
- Unhealthy client's products and business practices and
- Internal system failures.

The major reasons of liquidity risks as reported by the officials concerned are-

- Poor quality asset mismanagement
- over extension of risks
- lack of proper liquidity policy
- lack of proper plans for contingencies and
- Large undrawn loan commitments.

4.3.3. Tools and Techniques used for the Management of the Risks

The major risk management techniques as put forward by the managers includes probability and impact matrix, risk data quality assessment, gap analysis, value at risk, stress testing and financial statement analysis. The risks are managed through various statistical tools like simulation methods and SWOT analysis.

The other methods of risk management include –

4.3.4. Technology Related Risk

The banks are good at measuring and managing risks and they are equipped with an advanced data backup system. One of the major problems confronted by both the banks is technology related risk. The dynamic technological environment is causing is posing various kind of risks for the banks as well as the customers. The disappointing fact is that this avenue is not much taken care of by both the banks. The banks are trying to educate their customers through various mass Medias and social networks. The condition that advent of technologies is posing various issues on banks is a fact beyond doubt.

4.3.5. Major Risk Management Practices of the Two Selected Banks

An attempt is made to examine the major risk management practices adopted by the two selected private sector banks namely the Federal Bank Ltd and the Catholic Syrian Bank Ltd. For the purpose of analysis, three major risk management practice variables are considered namely

- Strategic direction and policy
- Risk tackling techniques and
- Risk profile & communication flow.

The present section has been analysed based on a five-point Likert scale with the help of mean score and independent sample t test. The answers of all the statements on the likert scale are further divided into three classes, based on the quartile value. The average score is below 3.2 shows a lower impact. The score from 3.2 and 3.6 shows a moderate impact and that above 3.6 higher impacts. The outline of the results is depicted in the Tables from 4.2 to 4.4.

4.3.6. Strategic Direction and Policy

The following is a presentation of group statistics - strategic direction and policy. This variable is composed of six statements. The impact of these variables on the risk management system is examined in the following Table (Table 4.2).

Table 4.2

Group Statistics -Strategic Direction and Policy

Statements	The Bank	Mean	Std. Deviation
1. Strategic direction of the bank related to the risk management	Catholic Syrian Bank	2.413	.8252
	Federal Bank	2.493	.8894
2. Level of flexibility of the risk strategies to cope with the other risk	Catholic Syrian Bank	3.677	.7202
	Federal Bank	3.871	.6204
3. Degree of caution of the management in framing risk management policy	Catholic Syrian Bank	2.323	.9073
	Federal Bank	2.246	.9014
4. Risk management policy clearly identifies the various risk	Catholic Syrian Bank	3.576	.7716
	Federal Bank	3.551	.6234
5. Review of the policy and procedure	Catholic Syrian Bank	2.683	.8762
	Federal Bank	2.471	.8504
6. Risk management strategy to implementing to branch level	Catholic Syrian Bank	3.485	.6627
	Federal Bank	3.486	.6423
Strategic Direction and Policy	Catholic Syrian Bank	15.252	3.471
	Federal Bank	18.118	3.896

Source: Primary Data

Table.4.2 presents the mean score and standard deviation on six statements about strategic direction and policy by two banks, namely Catholic Syrian Bank and Federal Bank. The overall mean score obtained in the case of Catholic Syrian Bank and Federal Bank is 15.252 (σ 3.471) and 18.118 and (σ 3.896) respectively. It reveals that compared to the Catholic Syrian Bank, Federal Bank follows better strategic direction and policy. The highest mean score for Catholic Syrian Bank (3.576 with standard deviation of .7202) and Federal Bank (3.871 with a standard

deviation of.6204) is given to statement No.2 i.e. Level of flexibility of the risk strategies to cope with the other risk. The lowest mean score is given to statement four namely degree of caution of the management in framing risk management policy by Catholic Syrian Bank (2.323 with a standard deviation of.9073) and Federal Bank (2.246 with a standard deviation of .9014).It means that both banks are somewhat disagree to the statement. However, the overall mean score is favourable in the case of Federal Bank.

4.3.7. Risk Tackling and Risk Management System

An attempt is made to find out level of influence of risk tacking measures on risk management system of the banks. This has been done in the Table 4.3.

Table 4.3
Group Statistics - Risk Tackling

Statements	The Bank	Mean	Std. Deviation
1. Existing risk management system identify and measure risk	Catholic Syrian Bank	3.102	1.000
	Federal Bank	3.537	.6136
2. Monitoring and reporting system	Catholic Syrian Bank	1.876	.7091
	Federal Bank	2.213	.6835
3. System of internal control and verification	Catholic Syrian Bank	2.987	.9203
	Federal Bank	3.426	.8453
4. Integration overall risk controlling system	Catholic Syrian Bank	2.989	.8978
	Federal Bank	2.294	.7757
5. Treatment of compliance issue	Catholic Syrian Bank	3.218	.9889
	Federal Bank	3.532	.8296
Risk Tackling	Catholic Syrian Bank	11.597	2.721
	Federal Bank	12.176	2.769

Source: Primary Data.

Table 4.3 presents the mean and standard deviation on five statements about risk tackling by two selected banks. The overall average shows that the mean value of Federal Bank (12.176) is higher than Catholic Syrian Bank (11.597) on risk tackling. It means that Federal Bank is more efficient to tackle risks. The highest mean score

is given to the statement No.1 namely existing risk management system identify and measure risk by Catholic Syrian Bank managers (3.102 mean score with standard deviation of 1.000). The Federal Bank managers are assigned with the mean score of 3.537 and standard deviation of .6136 in this respect. The second highest mean is given to statement No. 5 by the Catholic Syrian Bank managers (3.218 mean score with a standard deviation of .9889) and the Federal Bank managers (3.532 mean score with standard deviation of .8296) This indicate that treatment of compliance issue in both the banks handles properly. The lowest response is given to the statement No.2 namely monitoring and reporting system. In this case, the mean score is 1.876 with standard deviation of .7091 in the case of Catholic Syrian bank managers and it is 2.213 (mean score with standard deviation of .7091) in the case of Federal Bank Managers.

4.3.8. Risk Profile and Communication Flow

Table 4.4 shows the mean score and standard deviation based on response of three statements about risk profile and communication flow. The result of this analysis is depicted as follow.

Table 4.4
Group Statistics - Risk Profile and Communication

Statements	The Bank	Mean	Std. Deviation
1. Risk measurement tools fit to the risk profile	Catholic Syrian Bank	3.516	.7321
	Federal Bank	3.677	.8472
2. Backup data facility of your bank	Catholic Syrian Bank	3.509	.9762
	Federal Bank	3.670	.7543
3. Communication flow through the scalar chain	Catholic Syrian Bank	3.436	.7469
	Federal Bank	3.852	.8201
Risk Profile and Communication Flow	Catholic Syrian Bank	8.170	2.521
	Federal Bank	8.631	2.820

Source: Primary Data.

The overall average shows that the mean value of Federal Bank (8.631) is higher than that of Catholic Syrian Bank (8.170) in the case of risk profile and communication flow. It means that Federal Bank is more efficient to handle risk

profile and communication flow. The highest mean score is given to the statement No.1 namely risk measurement tools fit to the risk profile by Catholic Syrian Bank managers (3.516 mean score with standard deviation of .7321). It is 3.667 (mean score) with standard deviation of .8472 in the case of the Federal Bank managers. The lowest response is given to the statement No.3 namely Communication flow through the scalar chain. In this case, the mean score is 3.436 with standard deviation of .7469 in the case of Catholic Syrian bank managers and it is 3.852 mean score with standard deviation of .8201 in the case of Federal Bank Managers.

4.3.9. Risk Management Practices and Selected Banks

In order to evaluate risk management practices of the two banks, the following hypotheses have been developed and tested with the help of ANOVA. The result is shown table 4.5.

Testing of Hypothesis No.1

H0: There is no significant difference between Catholic Syrian Bank and Federal Bank in the case of risk management practices followed.

Table 4.5

ANOVA with Tukey's Test for Non – additivity Risk Management Practices of Federal Bank and Catholic Syrian Bank

		Sum of Squares	df	Mean Square	F	Sig	
Between People		11033.484	484	22.796			
Within People	Between Items	15010.994	131	114.588	170.278	.000	
	Residual	Non-additivity	197.744 ^a	1	197.744	295.212	.000
		Balance	42469.707	63403	.670		
		Total	42667.451	63404	.673		
Total		57678.445	63535	.908			
Total		68711.929	64019	1.073			
Grand Mean = 3.384696557337787							
a. Tukey's estimate of power to which observations must be raised to achieve additivity = 1.936.							

Source: Primary Data.

A comparative analysis on the risk management practices of Federal Bank and Catholic Syrian Bank has been done in the above table. The application of ANOVA with Tukey's Non- additivity test shows that the data relating to risk management practices from the perspective of the managers in the two selected private sector banks namely the Federal Bank Ltd and the Catholic Syrian Bank Ltd are consistent and stabilised, as the F value is 170.278 and the p value is 0.000. It means that in the case of risk management practices followed, there is significant difference between Catholic Syrian bank and Federal Bank. Hence, the first null hypothesis namely in the case of risk management practices followed, there is no significant difference between Catholic Syrian bank and Federal Bank is rejected.

Testing of Hypothesis Nos.2, 3 &4

The test of independent sample t test was employed for a comparative analysis on the various elements of risk management practices of the selected banks. For this purpose following hypotheses have been formulated and tested. It is given in Table 4.6.

21. H₀: In the case of Strategic direction and policy followed, there is no significant difference between Catholic Syrian Bank and Federal Bank.
22. H₀: In the case of risk tackling followed, there is no significant difference between Catholic Syrian Bank and Federal Bank.
23. H₀: In the case of risk profile and communication followed, there is no significant difference between Catholic Syrian Bank and Federal Bank.

Table 4.6**Results of t test on Risk Management Elements and Selected Banks**

Statements	The Banks	Mean	Std. Deviation	P value	Results
Strategic Direction and Policy	Catholic Syrian Bank	15.252	3.471	0.003	Rejected
	Federal Bank	18.118	3.896		
Risk Tackling	Catholic Syrian Bank	11.597	2.721	0.000	Rejected
	Federal Bank	12.176	2.769		
Risk Profile and Communication Flow	Catholic Syrian Bank	8.170	2.521	0.682	Accepted
	Federal Bank	8.631	2.820		

Source: Primary Data

The analysis of three risk management elements in both the selected Banks has been attempted to see whether there is any significant difference between the banks. The analysis (Table 4.6) shows that in the case of strategic direction and policy followed, the significance level of p value is 0.003. Hence, the second null hypothesis that in the case of strategic direction and policy followed, there is no significant difference between Catholic Syrian Bank and Federal Bank can be rejected.

Likewise, the analysis on risk tackling reveals that there is significant difference between the two banks (Significant level of 0.000). Hence, the third hypothesis viz., in the case of risk tackling techniques followed, there is no significant difference between Catholic Syrian bank and Federal Bank may be rejected.

However, in the case of third variable namely risk profile and communication Flow followed, the analysis shows that the significance level is 0.682. It shows that there is no significance difference between the two banks in this case. Thus, the fourth hypothesis namely in the case of risk profile and communication flow followed, there is no significant difference between Catholic Syrian bank and Federal Bank can be accepted.

It is noticed from the analysis that overall mean score of three elements of risk management practices is favourable in the case of Federal Bank.

4.3. Factor Analysis - Identification of Efficient Risk Management Techniques

Factor analysis is a technique used to identify a smaller number of factors underlying a large number of observed variables. Variables that have high correlation between them and are largely independent of other subject of variables have been combined into factors. To explore the underlying dimensions, exploratory factor analysis was done. Principal component analysis with varimax rotation was used to reduce the number of variables. The factor analysis is based on correlation between variables, so the factorability of data was identified by using KMO and BTS. If the Kaiser Meyer Olkin measure of sampling adequacy is greater than 0.6, the data is factorable (Tabachinick and Fidell, 2007). The Barlett's Test of Sphericity (BTS) value is significant, if p value is less than 0.5. The following table shows the value of KMO and BTS.

Table 4.7

KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.916
Bartlett's Test of Sphericity	Approx. Chi-Square	5316.360
	df	120
	Sig.	.000

Source: Primary Data.

To justify the factorability data, the correlation matrix displayed sufficient items. The KMO and Bartlett's test of sphericity produce the Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test. KMO for overall matrix was found to be excellent (0. 916) which is greater than 0.6 (Tabachinick and Fidell, 2007) and Barlett's Test of Sphericity (BTS) value is found significant ($p < 0.000$) which means that the data is appropriate for Exploratory Factor Analysis (EFA). The details of factor analysis are presented below.

4.5.1. Total Variance Explained

Table 4.8 indicates the extraction of factors loading. Principal Component Analysis is used and four components are extracted towards the identification of efficient risk management techniques. The result shows that 81.113 % of the total variance is explained by the three factors. The most contributing factor based on the above table is risk identification, risk prioritization & communication and risk management. The following table explains the rotated component factor loading of each factor.

Table 4.8
Total Variance Explained –Efficient Risk Management Techniques of Banks

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.242	43.681	43.681	5.242	43.681	43.681	3.901	32.505	32.505
2	2.562	21.353	65.034	2.562	21.353	65.034	3.344	27.864	60.369
3	1.929	16.078	81.113	1.929	16.078	81.113	2.489	20.744	81.113
4	.880	7.331	88.444						
5	.565	4.712	93.156						
6	.399	3.328	96.484						
7	.247	2.056	98.540						
8	.090	.753	99.293						
9	.066	.550	99.843						
10	.010	.081	99.924						
11	.006	.052	99.975						
12	.003	.025	100.000						

Extraction Method: Principal Component Analysis.

Source: Primary Data.

Table 4.9

Rotated Component Matrix-Efficient Risk Management Techniques of Banks

Rotated Component Matrix		Component		
		1	2	3
Ri1	The bank gives training programme on risk identification and risk management as per risk management policy.	.908		
Ri2	The staff of the bank is provided with the risk management policy document.	.869		
Ri3	The various departments of the bank is earmarked with roles and responsibilities as per the risk management policy framework	.866		
Ri4	The performance of the bank is strictly monitored by the executive management.	.777		
Rpc1	There is a positive shift in efficiency of risk management after the application of Basel II and Basel III Accord		.961	
Rpc2	The risk management policy is bank is flexible with the dynamic situation.		.870	
Rpc3	Banks capital is adequate to risk profile, macro and micro economics condition.		.743	
Rpc4	The bank is equipped with adequate capital to meet its risk profile in micro and macro situation		.718	
Rpc5	The risk management policy of the bank is communicated effectively from top to bottom of the scalar chain.		.704	
Rm1	The bank ensures the recruitment of highly experienced personnel for managing its risks.			.906
Rm2	Efficient risk management is the one of the main objectives of the Bank.			.867
Rm3	There is a highly effective system that reviews risk management and performance of bank on a regular basis			.828
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 5 iterations.				

Source: Primary Data.

The table 4.9 shows the rotated factor matrix. Variable with factor loadings above .70 were selected for analysis. After performing Varimax Rotation Method in Kaiser Normalization, factor 1 comprised four variables named as risk identification. The items in factor one are Ri1, Ri2, Ri3 and Ri4. In factor risk prioritization and communication, the item Rpc1 showed more (.961) followed by the Rpc2 (.870). The Rpc5 is the least loading factor. The factor 3 comprise three items namely risk management with the factor loading ranging from .828 to .906. The diagrammatic representation of three efficient risk management techniques are shown in Fig. 4.1

4.6. Efficient Risk Management Model

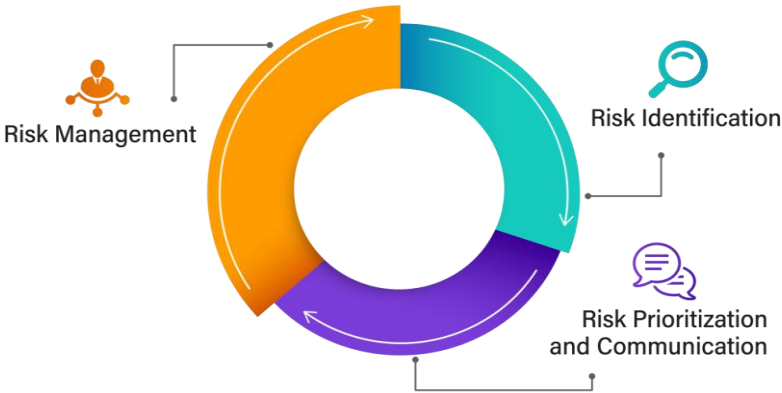


Fig. 4.1. Efficient Risk Management Model

Thus, Banks are inevitably facing various types of risks during their operations. This could have a potentially adverse impact on their business. The risk management model has gained significance due to increased competition, increased uncertainty and market fluctuations. As a result of risk management, the quality of private sector banks governance has improved and the corporate governance practice has been strengthened as well. The key aspect of the risk management model is the minimization or elimination of the risks associated with ad services provided to banks. An effective risk management system is necessary to reduce the internal and external risks.

The banks need to develop models or structure for managing risk, because international banks are becoming more competitive worldwide. They implement new financial products and instruments and enhance Reregulation. The Indian banking sector has made substantial improvement in the areas of technology, quality and so on and begun to diversify its horizons rapidly. The present model identifies the 3 component required for effective risk management with the help of factor analysis.

1. Risk Identification
2. Risk Prioritization and Communication
3. Risk Management

- **Risk Identification**

Risk identification is the first step for efficient risk management. Proper risk identification helps to reduce or eliminate the risk at a level. It is important to identify the potential risks for the efficient risk management in the bank. Different methods are available to identify the risks. Providing risk identification training programmes to the employees is one of the practical methods for risk identification. The training programmes should be updated according to the existing economic and technological changes. The employees should be well informed and educate the policy and procedure regarding risk management. It helps to enhance the level of awareness about their responsibilities. Top level management have to keep a close eye on the same, monitor each and every aspect of the identification process in the correct manner.

- **Risk Prioritization and Communication**

After identifying the potential risks by the employees/managers, the next step is prioritization of risks. The risks are prioritized according to the objectives of banks. The factors to be considered while prioritizing the risks are risk profile of bank, current internal and external conditions. While prioritising the risks bank should consider policies and procedures of regulatory authorities. Modern tools and

techniques should be used to conduct prioritization of the risk. The top level management ensures a smooth level of communication between top level and bottom level. This help in the efficient prioritization of the risk without any communication delay.

- **Risk Management**

Once the risks are prioritized, they are communicated to the risk management team and the process of eliminating the risk is to be carried out by the risk mangers. Highly talented and experienced employees should be appointed to ensure maximum efficiency of the process. The employee should have through knowledge about risk management. This either can be done by appointing risk management expert or by providing sufficient risk management training to the existing employees. Regular feedback of the risk management process and their results are to be continually monitored and appropriate change should be made by the apex risk management authority

Banks are expected to develop an effective risk management framework that could be incorporated into all business activities and can ensure that the risk profile of the bank is always consistent with the risk propensity identified. Risk management framework requires policies for risk management; risk recognition and measurement; appropriate internal organisation; adequate internal control framework; appropriate information system and adequate internal capital adequacy evaluation method. Banks are particularly exposed to or potentially exposed to liquidity risk, credit risk, interest rate risk, foreign exchange risk, market risk, investment risks, operational risk and strategic risk in their operations.

4.7. Risk Management Cell

The response of bank managers regarding the existence of risk management cell at branch level is shown in the table 4.10..

Table 4.10
Risk Management Cell

Risk Management Cell	Name of the Bank	
	FB	CSB
Operating	0	0
Not Operating	165	123
Total	284	201

Source: Primary Data.

It is clear from table 4.10 that the risk management cells are absent at the branch level in both the banks.

4.8. Role of Compliance Officer

Role of compliance officer in branch level is analyzed and the results are shown below.

Table 4.11
Role of Compliance Officer

Timely Report	Name of the Bank		Total
	FB	CSB	
Reporting timely	201 (71)	116 (58)	317 (100)
Not reporting timely	83	85	168
Total	284	201	485

Figures in parentheses are percentages to their totals.

Source: Primary Data.

Table 4.11 shows that 71% of the Federal bank managers and 58 % of the catholic Syrian bank managers responded that the compliance are timely reported to the top management by the compliance officer.

4.9. Type of Training

Table 4.12 shows that most of the respondents opined that training on system management help them for effective control of risks in the current scenario.

Table 4.12
Type of Training

Name of the Bank	Training				Total
	Training on procedure level	Training on legal issue	Training on system management	Training on H R management	
FB	50	65	100	69	284
CSB	40	50	80	31	201
Total	90	115	180	100	485

Source: Primary Data.

4.10. Minimizing Risk

The response of the managers regarding the extent to which the BASEL and RBI guidelines help the Bank to minimize the risks is given the table 4.13.

Table 4.13
Minimizing Risk

Minimizing Risk	Name of the Bank			
	FB	%	CSB	%
Grate Extent	212	74.5	159	79
Reasonable Extent	57	20.5	30	15
Not to significant Extent	15	5	12	6
Total	284	100	201	100

Source: Primary Data.

It is clear from the above table that majority (76%) of the respondents admit that RBI guidelines and BASEL recommendation norms have helped them to minimise the risk losses to a great extent.

4.11. Areas of Improvement

Table 4.14 show the response of the bank managers regarding areas where further improvement is necessary for effective risk management system.

Table 4.14
Areas of Improvement

Area of Improvement	Name of the Bank			
	FB	%	CSB	%
Liquidity Risk Management	85	30	48	24
Credit Risk Management	63	22	73	36
Operational Risk Management	136	48	80	40
Total	284	100	201	100

Source: Primary Data.

It is clear that (Table 4.14) more improvement is needed in the area of operational risk management in the case of both the Banks.

This chapter narrated the overall risk management mechanism prevailing in selected private banks in the State of Kerala. After examining the existing the existing the Risk Management Practices followed by the banks, it is highly imperative to compare the risk management processes of the selected Banks. That has been attempted in the ensuing chapter.

Chapter 5

Risk Management Process

In the previous chapter, an attempt has been made to conduct a detailed analysis of risk management practices of the selected two private sector banks in Kerala. In addition to this, the different aspects of risk management practices followed by banks and effective techniques for risk management have been examined with the help of primary and secondary data. Risk management process is the integrated part of risk management practices. Therefore, after examining the risk management practices, the work will be a full-fledged one with the area of the risk management process involved. Moreover, it is necessary to identify various tools and techniques used for identifying and managing the risks. Hence, this chapter is of this concern.

5.1. Methodology Adopted

In order to accomplish the second objective of research, primary data relating to risk management processes of selected private sector bank branch managers have been collected with the help of a pretested structured questionnaire. A large sample of 284 bank branch managers from Federal Bank and 201 bank branch managers from Catholic Syrian Bank were selected with the help of simple random sampling through lottery method. In order to achieve this, a comparative analysis on the different aspects of risk management processes in the selected two private sector banks has been performed. Suitable mathematical and statistical tools like mean, standard deviation and independent sample t test were employed for the analysis of the data. The following are the key variables selected for the analysis.

- Risk Understanding
- Risk Identification
- Risk Assessment and Analysis
- Risk Monitoring and Controlling

In order to compare the components of the risk management process in the selected banks, the following hypotheses have been formulated and tested.

- In respect of risk understanding, there is no significant difference between the Catholic Syrian Bank and Federal Bank.
- In respect of risk identification, there is no significant difference between the Catholic Syrian Bank and Federal Bank.
- In respect of risk assessment and analysis, there is no significant difference between the Catholic Syrian Bank and Federal Bank.
- In respect of risk monitoring and controlling, there is no significant difference between the Catholic Syrian Bank and Federal Bank.

5.2 Risk Understanding

In order to measure the risk understanding, five statements have been collected and incorporated. Table 5.1 shows the summary of responses analysed in terms of mean and standard deviation.

. Table 5.1

Group Statistics – Risk Understanding

Group Statistics	Category of bank	N	Mean	Std. Deviation
1. Common understanding of risk management across the bank.	Catholic Syrian Bank	201	3.207	1.100
	Federal Bank	284	3.637	.6139
2. Risk management responsibility is clearly set out and understood throughout the bank.	Catholic Syrian Bank	201	1.776	.8091
	Federal Bank	284	2.254	.7835
3. Accountability for risk management is clearly set out and understood throughout the bank.	Catholic Syrian Bank	201	2.995	1.120
	Federal Bank	284	3.010	.8453
4. Bank has proper system for understanding various types of risks.	Catholic Syrian Bank	201	2.995	1.046
	Federal Bank	284	2.296	.7357
5. Top level management communicates risk management policy effectively.	Catholic Syrian Bank	201	3.676	1.255
	Federal Bank	284	3.535	.8272
Risk Understanding	Catholic Syrian Bank	201	2.846	.6254
	Federal Bank	284	3.183	.4388

Source: Primary Data.

Table 5.1 shows the mean score based on response on a five point likert scale to five statements about risk understanding by two selected banks. The overall average of risk understanding shows the mean response of Federal Bank(3.183) is higher than that of Catholic Syrian Bank (2.846).This shows that compared to the Catholic Syrian Bank, Federal Bank has been implemented better risk understanding system across the branch level. The highest mean score is given to the statement No.5 namely top level management communicates risk management policy effectively by Catholic Syrian Bank mangers (3.676 mean score with standard deviation of 1.255). Whereas, the highest mean score is given to statement No.1, namely common understanding of risk management across the bank by Federal Bank (3.637mean score and standard deviation of.6139). The score of the statement accountability for risk management is clearly set out and understood throughout the bank got low responses from Catholic Syrian Bank mangers (mean value 2.995). However, managers of Federal Bank assigned high responses to this point (Mean value 3.676).The lowest response is assigned to statement No.2 (Risk management responsibility is clearly set out and understood throughout the bank) by the Catholic Syrian Bank mangers (1.776mean sore with standard deviation of .8091) and the Federal Bank mangers (2.254 mean score with standard deviation of .7835).

5.2.1 Risk Understanding and Selected Private Sector Banks

The independent sample t test has been employed to analyse the difference between Catholic Syrian Bank and Federal Bank in respect of the risk understanding. The results of the tests are given below.

Testing of Hypothesis No.5

H0: In respect of risk understanding, there is no significant difference between the Catholic Syrian Bank and Federal Bank.

Table 5.2
Independent Samples t Test – Risk Understanding

Independent Samples Test					
Statements		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
1. There is a common understanding of risk management across the bank.	Equal variances assumed	-6.707	483.000	0.000	-0.525
	Equal variances not assumed	-6.128	288.005	0.000	-0.525
2. Risk management responsibility is clearly set out and understood throughout the bank.	Equal variances assumed	-6.521	483.000	0.000	-0.477
	Equal variances not assumed	-6.485	422.172	0.000	-0.477
3. Accountability for risk management is clearly set out and understood throughout the bank.	Equal variances assumed	-7.628	483.000	0.000	-0.681
	Equal variances not assumed	-7.277	353.126	0.000	-0.681
4. Bank has proper system for understanding various types of risks.	Equal variances assumed	8.642	483.000	0.000	0.699
	Equal variances not assumed	8.154	335.389	0.000	0.699
5. Top level management communicates risk management policy effectively.	Equal variances assumed	-4.528	483.000	0.000	-0.428
	Equal variances not assumed	-4.231	320.408	0.000	-0.428
Risk Understanding	Equal variances assumed	-6.982	483.000	0.000	-0.337
	Equal variances not assumed	-6.586	334.896	0.000	-0.337

Source: Primary Data.

In all cases of Risk understanding, the p value is lower than 5 per cent. This means that there is no significant difference between the Catholic Syrian Bank and Federal Bank in respect of risk understanding. Hence the sixth null hypothesis that in respect of risk understanding, there is no significant difference between the Catholic Syrian Bank and Federal Bank can be rejected.

5.3 Risk Identification

The study has incorporated five statements to measure the risk identification. In order to compare the risk identification of the selected two banks the researcher used mean and standard deviation. The result of the test is shown below.

. Table 5.3

Group Statistics - Risk Identification

Group Statistics	Category of bank	N	Mean	Std. Deviation
1. Bank carries out a comprehensive and systematic identification of its risk relating to each of its declared aims and objective.	Catholic Syrian Bank	201	3.398	.7286
	Federal Bank	284	3.493	.6751
2. Bank finds it difficult to identify, and prioritize its main risk.	Catholic Syrian Bank	201	2.617	1.194
	Federal Bank	284	3.046	1.387
3. Changes in risk are recognized and identified with the bank's rules and responsibilities.	Catholic Syrian Bank	201	3.458	.6078
	Federal Bank	284	3.370	.5645
4. Bank is aware of the strength and weaknesses of the risk management system of the other bank.	Catholic Syrian Bank	201	2.279	.8012
	Federal Bank	284	2.370	.8067
5. Bank has developed and applied procedure for the systems of the other banks.	Catholic Syrian Bank	201	3.567	.7188
	Federal Bank	284	3.472	.5408
Risk Identification	Catholic Syrian Bank	201	3.129	.4508
	Federal Bank	284	3.204	.4533

Source: Primary Data

It is clear that there is a no significant variation in respect of their responses on risk identification between the Banks. The overall mean scores of Federal Bank and Catholic Syrian bank are 3.204 and 3.129 respectively in this respect. However, the average means score of most of the statements have exceeded the midpoint that is 3 on the five point likert scale and reports that the bank mangers of selected banks have a good risk identification level. The highest mean score is given to the statement No.5 (Bank has developed and applied procedure for the systems of the other banks) by Catholic Syrian Bank mangers (3.567 mean score with standard deviation of .7188). Where the highest mean has is given to statement No.1 with a mean score of 3.493 and standard deviation of .6751 by Federal Bank (Bank carries out a comprehensive and systematic identification of its risk relating to each of its declared aims and objective).

The lowest response is to the statement namely bank finds it difficult to identify, and prioritize its main risk by the Catholic Syrian Bank mangers is (mean sore 2.617 and of 1.194) but the Federal Bank has assigned lowest score to the statement of Bank is aware of the strength and weaknesses of the risk management system of the other bank. In this case the mean score and standard deviation is 2.370 and .8067 respectively.

5.3.1 Comparison of Risk Identification between the Banks

In order to conduct a comparative analysis on the level of risk identification in the banks, independent sample t test has been employed. The result of the test is given below.

Testing of Hypothesis No.6

H0: In respect of risk identification, there is no significant difference between the Catholic Syrian Bank and Federal Bank.

Table 5.4
Independent Samples t Test–Risk Identification

Independent Samples Test					
Statements		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
1. Bank carries out a comprehensive and systematic identification of its risk relating to each of its declared aims and objective.	Equal variances assumed	-1.476	483.000	0.141	-0.095
	Equal variances not assumed	-1.457	409.953	0.146	-0.095
2. Bank finds it difficult to identify, and prioritize its main risk.	Equal variances assumed	-3.549	483.000	0.000	-0.429
	Equal variances not assumed	-3.641	464.696	0.000	-0.429
3. Changes in risk are recognized and identified with the bank's rules and responsibilities.	Equal variances assumed	1.638	483.000	0.102	0.088
	Equal variances not assumed	1.617	410.578	0.107	0.088
4. Bank is aware of the strength and weaknesses of the risk management system of the other bank.	Equal variances assumed	-1.229	483.000	0.220	-0.091
	Equal variances not assumed	-1.230	432.575	0.219	-0.091
5. Bank has developed and applied procedure for the systems of the other banks.	Equal variances assumed	1.666	483.000	0.113	0.095
	Equal variances not assumed	1.589	352.380	0.113	0.095
Risk Identification	Equal variances assumed	-1.796	483.000	0.073	-0.075
	Equal variances not assumed	-1.798	432.269	0.073	-0.075

Source: Primary Data.

Table 5.4 shows as the results of comparative analysis on the risk identification in Catholic Syrian Bank and Federal Bank. The significant level is found at 0.073. It

means that there is no significant difference between the two Banks in the case of risk identification. These, out of five statements examine, significant difference is witnessed only in the case of one statement. Therefore, the seventh hypothesis that in respect of risk identification, there is no significant difference between the Catholic Syrian Bank and Federal Bank is accepted.

5.4. Risk Assessment and Analysis

A total of eight statements have been analysis for examining the level of risk assessment and analysis in the two selected banks. The results of the analysis are given in the following Table.

Table 5.5
Group Statistics -Risk Assessment and Analysis

Group Statistics	Category of bank	N	Mean	Std. Deviation
1. Bank assesses the likelihood of risk occurrence.	Catholic Syrian Bank	201	2.303	.8261
	Federal Bank	284	2.349	.8985
2. Bank risks are assessed by using quantities technique.	Catholic Syrian Bank	201	3.571	.7303
	Federal Bank	284	3.527	.6105
3. Bank risks are assessed by using qualitative technique.	Catholic Syrian Bank	201	2.373	.9083
	Federal Bank	284	2.426	.9004
4. Bank analysis and evaluate opportunities to achieve the objective of the organization.	Catholic Syrian Bank	201	3.667	.7619
	Federal Bank	284	3.718	.6733
5. Bank response to analyzing risks includes an assessment of the cost and benefits of each relevant risk.	Catholic Syrian Bank	201	2.692	1.1200
	Federal Bank	284	2.391	.8055
6. Bank response to analyses risks including prioritizing of risk and risk treatment.	Catholic Syrian Bank	201	3.438	.6689
	Federal Bank	284	3.451	.6422
7. Bank undertakes a credit worthiness analysis before granting loan.	Catholic Syrian Bank	201	3.378	1.1751
	Federal Bank	284	3.468	.8617
8. Bank use modern tools and technique to assess and analysis risks with the aid of information technology.	Catholic Syrian Bank	201	3.438	.8351
	Federal Bank	284	3.391	.9651
Risk Assessment and Analysis	Catholic Syrian Bank	201	3.203	.5031
	Federal Bank	284	3.197	.493626

Source: Primary Data.

The overall mean score of the eight statements analysed on risk assessment and analysis is found 3.203 and 3.197 among Catholic Syrian Bank and Federal Bank. The highest mean value is given to the statement No.4 that Bank analysis and evaluates opportunities to achieve the objective of the organization by the two banks under study. The mean score and standard deviation are 3.667 and .7619 respectively among the Catholic Syrian Bank Mangers. It is 3.718and .6733 respectively among Federal Bank mangers. The lowest response is given to the statement No.1 (Bank assesses the likelihood of risk occurrence) by both the banks. In this case mean score and standard deviation are the 2.303 and .8261 respectively among Catholic Syrian Bank mangers. It is 2.349 and .8985 respectively among Federal Bank mangers.

5.4.1. Comparison of Risk Assessment and Analysis

The independent sample t test is used to identify the ability of risk assessment and analysis of the selected banks. The results of the t tests are given below;

Testing of Hypothesis No.7

H0: In respect of risk assessment and analysis, there is no significant difference between the Catholic Syrian Bank and Federal Bank.

Table 5.6
Independent Samples t Test-Risk Assessment and Analysis

Independent Samples Test					
Statements		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
1. Bank assesses the likelihood of risk occurrence.	Equal variances assumed	-5.853	483.000	0.000	-0.513
	Equal variances not assumed	-5.354	289.623	0.000	-0.513
2. Bank risks are assessed by using quantities technique.	Equal variances assumed	-2.766	483.000	0.006	-0.227

	Equal variances not assumed	-2.838	464.765	0.006	-0.227
3. Bank risks are assessed by using qualitative technique.	Equal variances assumed	-9.965	483.000	0.000	-0.857
	Equal variances not assumed	-9.206	303.542	0.000	-0.857
4. Bank analysis and evaluate opportunities to achieve the objective of the organization.	Equal variances assumed	-1.899	483.000	0.058	-0.145
	Equal variances not assumed	-1.949	465.259	0.058	-0.145
5. Bank response to analyzing risks includes an assessment of the cost and benefits of each relevant risk.	Equal variances assumed	3.440	483.000	0.001	0.301
	Equal variances not assumed	3.257	340.943	0.001	0.301
6. Bank response to analyses risks including prioritizing of risk and risk treatment.	Equal variances assumed	-8.883	483.000	0.000	-0.761
	Equal variances not assumed	-8.321	324.057	0.000	-0.761
7. Bank undertakes a credit worthiness analysis before granting loan.	Equal variances assumed	-1.659	483.000	0.098	-0.122
	Equal variances not assumed	-1.690	456.413	0.092	-0.122
8. Bank use modern tools and technique to assess and analysis risks with the aid of information technology.	Equal variances assumed	8.642	483.000	0.000	0.699
	Equal variances not assumed	8.154	335.389	0.000	0.699
Risk Assessment and Analysis	Equal variances assumed	-8.724	483.000	0.000	-0.531
	Equal variances not assumed	-8.381	364.586	0.000	-0.531

Source: Primary Data.

The overall results of the analysis indicate that there is no significance difference between the two banks in respect of the level risk assessment and analysis. In the case of all statements of the risk assessment and analysis, the p value is found less than 5 per cent. Therefore, the null hypothesis that in respect of risk assessment and analysis, there is no significant difference between the Catholic Syrian Bank and Federal Bank is rejected.

5.5. Risk Monitoring and Controlling

Table 5.7

Group Statistics -Risk Monitoring and Controlling

Group Statistics	Category of bank	N	Mean	Std. Deviation
1. Monitoring the effectiveness of risk management is an integral part of routine management reporting.	Catholic Syrian Bank	201	3.632	1.226
	Federal Bank	284	4.144	.6909
2. Level of control by the bank is appropriate for the risk that it faces.	Catholic Syrian Bank	201	3.622	.8101
	Federal Bank	284	3.849	.9408
3. The bank has adopted a standard reporting system	Catholic Syrian Bank	201	3.674	1.176
	Federal Bank	284	3.757	.7138
4. Reporting and communication process of the bank for the effective management of risk.	Catholic Syrian Bank	201	3.836	.7541
	Federal Bank	284	4.130	.8782
5. The bank effectively monitors the credit limit of counterparty.	Catholic Syrian Bank	201	3.619	1.129
	Federal Bank	284	3.880	.7564
6. The bank reviews the country rating on a regular basis.	Catholic Syrian Bank	201	3.612	.7469
	Federal Bank	284	3.958	.8311
Risk Monitoring and Controlling	Catholic Syrian Bank	201	3.627	.7491
	Federal Bank	284	4.038	.5901

Source: Primary Data.

All the values reported in the table indicate that the respondents have quite similar responses all the statement. The overall mean score is 3.627 in Catholic Syrian Bank

and 4.038 in Federal Bank. The fourth item of risk monitoring and control has got the highest mean in the both the banks. It is 4.130 in Federal Bank and 3.836 in Catholic Syrian Bank. The lowest mean value is given to statement No.6 that the bank reviews the country rating on a regular basis. The mean score and standard deviation in the case is 3.162 and .7469 among the managers in Catholic Syrian Bank and it is 3.757 and .7138 among the managers in Federal Bank.

5.5.1 Comparison of Risk Monitoring and Controlling

In order to analyse the difference between Catholic Syrian Bank and Federal Bank in respect of the risk monitoring and controlling, independent sample t test is applied and the results of the test are shown below.

Testing of Hypothesis No.8

H0: In respect of risk monitoring and controlling, there is no significant difference between the Catholic Syrian Bank and Federal Bank.

Table 5.8
Independent Samples t Test - Risk Monitoring and Controlling

Independent Samples Test					
Statements		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
1. Monitoring the effectiveness of risk management is an integral part of routine management reporting.	Equal variances assumed	-0.563	483.000	0.574	-0.045
	Equal variances not assumed	-0.571	451.460	0.568	-0.045
2. Level of control by the bank is appropriate for the risk that it faces.	Equal variances assumed	-0.845	483.000	0.398	-0.052
	Equal variances not assumed	-0.820	380.895	0.413	-0.052

3. The bank has adopted a standard reporting system	Equal variances assumed	-0.635	483.000	0.526	-0.053
	Equal variances not assumed	-0.634	428.466	0.526	-0.053
4. Reporting and communication process with in the bank support the effective management of risk.	Equal variances assumed	1.169	483.000	0.253	0.077
	Equal variances not assumed	1.145	396.583	0.253	0.077
5. The bank effectively monitors the credit limit of counterparty.	Equal variances assumed	-0.506	483.000	0.613	-0.030
	Equal variances not assumed	-0.503	419.822	0.615	-0.030
6. The bank reviews the country rating on a regular basis.	Equal variances assumed	0.558	483.000	0.577	0.047
	Equal variances not assumed	0.572	463.895	0.568	0.047
Risk Monitoring and Controlling	Equal variances assumed	0.148	483.000	0.882	0.007
	Equal variances not assumed	0.148	425.676	0.883	0.007

Source: Primary Data.

Table 5.8 shows a comparative analysis on risk monitoring and controlling in the Catholic Syrian Bank and Federal Bank. In this case the p value is found higher than 0.05. That means there is no significant difference between the Catholic Syrian Bank and Federal Bank in respect of risk monitoring and controlling. Hence the ninth hypothesis that in respect of risk monitoring and controlling, there is no significant difference between the Catholic Syrian Bank and Federal Bank may be accepted.

5.6 Risk Identification Techniques

The response of the selected sample bank managers about the risk identification techniques is shown in Table 5.9

Table 5.9
Risk Identification Techniques

Risk Identification Techniques	N	Percent
Audit Reports	432	16.8
Risk Survey	69	2.7
Probability and Impact Matrix	433	17
Root Cause Analysis	392	15.3
Scenario Analysis	76	3.0
SWOT Analysis	429	16.2
Documentation Review	299	11.7
Checklist Analysis	432	16.3
Total	2562	100

Source: Primary Data.

Table 5.9 shows that 17 per cent of the sample managers respond that they adopted the techniques of used by Probability and Impact Matrix followed by Audit Reports (16.8%), Checklist Analysis (16.3%), SWOT Analysis (16.2%), Root Cause Analysis (15.3%) and Documentation Review (11.7%). However, the percentage share of respondents using the techniques like risk survey, scenario analysis is found very negligible. This can be represented in Fig.5.1.

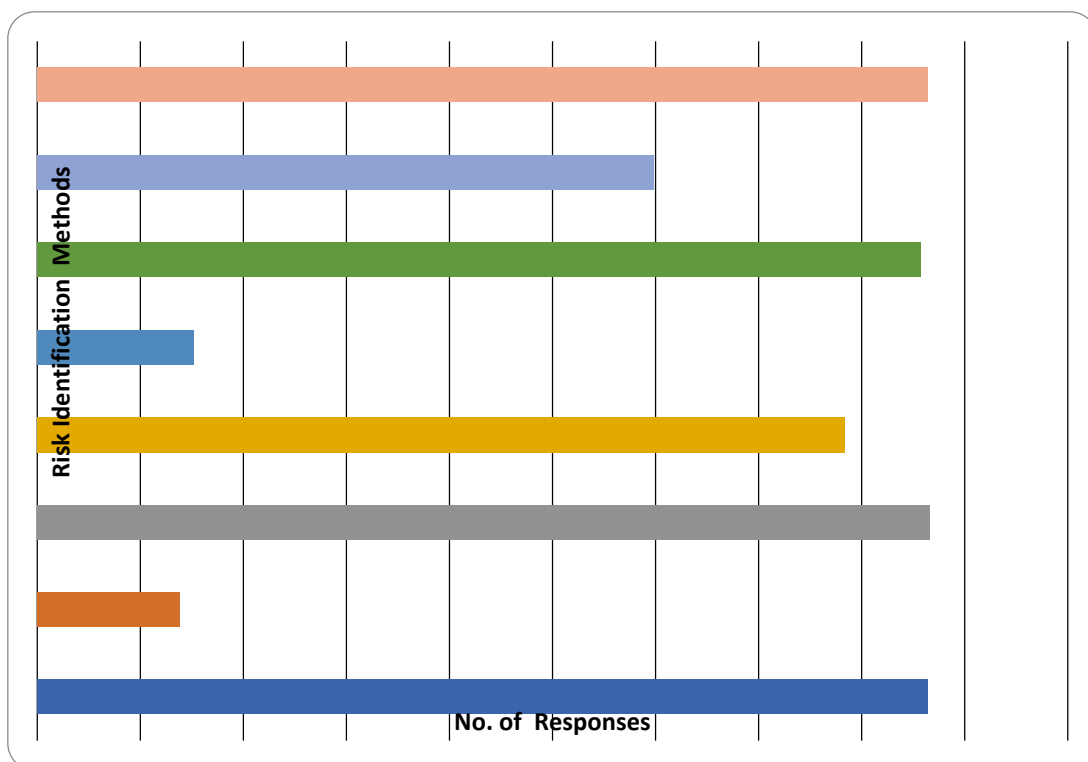


Fig. 5.1. Risk Identification Techniques

5.7 Risk Monitoring and Controlling Techniques

The response of the selected sample bank managers on the risk monitoring and controlling techniques is given in Table 5.10

Table 5.10

Risk Monitoring and Controlling Techniques

Risk Monitoring and Control Techniques	N	Percent
Reserve Analysis	358	13.5
Credit Worthiness Analysis	240	9.1
Root cause Analysis	422	15.9
Risk Data Quality assessment	328	12.4
Cost and Benefit Analysis	116	4.4
Reports(audit and financial)	223	8.4
Variance and Trend Analysis	233	8.8
Risk Reassessments	473	17.9
Staff Supervision and Training	255	9.6
Total	2648	100

Source: Primary Data.

Table 5.10 summaries the results of risk monitoring and controlling techniques used by the selected private sector banks in Kerala. The top five monitoring and controlling techniques used by private sector banks are Risk Reassessments (17.9%) Root cause Analysis (15.9%), Reserve Analysis (13.5%), Risk Data Quality assessment (12.4%) and Staff Supervision and Training (9.6).The percentage share of the technique cost benefit analysis is found very low. The diagrammatic representation of the above table is given in Fig. 5.2.

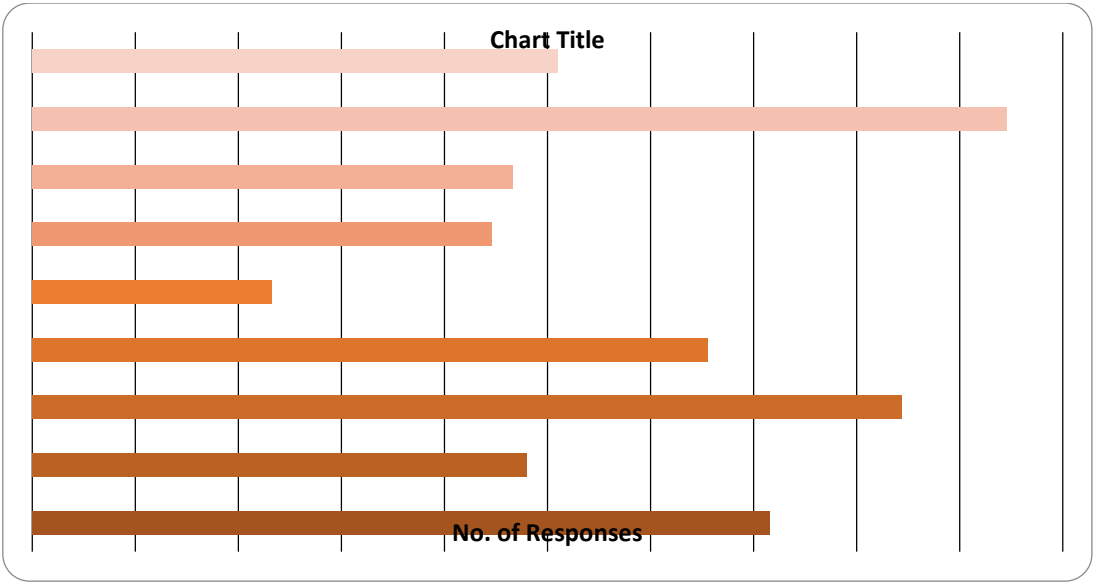


Fig. 5.2. Risk Monitoring and Controlling Techniques

5.8 Risk Mitigation Techniques

The following Table shows the responses of the sample bank mangers regarding risk mitigation techniques.

Table 5.11
Risk Mitigation Techniques

Risk Mitigation Techniques	N	Percent
Collateral Arrangement	435	14
Provisions	396	12.7
Internal Rating	78	2.5
Derivatives	377	12.1
Hedging and Swaps	295	9.5
Securitization	428	13.8
Balance Sheet Netting	373	12
Insurances	363	11.9
Guarantee	365	11.5
Total	3110	100

It is clear that the Collateral Arrangement is the most risk mitigation technique used by the sample private sector banks. The other important techniques in that order are Securitization (13.8%), Provisions (12.7%), Derivatives (12.1%), Balance Sheet Netting (12%), Insurance (11.9%) and Guarantee (11.5%). The other techniques like Hedging and Swaps and Internal Rating are least used techniques by the sample banks. This can be diagrammatically represented 5.3.

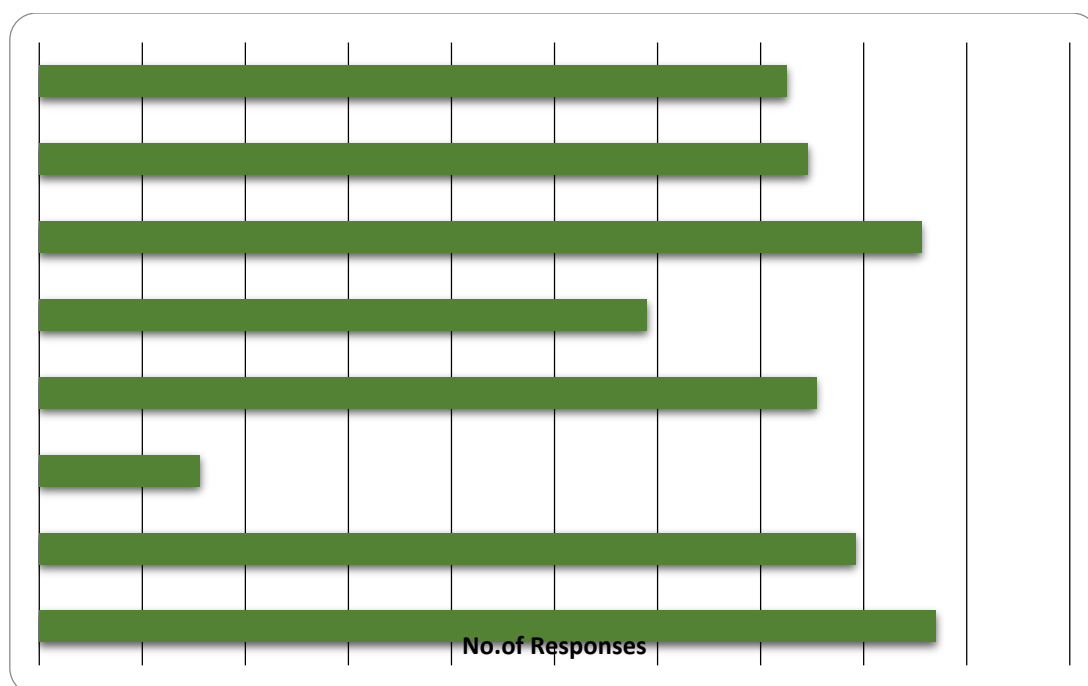


Fig. 5.3. Risk Mitigation Techniques

After a thorough examination on the risk management processes, it is highly relevant to identify the risk contributory factors and to examine the effects of risks on the performance selected private sector banks in Kerala. Therefore the next chapter is devoted to this particular area.

Chapter 6

Risk Contributory Factors and the Effects of Risks

A detailed discussion on the various elements/components of risk management process of two selected banks has been attempted in the previous chapter. After examining the risk process, it is now worthwhile to identify the factors which contribute various types of risks and to analyze the Influence of the effect of the risks on the performance of banks. Moreover, it is also relevant to examine how these factors influence the effects of the risks. This is the intend of the present chapter

6.1. Methodology Adopted

In order to identify the key risk contributory factors experienced by the private sector banks, factor analysis has been performed with the help of primary data collected. Based on the four dependent Risk Contributory factors, 20 influencing/ associating issues have been identified and analyzed. Further, a comparative analysis on the effects of the three types of risks namely credit risks, operational risks and liquidity risks on the performance of the selected Banks has been done with the help of certain independent variables identified. Data were collected from the 485 branch bank managers consisting of 284 managers from Federal Bank Ltd and 201 branch managers from taken the Catholic Syrian Bank Ltd. A pretested structured questionnaire was used for the collection of data. The analysis has been performed by employing statistical tools like Mean, Standard deviation, one sample t test, Regression, One way ANOVA and Factor analysis. In order to explore the underlying factors associated with risk contributory factors, CFA and EFA was performed.

The chapter is divided into three sections for the purpose of discussion. Section A deals with the identification of Risk Contributory Factors and Section B is concerned with the analysis of the Influence of the Effect of the Risks on the

Performance of Banks. Section C attempts to identify the influence of Risk Contributory Factors on Effects of Risk

Section A - Identification of Risk Contributory Factors

In this section an attempt has been made to identify the factors which contribute the occurrence of different types of risks. This has been done by employing Factor Analysis.

6.2. Risk Contributory Factors of Selected Banks

The main objective of factor analysis is to reduce the number of variable that belongs together and have overlapping measurement characteristics. Factor analysis is based on correlation between variables and used to develop models. In order to ensure the adequacy of data for the factor analysis, Kaiser- Meyer- Ok lin measure of sampling adequacy (KMO) and Bartlett’s test of Sphericity are applied. The Kaiser- Meyer- Ok lin measure of sampling adequacy is an index used for measuring the magnitude of the observed correlation coefficient to the magnitude of the partial correlation coefficients. It is important to verify the appropriateness of the data before continuing with the factor analysis. A minimum value of 0.5 KMO is ideal for running factor analysis (Field, 2005). Hutcheson and Sofroniou (1999) indicated that values from 0.5 to 0.7 would be considered average, values from 0.7 to 0.8 would be perfect, values from 0.8 to 0.9 would be considered good and values above 0.9 would be outstanding. KMO statistics vary between 0 and 1. The result of the KMO and BTS are shown below.

Table 6.1

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.754	
Bartlett's Test of Sphericity	Approx. Chi-Square	4569.256
	Df	66
	Sig.	.000

Source: Primary Data.

The Kaiser-Meyer-Olkin Sampling Adequacy Measure and Bartlett's Sphericity Test were selected to measure the degree of the samples covered and the dependence.

The Kaiser-Meyer-Olkin Sampling Adequacy Measure (75.4 per cent) indicates that the sample is moderately adequate for analysing the various banks risk contributory factors. Bartlett's sphericity test value is found significant (Approx. Chi-Square 4569.256; p value 0.000, less than 5 per cent). It means that data is appropriate for Exploratory Factor Analysis. 20 Scale items have been used to identify the Contributory Factors of various types of risks. The details are presented below.

Table 6.2
Communalities -Risk Contributory Factors

Risk Contributory Factors	Initial	Extraction
Bank is not adopting standard reporting system	1.000	.726
Inadequate auditing procedure	1.000	.646
Ineffective risk management frame work	1.000	.764
Rigid risk management strategy	1.000	.778
Internal audit does not help to find the risk	1.000	.921
Bank is not adopting standard reporting system	1.000	.943
Employees have unawareness about their duties and roles in dealing with risks	1.000	.740
Risk management training is not effective to handle risks	1.000	.873
High Absenteeism	1.000	.960
high level of omission and error	1.000	.888
Function of human resources department is not well.	1.000	.899
working environment is not healthy and supportive	1.000	.963
Bank does not adopts modern risk measurement technology	1.000	.903
Bank management is not cooperative	1.000	.922
There is no smooth flow of communication.	1.000	.948
Bank system(ICT) is not reliable	1.000	.937
Compliance office does not report the unusual situation promptly	1.000	.938
Bank does not have good data storage and backup system	1.000	.938
The bank is not well protected from physical damage	1.000	.730
Risk scenario is not useful to manage the risk	1.000	.878

Source: Primary Data.

Table 6.2 indicates there are 20 components identified to categorize the different types of riskcontributory factors. The coefficient value of all components is high in this group. The highest coefficient is for the components High Absenteeism (CV-

0.960), Bank is not adopting standard reporting system (CV-0.943), There is no smooth flow of communication (CV-0.948), Bank does not have good data storage and backup system and Compliance office does not report the unusual situation promptly (CV-0.938). The details of factor analysis are presented below.

Table 6.3

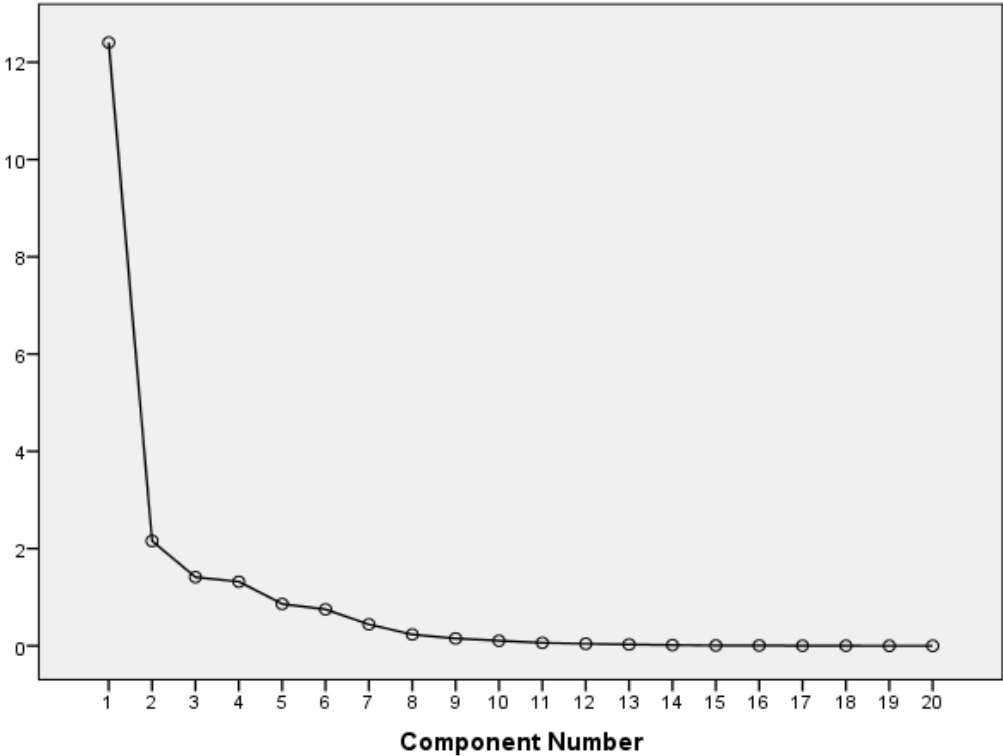
Total Variance Explained - Risk Contributory Factors

Total Variance Explained	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.405	62.024	62.024	12.40	62.024	62.024	7.200	36.002	36.002
2	2.158	10.791	72.815	2.158	10.791	72.815	6.522	32.609	68.611
3	1.413	7.066	79.881	1.413	7.066	79.881	2.095	10.475	79.087
4	1.319	6.597	86.478	1.319	6.597	86.478	1.478	7.391	86.478
5	.861	4.306	90.784						
6	.750	3.749	94.532						
7	.441	2.205	96.737						
8	.232	1.158	97.896						
9	.151	.754	98.650						
10	.105	.523	99.173						
11	.062	.312	99.484						
12	.042	.212	99.696						
13	.028	.139	99.836						
14	.015	.075	99.911						
15	.007	.037	99.948						
16	.007	.034	99.982						
17	.003	.013	99.994						
18	.001	.005	99.999						
19	.000	.001	100.000						
20	1.00	1.00	100.000						
Extraction Method: Principal Component Analysis.									

Source: Primary Data.

Table 6.3 present the extraction of factor loading. Principal Component Analysis is used for identifying four components are extracted towards the key contributory factors of risks. The result shows that 86.478% of the total variance is due to the four factors. There are 20 components identified to categorize the different Key

Contributory Factors of risks faced by private sector banks in Kerala. Four factors are broken down from the table above based on the Extraction Sums of Squared Loadings. The first factor's percentage of Variance is 62.024. The percentage of variance in the case second, third and fourth are 10.791, 7.066 and 6.597 respectively. Likewise, the Cumulative % of Extraction Sums of Squared Loadings from the second factor comes to 72.815 and when the third factor joins, it becomes 79.811%. Finally, when the fourth factor joins, it becomes 86.478%. This means, the different Key Contributory Factors of risk can be identified to the extent of 86.478%.



Source: Primary Data.

Figure 6.1
Scree Plot -Risk Contributory Factors

From the above scree plot depicted the Key Contributory Factors of risks faced by the private sector banks in Kerala. The four factors are broken above the Eigen value

of one alone is considered. The table presented below explains the rotated component factor loading of each factor.

Table 6.4
Rotated Component Matrix-Risk Contributory Factors

variables	Rotated Component Matrix	Component			
		1	2	3	4
rmp1	Bank is not adopting standard reporting system	.923			
rmp2	High Absenteeism	.900			
rmp3	Internal audit does not help to find out the risk	.896			
rmp4	Working environment is not healthy and supportive	.868			
rmp5	Function of human resources department is not well.	.820			
rmp6	Risk management training is not effective to handle risks	.755			
rmp7	Employees have unaware about their duties and roles in dealing with risks	.753			
rmp8	Management does not regularly review performance.	.750			
cg1	Bank does not adopts modern risk measurement technology		.855		
cg2	There is no smooth flow of communication.		.852		
cg3	Risk scenario is not useful to manage the risk		.830		
cg4	Bank management is not cooperative		.793		
cg5	Bank does not have good data storage and backup system		.771		
cg6	Compliance office does not report the unusual situation promptly		.771		
cg7	The bank is not well protected from physical damage		.704		
cg8	Bank system(ICT) is not reliable		.700		
dsp1	Rigid risk management strategy			.812	
dsp2	Ineffective risk management frame work			.769	
dsp3	high level of omission and error			.759	
si1	Inadequate auditing procedure				.780
Extraction Method: Principal Component Analysis.					
Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 8 iterations.					

Source: Primary Data.

Tables 6.4 indicate the rotated factor matrix. Variables with factor loading above .70 were selected for analysis. After performing Varimax Rotation Method, Kaiser Normalization with the support of the four factors a total variance of 86.478% can be explained. Factor one includes eight variables namely rmp1, rmp2, rmp3, rmp4, rmp5, rmp6, rmp7 and rmp8. These variables are named as *Working Environment & Risk Management Policy*. Factor two also comprises eight items named as *Communication Gap & Loop Holes in Technology Support* with the factor loading ranging from .700 to .855.

Factor three consisted three items with factor loading ranging from 0.759 to 0.812. Items are involved in these factors are Bank follows flexible risk management strategy (CV-0.812), Bank is an effective risk management frame work (CV-0.769) and There is high level of error and omission (CV-0.759). These components together formed as *Deficiency in systems and procedures*. The item consisted in fourth factor is Inadequate auditing procedure (CV-0.780). This variable is named as *System intricacy*.

6.2.1 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is type of statistical techniques used to verify the factors structure of set observed variables. Structural Equation Modeling software is a typically used tool for performing confirmatory factor analysis. This statistical technique is used to verify the factor structure of a set of observed variables. The researcher used CFA as a first step to assess the proposed measurement model in Structural Equation Model. In order to assess the model fit, the experts recommended various indices. The measures of goodness of fit followed in the present study are absolute fit measures and incremental fit measures. The details are presented below.

- Comparative Fit Index (CFI): Greater than 0.90 is acceptable.
- Goodness of Fit Index (GFI): Higher values near to 1.00 indicate better fit.
- Incremental Fit Index (IFI): Greater than 0.90 is acceptable.

- Tucker Lewis Index (TLI): Accepted value of TLI is 0.09 or higher. The value closure to 1.00 indicates perfect fit.
- Normed Fit Index (NFI): Acceptable value of NFI is 0.09 or greater. The value closure to 1.00 indicates perfect fit.
- Root Mean Square Error of Approximation (RMSEA): Small values are better.

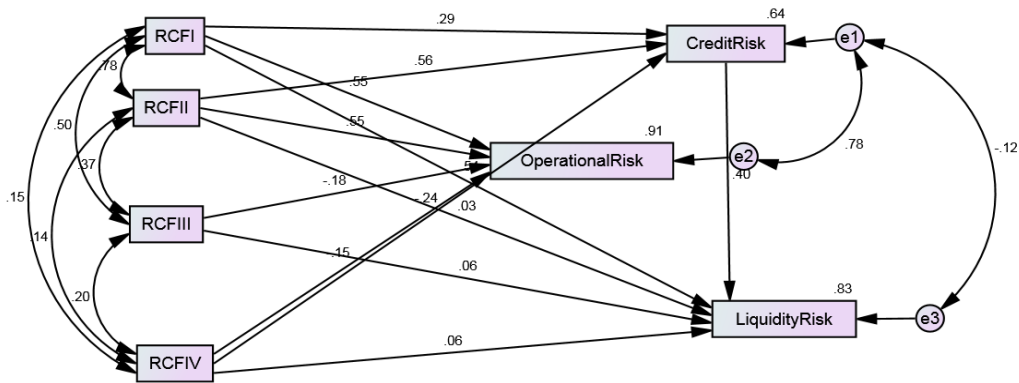


Figure 6.2. Confirmatory Factor Analysis

Where as

RCFI-Working Environment and Risk Management Policy

RCFII-Communication gap & loop holes in technology support

RCFIII-Deficiency in systems and procedures

RCFIV-System Intricacy

The results shown in table 6.5 provide a quick overview of the model fit. Goodness of Fit index (GFI) obtained is 1.00 as against the recommended value of above 0.90. The Adjusted Goodness of Fit Index (AGFI) is 0.994 as against the recommended value of above 0.90 as well. The Normed fit Index (NFI), Relative Fit index (RFI), Comparative Fit index (CFI) and Tucker Lewis Index (TLI) are 1.000, 0.920, 1.00, 0.913 respectively as against the recommended level of above 0.90. RMSEA is 0.000 and is well below the recommended limit of 0.08 and Root Mean Square Residual (RMR) is 0.078 (Hu and Bentler, 1990). Hence, the model shows an overall acceptable fit.

Table 6.5

Model Fit Indices

	GFI	AGFI	NFI	RFI	CFI	TLI	RMSEA	RMR
Obtained	1.00	.994	1.00	.920	1.00	.913	.000	.078
Recommended	>.90	>.90	>.90	>.90	>.90	>.90	<0.08	<0.05

The present scale developed for the study was supported by the results of the Confirmatory Factor Analysis. Hence, all the fit indices are satisfactory and appropriate for scale the Confirmatory Factor Analysis which confirms the structure of measurement of scale.

6.2.2 Validity

In general, validity is an indication of how sound the research is. More specifically, validity applies to both the design and the methods of the research. Validity in data collection means that the findings truly represent the phenomenon that is claiming to measure. In this research work, both content validity and construct validity is tested.

6.2.3. Content validity

In research content validity (also known as logical validity) refers to the extent to which a measure represents all facets of a given construct. Content validity is tested by consulting the experts in the field of research.

6.2.4. Construct validity

Construct validity occurs when the measurement of construct correlates with the theoretical measurement. There are two types of construct validity namely convergent validity and discriminant validity.

6.2.5. Convergent Validity

Convergent validity tests establish whether responses to the questions are sufficiently correlated with the respective latent variables. Convergent validity is usually assessed based on the comparison of loadings calculated through a non-confirmatory analysis with a fixed value (Ketkar, Kock, Parente&Verville, 2012).

Table 6.6

Structural Paths - Effects Risks on Risk Contributory Factors of the Selected Banks

Structural Paths			Estimate	Sig.
Credit Risk	<---	RCFI	.217	.000
Credit Risk	<---	RCFII	.476	.000
Credit Risk	<---	RCFIV	.232	.000
Operational Risk	<---	RCFI	.580	.000
Liquidity Risk	<---	RCFI	.543	.000
Operational Risk	<---	RCFII	.653	.000
Liquidity Risk	<---	RCFII	.039	.000
Operational Risk	<---	RCFIII	.332	.000
Liquidity Risk	<---	RCFIII	.397	.000
Operational Risk	<---	RCFIV	.203	.000
Liquidity Risk	<---	RCFIV	.258	.000
Liquidity Risk	<---	Credit Risk	.532	.000

Source: Primary Data.

In the present study, the factor loadings associated with the latent variables ranged between 0.50 and 0.70 as shown in Table 6.6 and hence it is reasonable to assume that the measurement model for the construct Effects Risk and Risk Contributory Factors has acceptable convergent validity.

6.2.6. Discriminant Validity

Discriminant validity tests verify whether responses from the respondents to the questions are either correlated or not with other latent variables. A measurement model has acceptable discriminant validity if the square root of the average variance extracted (AVE) for each latent variable is higher than any of the correlations between the latent variable under consideration and any of the other latent variables in the measurement model (Fornell & Larcker, 1981).

Discriminant validity was confirmed by examining correlations among the constructs. As a rule of thumb, a 0.85 correlation or higher indicates poor discriminant validity in structural equation modeling (David 1998). None of the correlations among variables were above 0.85. The results suggested adequate discriminant validity of the measurement.

6.2.7. Normality and Reliability

In statistics, normality tests are used to determine if a data set is well-modeled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed. Reliability in statistics and psychometrics is the overall consistency of a measure. A measure is said to have a high reliability if it produces similar results under consistent conditions.

Table 6.7
One-Sample Kolmogrov- Smirnov Test

Risk Contributory Factors	Mean	SD	Sig
Bank is not adopting standard reporting system	3.17	.883	.000
Inadequate auditing procedure	4.17	.822	.000
Ineffective risk management frame work	4.19	.752	.000
Rigid risk management strategy	4.63	.485	.000
Internal audit does not help to find the risk	4.50	.501	.000
Bank is not adopting standard reporting system	4.71	.454	.000
Employees have unawareness about their duties and roles in dealing with risks	4.52	.500	.000
Risk management training is not effective to handle risks	4.73	.445	.000
High Absenteeism	4.53	.500	.000
high level of omission and error	4.49	.501	.000
Function of human resources department is not well.	4.63	.485	.000
working environment is not healthy and supportive	4.63	.485	.000
Bank does not adopts modern risk measurement technology	4.50	.501	.000
Bank management is not cooperative	4.71	.454	.000
There is no smooth flow of communication.	4.52	.500	.000
Bank system(ICT) is not reliable	4.73	.445	.000
Compliance office does not report the unusual situation promptly	4.53	.500	.000
Bank does not have good data storage and backup system	4.49	.501	.000
The bank is not well protected from physical damage	4.63	.485	.000
Risk scenario is not useful to manage the risk	4.71	.454	.000

Source: Primary Data.

The analysis for univariate normality done using Kolmogrov- Smirnov test with Lilliefors significance correction revealed that none of the variables are normally distributed. To assume normality, skewness and kurtosis are commonly used. Skewness refers to the symmetry of a distribution whereas kurtosis relates to the peakedness of a distribution. A distribution is said to be normal when the values of skewness and kurtosis are equal to zero (Tabachnick and Fidell; 2001).

However, there are few clear guidelines about how much non-normality is problematic. It is suggested that absolute values of univariate skewness indices greater than 3.0 seem to describe extremely skewed data sets (Chou and Bentler 1995). The acceptable value of Kurtosis appropriate from a range of -10 to 10 while utilizing SEM.

Table 6.8
Skewness and Kurtosis

Risk Contributory Factors	Skewness	Kurtosis
Bank is not adopting standard reporting system	-.821	-.146
Inadequate auditing procedure	-.318	-1.451
Ineffective risk management frame work	-.330	-1.170
Rigid risk management strategy	-.519	-1.743
Internal audit does not help to find the risk	.000	-2.014
Bank is not adopting standard reporting system	-.940	-1.124
Employees have unawareness about their duties and roles in dealing with risks	-.098	-2.004
Risk management training is not effective to handle risks	-1.037	-.932
High Absenteeism	-.140	-1.994
high level of omission and error	.028	-2.013
Function of human resources department is not well.	-.519	-1.743
working environment is not healthy and supportive	-.519	-1.743
Bank does not adopts modern risk measurement technology	.000	-2.014
Bank management is not cooperative	-.940	-1.124
There is no smooth flow of communication.	-.098	-2.004
Bank system(ICT) is not reliable	-1.037	-.932
Compliance office does not report the unusual situation promptly	-.140	-1.994
Bank does not have good data storage and backup system	.028	-2.013
The bank is not well protected from physical damage	-.519	-1.743
Risk scenario is not useful to manage the risk	-.940	-1.124

Source: Primary Data.

In the present study, all the variables fall under the kurtosis value of 10 and Skewness value of 3. This indicates that Kurtosis and skewness were not problematic in this research. Hence, parametric test can be used.

Table 6.9

Reliability Test (Cronbach's Alpha) – Risk Contributory Factors and Risk effect

Risk Contributory Factors	Risk Effect
0.847	0.851

The test of reliability shows adequate values. Hence, it is concluded that the measurement construct a reliable one.

Section B

6.3. Analysis of the Influence of the Effect of the Risks on the Performance of Banks

In order to fulfill this, a comparative analysis on the effects of credit risks, operational risks and liquidity risks on the performance of the selected banks has been done with the help of certain independent variables identified. The tools like mean, standard deviation and independent sample test were employed for the analysis. The variables identified for the analysis are shown in Table 6.10

Table 6.10

Variables Used for the Analysis Influence of the Effects of the Risks on the Performance of Banks

Depended Variables	Independent variables
Effects of Credit Risks	Reduce profitability
	Increase NPA
	Financial distress
	Affect reputation
Effects of Operational Risk	Damage to bank Physical assets
	Affect reputation
	Interruption of banking business
	Creates legally liable to banks
Effects of Liquidity Risk	Banks stability
	Affects goodwill
	Business interruption
	Disputes and legally liable

In order to analyze the effects of the risks on the performance of the banks, the following hypotheses were formulated and tested.

1. H0. There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effects of credit risks on the performance of the Banks.
2. H0. There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effects of operational risks on the performance of the Banks.
3. H0. There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effects of liquidity risks on the performance of the Banks.

The results of the analysis are presented in the following pages.

6.3.1. Effects of Credit Risks on the Performance of the Banks

The effect of credit risk on performance of the selected banks is shown in table 6.11.

Table 6.11
Analysis of Effects of Credit Risks

Effects	Category of bank	N	Mean	Std. Deviation
Reduce profitability	Catholic Syrian Bank	201	3.428	.9930
	Federal Bank	284	3.426	.9973
Increase NPA	Catholic Syrian Bank	201	3.313	.9981
	Federal Bank	284	3.310	1.0031
Financial distress	Catholic Syrian Bank	201	3.264	.9566
	Federal Bank	284	3.254	.9356
Affect reputation	Catholic Syrian Bank	201	3.607	.7482
	Federal Bank	284	3.609	.7271
Effects of Credit Risks	Catholic Syrian Bank	201	3.587	.7897
	Federal Bank	284	3.577	.77345

Source: Primary Data.

Table 6.11 presents the mean and standard deviation on four effects on bank performance due to credit risks in the selected two banks namely Catholic Syrian Bank and Federal Bank. The overall average shows that the mean value of Catholic Syrian Bank (3.587) is higher than that of Federal Bank (3.577) on effects of credit risks on performance. The highest mean score is given to the effects of risks namely affect reputation of bank. The Catholic Syrian Bank managers are assigned 3.607 mean score with a standard deviation of .7482 and the Federal Bank managers are assigned (3.609 mean score with standard deviation of .7271).It means that state credit risks is significantly influence the reputation of banks. This is followed by reduce profitability of the bank with mean score of 3.428 by the Catholic Syrian Bank and 3.426 by the Federal Bank mangers. The lowest response is given to the financial distress of the bank. The mean score assigned by Catholic Syrian Bank mangers and Federal Bank mangers is3.264 and 3.254 respectively.

6.3.2. Independent Samples t Test on effects of credit risks on the performance of the Banks

The independent sample t test is used to analyze the effects credit risks on the performance of the two selected banks. The result of the test is given below

Testing of Hypothesis No.9

H0. There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effects of credit risks on the performance of the Banks.

Table 6.12**Result of t test on Effects of Credit Risks on the Performance of the Banks**

Effects		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
Reduce profitability	Equal variances assumed	.020	483	.984	.0018
	Equal variances not assumed	.020	431	.984	.0018
Increase NPA	Equal variances assumed	.039	483	.969	.0036
	Equal variances not assumed	.039	432	.969	.0036
Financial distress	Equal variances assumed	.117	483	.907	.0102
	Equal variances not assumed	.116	424	.907	.0102
Affect reputation	Equal variances assumed	-.032	483	.974	-.0022
	Equal variances not assumed	-.032	423	.974	-.0022
Effects of Credit Risk	Equal variances assumed	.133	483	.894	.00960
	Equal variances not assumed	.133	425	.894	.00960

Source: Primary Data.

A total of four variables regarding the effects of risks on the performance of bank have been examined. The independent sample t test has been employed for the analysis. Out of the four variables analyzed, no significant difference is seen in any of the variables between Catholic Syrian bank and Federal Bank. Therefore, the null hypothesis that there is no significant difference between Catholic Syrian bank and

Federal Bank in respect of the effects of credit risks on the performance of the Banks can be accepted.

6.3.3. The Effects of Operational Risks on the Performance of the Banks

The effects of operational risks on the performance of the banks have been analyzed in the following table.

Table 6.13
Analysis of Effects of Operational Risks

Group Statistics	Category of bank	N	Mean	Std. Deviation	Std. Error Mean
Damage to bank physical assets	Catholic Syrian Bank	201	3.090	.7758	.0547
	Federal Bank	284	3.081	.7499	.0445
Affect reputation	Catholic Syrian Bank	201	3.119	1.111	.0784
	Federal Bank	284	3.120	1.092	.0648
Interruption of Banking Business	Catholic Syrian Bank	201	3.273	.9326	.0657
	Federal Bank	284	3.271	.9249	.05488
Creates legal liability to Banks	Catholic Syrian Bank	201	3.229	1.177	.0831
	Federal Bank	284	3.204	1.156	.0686
Effects of Operational Risks	Catholic Syrian Bank	201	3.099	1.104	.0779
	Federal Bank	284	3.095	1.083	.0643

Source: Primary Data.

Table 6.13 presents the mean and standard on four statements about effects of operational risk of two selected private sector banks. The overall average shows that the mean value of Catholic Syrian Bank (3.099) is higher than Federal Bank (3.095) on effects of operational risks on performance of the bank. The Business interruption is the most important effect due to operation risks in the case of Catholic Syrian. The mean score is 3.273. The managers of responded that the most important effect of operations risks is business interruption with a mean score of 3.271. In the Case of Federal Bank, the other major effects of operation risks on the performance of the banks in that order are Creates legal liability to Banks (mean Score 3.204), affects reputation of bank (3.120) and damage to bank's physical assets (3.081). In the Case of Syrian Catholic Bank, the other major effects of operation risks on the

performance of the banks in that order are creates legal liability to Banks(mean Score 3.229), affects reputation of bank (3.119) and damage to bank’s physical assets (3.090).

6.3.4. Independent Samples t Test on effects of Operational risks on the performance of the Banks

The independent sample t test is used to analyze the effects credit risk of the performance of banks. The result of the test is given below

Testing of Hypothesis No.10

H0. There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effects of operational risks on the performance of the Banks.

Table 6.14

Result of t test on Effects of Operational Risks on the Performance of the Banks

Effects		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
Damage to bank physical assets	Equal variances assumed	.122	483	.903	.0086
	Equal variances not assumed	.121	421	.903	.0086
Affect reputation	Equal variances assumed	-.003	483	.998	-.0003
	Equal variances not assumed	-.003	426.	.998	-.0003
Interruption of Banking Business	Equal variances assumed	.029	483	.977	.0246
	Equal variances not assumed	.029	428	.977	.0246
Creates legal liability to Banks	Equal variances assumed	.229	483	.819	.0246
	Equal variances not assumed	.229	425.779	.819	.0246
Effects of Operational Risk	Equal variances assumed	.044	483	.965	.0206
	Equal variances not assumed	.044	425.732	.965	.0206

Source: Primary Data.

According to table 6.5 the p value is .965. In this respect, the null hypothesis formed is that there is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effects of operational risks on the performance of the banks. Since calculated value is higher than the 0.05, the null hypothesis is accepted. Thus, there is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effects of operational risks on the performance of the Banks

6.3.5. The Effects of Liquidity Risks on the Performance of the Banks

The effects of liquidity risks on the performance of the banks have been analyzed in the following table.

Table 6.15
Analysis of Effects of Liquidity Risks on the Performance of the Banks

Group Statistics	Category of bank	N	Mean	Std. Deviation	Std. Error Mean
Banks stability	Catholic Syrian Bank	201	3.323	1.272	.0898
	Federal Bank	284	3.303	1.258	.0747
Affect goodwill	Catholic Syrian Bank	201	3.279	.9960	.0703
	Federal Bank	284	3.243	.9844	.0584
Business interruption	Catholic Syrian Bank	201	3.488	1.127	.0795
	Federal Bank	284	3.472	1.119	.0664
Disputes and legally liable	Catholic Syrian Bank	201	3.522	.8892	.0627
	Federal Bank	284	3.504	.9035	.0536
Effects of Liquidity Risk	Catholic Syrian Bank	201	3.492	1.039	.07334
	Federal Bank	284	3.475	1.034	.06138

Source: Primary Data.

Table 6.15 presents the mean and standard on four statements about effects of liquidity risks by two selected private sector banks. The overall average shows that the mean value of Catholic Syrian Bank (1.039) is higher than Federal Bank (1.034) on effects of liquidity risks on performance. In the case of Catholic Syrian Bank, the managers opined that liquidity risks influence the performance of the bank in the form of interruption of business. The mean score in this case is 3.488. However, the Federal Bank Managers responded that the major effects of liquidity risks is in the form of chances of disputes and leads to legal liability on the part of bank. In the Case of Federal Bank, the other major effects of liquidity risks on the performance of the banks in that order are creates legal liability to Banks (mean Score 3.303), affects goodwill of the bank (3.243) and business interruption (3.472). In the Case of Syrian Catholic Bank, the other major effects of operation risks on the performance of the banks in that order are creates chances of disputes and legal liability to Banks(mean Score 3.488), affects goodwill of bank (3.279) and bank's stability (3.323).

6.3.6. Independent Samples t Test on Effects of Liquidity Risks on the Performance of the Banks

The independent sample t test is used to analyze the effects liquidity risks on the performance of sector private sector banks. The results of the test are given below

Testing of Hypothesis No.11

H0: There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effects of liquidity risks on the performance of the Banks.

Table 6.16**Result of t test on Effects of Liquidity Risks on the Performance of the Banks**

Effects		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
Banks stability	Equal variances assumed	.176	483	.860	.0206
	Equal variances not assumed	.176	427	.860	.0206
Affect goodwill	Equal variances assumed	.391	483	.696	.0356
	Equal variances not assumed	.390	427	.697	.0356
Business interruption	Equal variances assumed	.152	483	.879	.0157
	Equal variances not assumed	.152	428	.879	.0157
Disputes and legally liable	Equal variances assumed	.228	483	.820	.0189
	Equal variances not assumed	.229	434	.819	.0189
Effects of Liquidity Risk	Equal variances assumed	.180	483	.857	.0171
	Equal variances not assumed	.180	429.415	.857	.0171

Source: Primary Data.

In order to examine the effects of liquidity risks on the performance of the two selected banks namely Federal Bank and Catholic Syrian Bank, a total of four variables have been examined. The t test analysis indicated that in none of the four variables no significant difference is seen between the two banks. Therefore, the null hypothesis that there is no significant difference between Catholic Syrian bank and

Federal Bank in respect of the effects of liquidity risks on the performance of the Banks can be accepted.

Section C

Analysis of Influence of Risk Contributory Factors on Effects of Risks

In this section an attempt has been made to analyze the influence of risk contributory Factors on effects of risks.

6.4. Influences of Risk Contributory Factors on the Effects of Risks

An attempt has been done to examine the relationship of the risk contributory factors (loss events) and effects of risks with the selected banks. Here the independent variables are the Working environment and risk management policy, Communication gap & loop holes in technology support, Deficiency in systems and procedures and System intricacy. The dependent variables are the Effects of Credit Risks, Effects of Operational Risks and Effects of Liquidity Risks. Multiple Regressions was done to examine the relation.

6.4.1 Regression Analysis

Regression analysis was performed to analyses relationship Catholic Syrian Bank and Federal Bank, in respect of risk contributory factors and effects of credit risks. The results of the analysis are given below.

6.4.2. Effects Credit Risks on Risk Contributory Factors of the Banks

To evaluate the relationship of risk contributory factors (working environment and risk management policy, communication gap & loop holes in technology support, system intricacy, deficiency in systems and procedures) and effects of credit risks between the banks, the following hypothesis was formulated..

Testing of Hypothesis No.12

Ho: There is no significant difference between Catholic Syrian Bank and Federal Bank in respect of risk contributory factors and effects of credit risks.

Table 6.17

Model Summary- Effects of Credit Risk and Risk Contributory Factors of Catholic Syrian Bank and Federal Bank

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.802 ^a	.643	.640	.46781	2.221

a. Predictors: (Constant), - Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, Deficiency in systems and procedures and System intricacy

b. Dependent Variable: Effects of Credit risks

Source: Primary Data.

The Table 6.17 provides the R and R square values. The R value represents the simple correlation and is 0.802 (The "R" column), which indicates a good degree of correlation. The R square value (The R Square column), indicates how much of the total variation in the dependent variable, The overall correlation is 80.2% as per the model and the Adjusted R Square is 64%, indicating high reliability in the dependent variable owing to the effects of independent variables. This implies that the variance of the dependent variable credit risks Effects of the Catholic Syrian Bank and Federal Bank in Kerala is accountable as valid to the extent of 64 percent with the influence of the independent variables. Namely Working Environment and Risk Management Policy, System intricacy, Communication gap & loop holes in technology support, Deficiency in systems and procedures. The coefficient of Durbin-Watson is 2.221, higher than the value of R Square of 0.643, indicating that the regression is not spurious. The table below represents ANOVA statistics, which reports how well the regression equation fits the data (i.e. Predicts the dependent variable). There is a significant difference between Catholic Syrian Bank and Federal Bank, in respect of risk contributory factors and effects of credit risk. Hence,

the null hypothesis that there is no significant relationship between Catholic Syrian Bank and Federal Bank, in respect of risk contributory factors and effects of credit risks can be accepted.

Table 6.18

ANOVA- Effects of Credit Risk on Risk Contributory Factors of Catholic Syrian Bank and Federal Bank

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	188.986	4	47.246	215.886	.000
	Residual	105.047	480	.219	Result significant	
	Total	294.033	484			

a. Dependent Variable: Effects of Credit Risks

b. Predictors: (Constant), Working Environment and Risk Management Policy, System intricacy, Communication gap & loop holes in technology support, Deficiency in systems and procedures.

Source: Primary Data.

The table 6.18 indicates that the regression modal predicts the depended variable significantly well. The “Regression” rows and “Sig”. Column depicts the statistical significance of the regression model. From the table, it is noted that p value is less than 0.05 which implies that overall, the regression model significantly predict the outcome variable. From the above ANOVA table, the F value is 215.886 and the p value is 0.000 (less than 5 percent).

The following tables show the regression co efficient on effects of credit risk on two banks.

Table 6.19**Regression Coefficients – Effects of Credit Risks on Risks Contributory Factors of Catholic Syrian Bank and Federal Bank**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.829	0.137		13.308	0.000		
System intricacy	0.235	0.027	0.243	8.723	0.000*	0.756	1.046
Deficiency in systems and procedures	0.025	0.041	0.019	0.611	0.541	0.734	1.362
Communication gap & loop holes in technology support	0.477	0.037	0.561	12.963	0.000*	0.397	2.516
Working Environment and Risk Management Policy	0.209	0.035	0.276	5.944	0.000*	0.346	2.889

Source: Primary Data.

The above Regression Coefficients risk contributory factors and credit risk effect 6.19 provides with the necessary information to predict the effects of credit risks from the given independent variable determine whether independent variables contribute significantly to the model). Here the p value is significant for three variables. It implies that the credit risks effects is influenced by these three components of risk contributory factors.

The OLS equation of the current relationship is as follows.

Following regression equation is used to perform multiple regressions.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where y represent the value of depended variable

β_0 indicate the constant

$\beta_1, \beta_2, \beta_3$ represent the contribution of each independent variable to the predicts of the depended variable

X1, X2, X3 stand of independent variable

E is the error term.

Credit Risk Effects on Catholic Syrian Bank and Federal Bank = 1.829+ System intricacy (0.235) + Deficiency in systems and procedures (0.025) + Communication gap & loop holes in technology support(0.477) + Working environment and risk management policy(0.209).

Table 6.19 show the p values of independent variables namely System intricacy (0.000), Communication gap & loop holes in technology support (0.000) and Working environment and risk management policy(0.000) influence the effects of credit risk of Catholic Syrian Bank and Federal Bank individually. So the predicting power of the independent variables is noted below based on the Standardized Coefficients Beta.

Credit Risk Effects on Catholic Syrian Bank and Federal Bank = Communication gap & loop holes in technology support(0.561) + Working environment and risk management policy (0.276) +System intricacy (0.243).

The Collinearity Statistics showed that there is no multi-Collinearity since the values of tolerance and VIF are below the threshold.

6.4.3. Influence of Effects of Credit Risks on Risk Contributory Factors of Catholic Syrian Bank

Results of influence of the risk contributory factors of Catholic Syrian bank on the effects of credit risks are shown below.

Table 6.20

Model Summary-Effects of Credit Risks on Risk Contributory Factors of Catholic Syrian Bank

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.806 ^a	.650	.643	.47176	2.240

a. Predictors: (Constant), - Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, Deficiency in systems & procedures and, System intricacy

b. Dependent Variable: Effects of Credit risks

Source: Primary Data.

The overall correlation is 80.6% as per the model and the Adjusted R Square is 64.3%, indicating high reliability in the dependent variable owing to the effect of independent variables. This implies that, the variance of the dependent variable effects credit risks of the Catholic Syrian Bank is accountable as valid to the extent of 64.3 percent with the influence of the independent variables namely Working environment and risk management policy, Communication gap & loop holes in technology support, Deficiency in systems and procedures and System intricacy. The coefficient of Durbin-Watson is 2.240, higher than the value of R Square of 0.650, indicating that the regression is not spurious. The table below represents ANOVA statistics, which reports how well the regression equation fit the data (i.e Predicts the depended variable)

Table 6.21

ANOVA-Effects of Credit Risks on Risk Contributory Factors of Catholic Syrian Bank

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	81.106	4	20.276	91.108	.000
	Residual	43.620	196	.223		
	Total	124.726	200			

a. Dependent Variable: Effects of Credit Risks

b. Predictors: (Constant), - Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems & procedures.

Source: Primary Data.

The table 6.21 indicates that the regression model predicts the depended variable significantly well. The F value is 91.108 and the p value is 0.000 (less than 5 percent), which implies that overall, the regression model significantly predict the outcome variable. The model is fit to determine the relationship between Working environment and risk management policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems & procedures with the effects of credit risks at Catholic Syrian Bank. The following tables show the regression coefficients Effects of Credit Risk on Catholic Syrian Bank.

Table 6.22

Regression Coefficients - Effects of Credit Risks on Risk Contributory Factors of Catholic Syrian Bank

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.83	.215		8.548	.000		
System intricacy	.238	.042	-.243	5.642	.000	.759	1.043
Deficiency in systems and procedures	.020	.064	.015	.308	.759	.737	1.357
Communication gap & loop holes in technology support	.474	.059	.549	7.991	.000	.378	2.645
Working Environment and Risk Management Policy	.220	.056	.288	3.940	.000	.334	2.996

Source: Primary Data.

The above Regression Coefficients provides with the necessary information to predict the effects of credit risks from the given independent variable determine whether independent variables contribute significantly to the model. It credit risks is influenced by these three components of risk contributory factors.

The OLS equation of the current relationship is as follows.

Following regression equation is used to perform multiple regressions.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Credit Risk Effects on Catholic Syrian Bank = 1.83 + System intricacy (0.238) + Deficiency in systems and procedures (0.020) + Communication gap & loop holes in technology support (0.474) + Working environment and risk management policy (0.220).

Table 6.22 shows that the p values of independent variables namely System intricacy (0.000), Communication gap & loop holes in technology support (p value 0.000) and Working environment and risk management policy (0.000), Influence the effects of credit risk of the Catholic Syrian Bank. So the predicting power of the independent variables is noted below based on the Standardized Coefficients Beta.

Effects of Credit Risk on Catholic Syrian Bank = Communication gap & loop holes in technology support (0.549) + Working Environment and Risk Management Policy (0.288) + System intricacy (0.243).

The Co linearity Statistics showed that there is no multi Collinearity since the values of tolerance and VIF are below the threshold.

6.3.2. Influence of Effects of Credit Risks on Risk Contributory Factors of Federal Bank

The results of effects of credit risks on risk contributory factors of Federal Bank are shown in tables.

Table 6.23

Model Summary-Effects of Credit Risks on Risk Contributory Factors of Federal Bank

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.798 ^a	.637	.632	.469	2.194

a. Predictors: (Constant), - Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures

b. Dependent Variable: Effects of Credit Risks

Source: Primary Data.

The overall correlation is 79.8% as per the model and the Adjusted R Square is 63.2%, indicating high reliability in the dependent variable owing to the effect of independent variables. This indicates that the variance of the dependent variable effects of credit risk of the Federal Bank is accountable as valid to the extent of 63.2 percent with the influence of the independent variables Working environment and risk management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures. The coefficient of Durbin-Watson is 2.194, higher than the value of R Square of 0.637, indicating that the regression is not spurious. The table below represents ANOVA statistics, which reports how well the regression equation fit the data.

Table 6.24

ANOVA - Effects of Credit Risks on Risk Contributory Factors of Federal Bank

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	107.898	4	26.975	125.557	.000
	Residual	61.397	279	.220	Result significant	
	Total	169.296	283			

a. Dependent Variable: Effects of Credit Risks

b. Predictors: (Constant), Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures

Source: Primary Data.

The table 6.24 shows that the regression modal predicts the depended variable significantly well., the F value is 125.557 and the p value is 0.000, (less than 5 percent), showing that the model is fit to determine the relationship Working environment and risk management policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures with effects of credit risks on Federal Bank. Hence it denies the null hypothesis. The following tables show the regression co efficient

Table 6.25

Regression Coefficients - Effects of Credit Risks on Risk Contributory Factors of Federal Bank

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.823	.180		10.11	.000		
System intricacy	.232	.035	.243	6.589	.000	.753	1.04
Deficiency in systems and procedures	.029	.054	.023	.536	.592	.732	1.36
Communication gap & loop holes in technology support	.479	.047	.569	10.11	.000	.411	2.43
Working Environment and Risk Management Policy	.201	.046	.267	4.405	.000	.354	2.82

Source: Primary Data.

The above Regression Coefficients risk contributory factors and effects credit risks on Federal Bank provides with the necessary information to predict the effect of credit risks from the given independent variable determine whether independent variables contribute significantly to the model (“Sig” Column). Here the p value is significant for three variables i.e.

The OLS equation of the current relationship is as follows.

Following regression equation is used to perform this.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Effects of credit risks on Federal Bank = 1.823 + System intricacy (0.232) + Deficiency in systems and procedures (0.029) + Communication gap & loop holes in technology support (0.479) + Working environment and risk management policy (0.201).

Accordingly table 6.25, the p values of independent variables namely System intricacy (0.000), Communication gap & loop holes in technology support (0.000) and Working environment and risk management policy (0.000) influence the effects of credit risks on Federal Bank. So the predicting power of the independent variables is noted below based on the Standardized Coefficients Beta.

Effects of Credit Risks on Federal Bank = Communication gap & loop holes in technology support (0.569) + Working environment & risk management policy (0.267) + System intricacy (0.243).

The Collinearity Statistics showed that there is no multi-Collinearity since the values of tolerance and VIF are below the threshold.

6.3.5. Effects Operational Risks on Risk Contributory Factors

To evaluate the relationship of risk contributory factors (Working environment & risk management policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures) on the effects of operational risk between the banks, the following hypothesis was formulated.

Testing of Hypothesis No.13

Ho: There is no significant difference between Catholic Syrian Bank and Federal Bank in respect of risk contributory factors and effects of Operational Risks.

Table 6.26

Model Summary-Effects of Operational Risks on Risk Contributory Factors of Catholic Syrian Bank and Federal Bank

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.952 ^a	.907	.906	.3343	2.357

a. Predictors: (Constant), - Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures

b. Dependent Variable: Effects of Operational Risks

Source: Primary Data.

The table 6.26 provides the R and R square values. The R value represents the simple correlation and is 0.952 (The "R" column), which indicates a good degree of correlation. The R square value (The R Square column) indicates how much of the total variation in the dependent variable. The overall correlation is 95.2% as per the model and the Adjusted R Square is 90.6%, indicating high reliability in the dependent variable owing to the effect of independent variables. This implies that the variance of the dependent variable Effects of Operational Risks of the Catholic Syrian Bank and Federal Bank in Kerala is accountable as valid to the extent of 90.6 percent with the influence of the independent variables namely working environment & risk management policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures. The coefficient of Durbin-Watson is 2.357, higher than the value of R Square of 0.907, indicating that the regression is not spurious. The table below represents ANOVA statistics, which reports how well the regression equation fits the data (Predicts the dependent variable) there is a significant relationship Catholic Syrian Bank and Federal Bank, in respect of risk contributory factors and effects of operational risk. Hence, the null Hypothesis that there is no significant difference between Catholic

Syrian Bank and Federal Bank, in respect of risk contributory factors and effects of operational risks can be accepted.

Table 6.27

ANOVA - Effects of Operational Risks on Risk Contributory Factors of Catholic Syrian Bank and Federal Bank

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	522.798	4	130.699	1169.40	.000
	Residual	53.648	480	.112		
	Total	576.445	484			

a. Dependent Variable: Effects of Operational Risks

b. Predictors: (Constant), Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures

Source: Primary Data.

The table 6.27 indicates that the regression modal predicts the depended variable significantly well. The “**Regression**” rows and “**Sig**” Column depicts the statistical significance of the regression model. From the table, it is noted that p value is less than 0.05 which implies that overall the regression model significantly predict the outcome variable. the F value is 1169.40 and the p value is 0.000, (less than 5 percent) showing that the model is fit to determine the relationship between risk contributory factors (Working environment & risk management policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures) and the Effects of Operational Risk at Catholic Syrian Bank and Federal Bank.

Table 6.28**Regression Coefficients–Effects of Operational Risks on Risk Contributory Factors of Catholic Syrian Bank and Federal Bank**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.755	.098		7.687	.000		
System intricacy	.204	.019	.151	10.62	.000	.756	1.04
Deficiency in systems and procedures	.318	.029	.177	10.87	.000	.734	1.36
Communication gap & loop holes in technology support	.653	.026	.549	24.84	.000	.397	2.51
Working Environment and Risk Management Policy	.576	.025	.543	22.92	.000	.346	2.88

Source: Primary Data.

The above Regression Coefficients table provides with the necessary information to predict the effects of credit risks from the given independent variable determine whether independent variables contribute significantly to the model. Here the p value is significant four variables i.e. it implies that the effect of operational is influenced by these all component of risk contributory factors of both the banks.

The OLS equation of the current relationship is as follows.

Following equation is used to perform multiple regressions.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Effect of Operational Risk on Catholic Syrian Bank and Federal Bank = 0.755+ System intricacy (0.204) + Deficiency in systems and procedures (0.318)

+Communication gap & loop holes in technology support(0.653) + Working Environment and Risk Management Policy(0.576).

According to table 6.28., the p values of independent variables namely System intricacy (0.000), Deficiency in systems and procedures (0.000), Communication gap & loop holes in technology support (0.000) and Working environment and risk management policy (0.000) influence the effects of operational riskon Catholic Syrian Bank and Federal Bank individually. So the predicting power of the independent variables is noted below based on the Standardized Coefficients Beta.

Operational Risks Effects on Federal Bank and Federal Bank = Communication gap & loop holes in technology support (0.549) + Working environment & risk management policy(0.543) + Deficiency in systems and procedures (0.177) +System intricacy (0.151).

The Collinearity Statistics showed that there is no multi-Collinearity since the values of tolerance and VIF are below the threshold.

6.3.5. Influence of the Effects Operational Risks on Risk Contributory Factors of Catholic Syrian Bank

The results of effects of operational risks on risk contributory factors of shown Catholic Syrian Bankare shown in in table 6.29.

Table 6.29

Model Summary-Effects of Operational Risks on Risk Contributory Factors of Catholic Syrian Bank

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.953 ^a	.908	.906	.33806	2.377

a. Predictors: (Constant), Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures

b. Dependent Variable: Effects of Operational Risks

Source: Primary Data.

The overall correlation is 95.6% as per the model and the Adjusted R Square is 90.6%, indicating high reliability in the dependent variable owing to the effect of independent variables. This implies that the variance of the dependent variable effects of operational risk of the Catholic Syrian Bank is accountable as valid to the extent of 90.6 percent with the influence of the independent variables namely Working environment and risk management policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures. The coefficient of Durbin-Watson is 2.377, higher than the value of R Square of 0.908, indicating that the regression is not spurious. The table below represents ANOVA statistics, which reports how well the regression equation fit the data

Table 6.30

ANOVA- Effects of Operational Risks on Risk Contributory Factors of Catholic Syrian Bank

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	221.610	4	55.403	484.773	.000
	Residual	22.400	196	.114		
	Total	244.010	200			

a. Dependent Variable: Effects of Operational Risk

b. Predictors: (Constant), Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures

Source: Primary Data.

From the above ANOVA table 6.30, the F value is 484.773 and the p value is 0.000 (less than 5 percent), showing that the model is fit to determine the relationship between Working environment and risk management policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures with the Effects of operational risks on Catholic Syrian Bank. The following tables show the regression co efficient on effects of operational risks on CSB.

Table 6.31**Regression Coefficients on Effects of Operational Risks on Risk Contributory Factors of Catholic Syrian Bank**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.767	.154		4.976	.000		
System intricacy	.207	.030	.151	-6.840	.000	.759	1.043
Deficiency in systems and procedures	.324	.046	.179	-7.089	.000	.737	1.357
Communication gap & loop holes in technology support	.648	.042	.537	15.26	.000	.378	2.645
Working Environment and Risk Management Policy	.587	.040	.549	14.66	.000	.334	2.996

Source: Primary Data.

The above Regression Coefficients table provides with the necessary information to predict the effect of credit risk from the given independent variable determine whether independent variables contribute significantly to the model. Here the p value is significant four variables. It implies that the operational risk effect influence by the all the component of risk contributory factors.

The OLS equation of the current relationship is as follows.

Effects of operational risks on Catholic Syrian Bank = 0.767+ System intricacy (0.207) + Deficiency in systems and procedures (0.324) + Communication gap & loop holes in technology support (0.648) + Working environment and risk management Policy (0.587).

According to the table 6.31., the p values of independent variables namely System intricacy(0.000), Deficiency in systems and procedures (0.000), Communication gap & loop holes in technology support(0.000) and Working environment and risk management policy(0.000), Influence the Effects of operational risks on Catholic Syrian Bank. So the predicting power of the independent variables is noted below based on the Standardized Coefficients Beta.

Operational Risk Effects on Catholic Syrian Bank = Working environment and risk management policy(0.549) +Communication gap & loop holes in technology support(0.537) + Deficiency in systems and procedures (0.179) +System intricacy (0.151).

The Collinearity Statistics showed that there is no multi-Collinearity since the values of tolerance and VIF are below the threshold.

6.3.6. Individual Influence of Effects of Operational Risk on Risk Contributory Factors of Federal Bank

In order to analyze the individual influencing effect of operational risk and risk contributory factors of Federal bank, the regression analysis has been applied.

Table 6.32

Model Summary-Effects of Operational Risks and Risk Contributory Factors of Federal bank

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.952 ^a	.906	.905	.335	2.324

a. Predictors: (Constant), -Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures

b. Dependent Variable: Effects of Operational Risks

Source: Primary Data.

The overall correlation is 95.2% as per the model and the Adjusted R Square is 90.5%, indicating high reliability in the dependent variable owing to the effect of independent variables. This implies that the variance of the dependent variable

effects of operational risk of the Federal Bank is accountable as valid to the extent of 90.5 percent with the influence of the independent. The coefficient of Durbin-Watson is 2.324, higher than the value of R Square of 0.906, indicating that the regression is not spurious.

The following tables show the regression co efficient on effects of operational risks and risk contributory factors of Federal Bank.

Table 6.33

ANOVA- Effects of Operational Risks on Risk Contributory Factors of Federal Bank

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	301.205	4	75.301	672.76	.000
	Residual	31.228	279	.112	Result	significant
	Total	332.433	283			

- a. Dependent Variable: Effects of Operational Risks
- b. Predictors: (Constant), Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures

Source: Primary Data.

From the above table 6.33 depicted that, the F value is 672.76 and the p value is 0.000, (less than 5 percent), showing that the model is fit to determine the relationship between Working environment and risk management policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures with the effects of operational risks of Federal Bank.

The following table shows the regression co efficient on effects of operational risks and risk contributory factors

Table 6.34**Regression Coefficients - Effects of Operational Risks on Risk Contributory Factors of Federal bank**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.747	.129		5.808	.000		
System intricacy	.202	.025	.151	8.051	.000	.753	1.04
Deficiency in systems and procedures	.314	.038	.175	8.174	.000	.732	1.36
Communication gap & loop holes in technology support	.657	.034	.557	19.44	.000	.411	2.43
Working Environment and Risk Management Policy	.568	.033	.538	17.45	.000	.354	2.82

Source: Primary Data.

The above Regression Coefficients table provides with the necessary information to predict the effect of credit risk from the given independent variable determine whether independent variables contribute significantly to the model. Here the p value is significant in the case of four variables. It implies that the effect of operational risk is influenced by these all components of risk contributory factors.

The OLS equation of the current relationship is as follows.

Effects of Operational Risk on Federal Bank = 0.747+ System intricacy (0.202) + (0.314) Deficiency in systems and procedures+ Communication gap & loop holes in technology support(0.657) + Working environment and risk management policy (0.568).

According to the table 6.34 the p values of independent variables namely System intricacy, Deficiency in systems and procedures, Communication gap & loop holes in technology support and Working environment and risk management policy influence the effects of operational Risk on Federal Bank. So the predicting power of the independent variables is noted below based on the Standardized Coefficients Beta.

Effects of operational Risk on Federal Bank =Communication gap & loop holes in technology support(0.557) +Working environment and risk management Policy(0.538) +Deficiency in systems and procedures (0.175) +System intricacy (0.151).

The Collinearity Statistics showed that there is no multi-Collinearity since the values of tolerance and VIF are below the threshold.

6.3.7. Effects Liquidity Risks on Risk Contributory Factors

In order to evaluate the relationship of risk contributory factors (Working environment and risk management policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures on the effects of liquidity risks between the banks, the following hypothesis has been formulated and tested.

Testing of Hypothesis No.14

Ho: There is no significant difference between Catholic Syrian Bank and Federal Bank in respect of risk contributory factors and effects of Liquidity Risks.

Table 6.35

Model Summary- Effects of Liquidity Risks on Risk Contributory Factors of Federal bank and Catholic Syrian Bank

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.893 ^a	.798	.797	.46711	1.682

a. Predictors: (Constant), - Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures.

b. Dependent Variable: Effects of Liquidity Risks

Source: Primary Data.

The Table 6.35 provides the R and R square values. The R value represent the simple correlation and is 0.893 (The “R” column), which indicate a good degree of correlation. The R square value (The R Square column), indicate how much of the total variation in the dependent variable, The overall correlation is 89.3% as per the model and the Adjusted R Square is 79.7%, indicating high reliability in the dependent variable owing to the effect of independent variables. This implies that the variance of the dependent variable Effects of Liquidity Risks of the Catholic Syrian Bank and Federal Bank is accountable as valid to the extent of 79.7 percent with the influence of the independent variables The coefficient of Durbin-Watson is 1.682, higher than the value of R Square of 0.798, indicating that the regression is not spurious. The table below represents ANOVA statistics, which reports how well the regression equation fit the data (i.e. Predicts the depended variable)

Table 6.36

ANOVA -Effects of Liquidity Risks on Risk Contributory Factors of Federal Bank and Catholic Syrian Bank

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	414.369	4	103.592	474.779	.000
	Residual	104.732	480	.218		
	Total	519.101	484			

a. Dependent Variable: Effects of Liquidity Risks

b. Predictors: (Constant),- Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures

Source: Primary Data.

The above table 6.36 indicates that the regression modal predicts the depended variable significantly well. The “**Regression**” rows and “**Sig**” Column depict the statistical significance of the regression model. From the above ANOVA table, the F value is 474.779 and the p value is 0.000, (less than 5 percent), showing that the model is fit to determine the relationship between working environment and risk management policy, communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures with the effects of liquidity risks of Federal Bank. It means that there is no significant difference between Catholic Syrian Bank and Federal Bank in respect of risk contributory factors and effects of liquidity risks. Hence the null hypothesis is accepted.

The regression co efficient on effects of liquidity risks on both the banks is presented in Table 6.37.

Table 6.37**Regression Coefficients-Effects of Liquidity Risks on Risk Contributory Factors of Federal Bank and Catholic Syrian Bank**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.304	.137		2.213	.027		
System intricacy	.054	.027	.042	1.998	.046	.756	1.04
Deficiency in systems and procedures	.108	.041	.063	2.637	.009	.734	1.36
Communication gap & loop holes in technology support	.293	.037	.259	7.976	.000	.397	2.51
Working Environment and Risk Management Policy	.655	.035	.650	18.66	.000	.346	2.88

Source: Primary Data.

The above Regression Coefficients Table provides with the necessary information to predict the effect of liquidity risks from the given independent variable determine whether independent variables contribute significantly to the model. Here the p value is significant four variables i.e. it implies that the effects of liquidity risks is influenced by these all components of risk contributory factors.

The OLS equation of the current relationship is as follows.

Effects of liquidity risk on Catholic Syrian Bank and Federal Bank = 0.304+ System intricacy (0.054) + Deficiency in systems and procedures (0.108) + Communication gap & loop holes in technology support(0.293) + Working environment and risk management policy(0.655).

According to table 6.37, the p values of independent variables namely System intricacy(0.000) ,Deficiency in systems and procedures(0.000) , Communication gap & loop holes in technology support(0.000) and Working environment and risk management policy (0.000), influence the Effects of liquidity risks on Catholic Syrian Bank and Federal Bank individually. So the predicting power of the independent variables is noted below based on the Standardized Coefficients Beta.

Liquidity risk effects on Catholic Syrian Bank and Federal Bank =Working environment and risk management Policy(0.650) + Communication gap & loop holes in technology support (0.259) + Deficiency in systems and procedures (0.063) +System intricacy (0.042).

The Collinearity Statistics showed that there is no multi-Collinearity since the values of tolerance and VIF are below the threshold.

6.3.8..Influence of Effects Liquidity Risks on Risk Contributory factors of Catholic Syrian Bank

The Table shows the results of analyses on the influence of effects liquidity risks on risk contributory factors of Catholic Syrian Bank.

Table 6.38

Model Summary-Effects of Liquidity Risks on Risk Contributory Factors of Catholic Syrian Bank

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.897 ^a	.804	.800	.46487	1.667

a. Predictors: (Constant), - Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures

b. Dependent Variable: Effect of Liquidity Risks

Source: Primary Data.

The overall correlation is 89.7% as per the model and the Adjusted R Square is 80%, indicating high reliability in the dependent variable owing to the effect of independent variables. This implies that the variance of the dependent variable effects of liquidity risk of the Catholic Syrian Bank is accountable as valid to the extent of 80 percent with the influence of the independent variables namely Working environment and risk management policy, Communication gap & loop holes in technology support, Deficiency in systems and procedures. The coefficient of Durbin-Watson is 1.667, higher than the value of R Square of 0.804, indicating that the regression is not spurious. The table below represents ANOVA statistics, which reports how well the regression equation fit the data

Table 6.39

ANOVA -Effects of Liquidity Risks on Risk Contributory Factors of Catholic Syrian Bank

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	173.882	4	43.471	201.155	.000
	Residual	42.357	196	.216		
	Total	216.239	200			

a. Dependent Variable: Effect of Liquidity Risks

b. Predictors: (Constant), Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures.

Source: Primary Data.

From the above ANOVA table 6.39, the F value is 201.155 and the p value is 0.000 (less than 5 per cent) showing that the model is fit to determine the relationship between Working environment and risk management policy, Communication gap & loop holes in technology support, Deficiency in systems and procedures with the Effect of liquidity risks of Catholic Syrian Bank.

The following tables show the regression co-efficient on effects of liquidity risks and risk contributory factors of Catholic Syrian Bank.

Table 6.40**Regression Coefficients-Effects of Liquidity Risks on Risk Contributory Factors of Catholic Syrian Bank**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.353	.212		1.665	.098		
System intricacy	-.042	.042	-.033	-1.010	.314	.759	1.043
Deficiency in systems and procedures	.090	.063	.052	1.426	.156	.737	1.357
Communication gap & loop holes in technology support	.267	.058	.235	4.579	.000	.378	2.645
Working Environment and Risk Management Policy	.680	.055	.677	12.36	.000	.334	2.996

Source: Primary Data.

The above Regression Coefficients Table provides with the necessary information to predict the effect of liquidity risks from the given independent variable determine whether independent variables contribute significantly to the model (“**Sig**” Column). Here the p value is significant two variables namely Communication gap & loop holes in technology support and Working environment and risk management Policy. It implies that the effects of liquidity risks are influenced by these three components of risk contributory factors.

The OLS equation of the current relationship is as follows.

Effect of Liquidity Risk on Catholic Syrian Bank = 0.353+ System intricacy (-0.042) + Deficiency in systems and procedures(0.90) + Communication gap & loop holes

in technology support(0.267) + Working environment and risk management policy (0.680).

The Table 6.40 shows the p values of independent variables namely Communication gap & loop holes in technology support (0.000) and Working environment and risk management policy (0.000), influences the effects liquidity risks on Catholic Syrian Bank individually. So the predicting power of the independent variables is noted below based on the Standardized Coefficients Beta.

Effects of Liquidity Risks on Catholic Syrian Bank = Working environment and risk management policy(0.677) + Communication gap & loop holes in technology support (0.235).

The Collinearity Statistics showed that there is no multi-Collinearity since the values of tolerance and VIF are below the threshold.

6.3.9. Influence of the Effects of Liquidity Risks on Risk Contributory Factors of Federal bank.

To evaluate the individual influencing effect of liquidity risks and risk contributory factors of Federal bank, the researcher used regression analysis.

Table 6.41

Model Summary-Effects of Liquidity Risks and Risk Contributory Factors of Federal Bank

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.891 ^a	.794	.791	.472	1.682

a. Predictors: (Constant), - Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures.

b. Dependent Variable: Effects of Liquidity Risk

Source: Primary Data.

The overall correlation is 89.1% as per the model and the Adjusted R Square is 79.1%, indicating high reliability in the dependent variable owing to the effect of independent variables. This implies that the variance of the dependent variable liquidity risk effects of the Federal Bankin Kerala is accountable as valid to the extent of 79.1 percent with the influence of the independent variables namely Information asymmetries and unreliable resistance to risk, System Intricacy, Inadvertent consequences of public policy, Unethical exposure and asymmetric enticement configurations. The coefficient of Durbin-Watson is 1.682, higher than the value of R Square of 0.794, indicating that the regression is not spurious. The table below represents ANOVA statistics, which reports how well the regression equation fit the data (i.e. Predicts the depended variable)

Table 6.42

ANOVA -Effects of Liquidity Risks on Risk Contributory Factors of Federal Bank

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	240.579	4	60.145	269.572	.000
	Residual	62.248	279	.223		
	Total	302.827	283			

a. Dependent Variable: Effects of Liquidity Risks

b. Predictors: (Constant), Working Environment and Risk Management Policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems and procedures.

Source: Primary Data.

From the above ANOVA table 6.42, the F value is 269.572 and the p value is 0.000 (less than 5 percent). It shows that the model is fit to determine the relationship between risk contributory factors such as Working environment and risk management policy, Communication gap & loop holes in technology support, System intricacy, Deficiency in systems & procedures with the effects of liquidity risks of Federal Bank. The regression co efficient on effects liquidity risks of Federal Bank is given in the Table 6.43.

Table 6.43**Regression Coefficients-Effects of Liquidity Risks on Risk Contributory Factors of Federal Bank**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.269	.182		1.479	.140		
System intricacy	-.062	.035	-.049	-1.752	.081	.753	1.04
Deficiency in systems and procedures	.121	.054	.071	2.235	.026	.732	1.36
Communication gap & loop holes in technology support	.310	.048	.276	6.506	.000	.411	2.43
Working Environment and Risk Management Policy	.638	.046	.633	13.87	.000	.354	2.82

Source: Primary Data.

The OLS equation of the current relationship is as follows.

Following equation is used to perform multiple regressions.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Effects of Liquidity Risk on Federal Bank = 0.269+ System intricacy (-0.062) +Deficiency in systems and procedures (0.121) + Communication gap & loop holes in technology support (0.310) + Working environment and risk management policy(0.638).

Table 6.43 indicates that the p values of independent variables namely Deficiency in systems and procedures (0.026) Communication gap & loop holes in technology

support (0.000) and Working environment and risk management policy (0.000) influence the Effects of liquidity risks on Federal Bank. So the predicting power of the independent variables is noted below based on the Standardized Coefficients Beta.

Liquidity Risk Effects on Federal Bank = Working environment and risk management policy(0.633)+Communication gap & loop holes in technology support (0.276) + Deficiency in systems and procedures (0.071).

The Collinearity Statistics showed that there is no multi-Collinearity since the values of tolerance and VIF are below the threshold.

After a detailed examination risk contributory factors and effects of risks, it is relevant to identify the risk governance practices followed by the two selected banks and also attempt to identify the relationship between profitability and risks. That has been attempted in the next chapter.

Chapter 7

Risk Governance Practices and Profitability Analysis

The identification of risk contributory factors and the influence of effect of risks on risk contributory factors have been examined in the pervious chapter. The study on risk management practices will not be a full-fledged one unless an attempt has been made to review the risk governance practices and profitability analysis based on risks in the two selected banks. Therefore, the present chapter attempts to accomplish this objective.

7.1. Research Methodology

In order to achieve this objective a comparative analysis on risk governance practices followed by the Federal Bank and Catholic Syrian Bank has been performed. In addition to this, an attempt has been made to analyse the relationship between different type of risk and profitability and the influence of these risks on the profitability of the selected banks. For this purpose primary data were collected from the selected 284 mangers in Federal Bank and 201 mangers in Catholic Syrian Bank with the help of pretested structured questionnaire.

The chapter is divided into two sections for the purpose of discussion. Section A deals with the Risk Governance Practices. Section B is concerned with the analysis of relationship between risks and profitability. Further, an attempt has been made to analysis the influence of risks on the profitability of the selected banks in the section.

Section A - Risk Governance Practices

7.2. Analysis of Different Risk Governance Practices

In order to examine the risk governance practices, 18 qualitative attributes in the form of statement have been collected and incorporated. Table 7.1 shows the

summary of responses of the bank managers about risk governance practices of two selected banks.

Table 7.1
Different Risk Governance Practices of the Banks

Risk Governance Practices	CSB		FED	
	Mean	Std. Deviation	Mean	Std. Deviation
1. Proper co ordination of all other departments	3.243	1.198	3.235	1.181
2. Empowerment of risk oversight committee	3.412	1.016	3.408	1.016
3. Rules and responsibilities of board level committees	3.223	1.074	3.211	1.095
4. Framing of policy by the RMC	3.567	0.936	3.720	1.166
5. The accountability of the internal auditors to the bank is ensured by the board of directors	2.985	1.262	2.947	1.250
6. Programmers on empowerment of risk oversight committee	3.253	0.848	3.221	0.855
7. Co-ordination of all departments for Effective RG.	3.402	0.884	3.404	0.882
8. Usage of modern technologies to minimize risks effects	3.477	0.933	3.721	0.922
9. Risks culture stay in line with the objective	3.502	0.794	3.468	0.781
10. Internal audit reports and external expert report	3.368	1.04	3.366	1.036
11. Regular review of the risk strategy	3.557	0.947	3.563	0.958
12. Risk management policies are framed by the RMC	3.537	0.905	3.542	0.914
13. Proper handling of compliance function	3.517	0.866	3.521	0.879
14. Integrity and ethical dealings	3.686	1.111	3.690	1.125
15. Risk metrics gives a clear idea about risk appetite	3.726	0.979	3.478	0.996
16. Risk tolerance is earmarked with the CEO	3.422	1.111	3.415	1.110
17. Risk management committee is composed of skilled members	3.222	1.070	3.210	1.094
18. Transparent governance procedures	3.402	0.764	3.488	0.782
19. Overall mean score of Risk Governance Practices	3.356	1.036	3.387	1.042

Source: Primary Data.

Table 7.1 shows the mean value and standard deviation based on responses on a 5 - point Likert Scale of the 18 statements about risk governance practices of Catholic Syrian Bank and Federal Bank. The overall average of risk governance practices shows that the mean response of Federal Bank(3.387) is higher than that of Catholic Syrian Bank (3.356).The highest mean score is given to the practices namely risk metrics gives a clear idea about risk appetite by Catholic Syrian Bank managers(3.726 mean score with a standard deviation of 0.979). Whereas,the managers of the Federal Bank assigned the highest mean score to the practices No. 8 namely usage of modern technologies to minimize risks effects is given to (3.721 mean score with a standard deviation of .922). The second highest mean score is assigned to practices No. 13 namely proper handling of compliance function by the Catholic Syrian Bank managers (3.517 mean sore with a standard deviation of 0.8666). However, the mangers of Federal Bank Ltd have assigned the second highest mean score to practice of framing of policy by the RMC with mean score of 3.720 and standard deviation of 1.160. The least important risk governance practices followed by the Federal Bank are the accountability of the internal auditors to the bank is ensured by the board of directors (with a mean score of 2.947) and risk management committee is composed of skilled members with a mean score of 3.222. But in the case of Catholic Syrian Bank, the practice of the accountability of the internal auditors to the bank is ensured by the board of directors is found the least used practice in this respect . The mean score is 2.947.

7.2.1 Discriminant Function Analysis of Risk Governance Practices

The various risk governance practices followed by the banks for the effective risk management have been identified and analyzed with the help of discriminant analysis. The results of analysis shown below.

Testing of Hypothesis No.15

H0: In respect of the Risk Governance Practices followed, there is no significant difference between the Federal Bank and Catholic Syrian Bank.

Table 7.2

Variables Failing Tolerance Tests -Risk Governance Practices

	Within-Groups Variance	Tolerance	Minimum Tolerance
The accountability of the internal auditors to the bank is ensured by the board of directors	.979	.000	.000

All variables passing the tolerance criteria are entered simultaneously.

a. Minimum tolerance level is .001.

Source: Primary Data.

The above table 7.2 shows that the results of Variable Failing Tolerance Test. In order to verify the tolerance level of data Variable Failing Tolerance Test applied. The p value of the practice of the accountability of the internal auditors to the bank is ensured by the board of directors is found as 0.000, excluded from the list, because the required minimum tolerance level is .001.

Table 7.3

Eigen values -Risk Governance Practices

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.026 ^a	100.0	100.0	.160

a. First 1 canonical discriminant functions were used in the analysis.

Source: Primary Data.

Table 7.3 depicted Eigen values, The Canonical Correlation coefficient is 16%. It is found low correlation among the risk governance practices of Catholic Syrian and Federal Bank in Kerala.

Table 7.4

Wilks' Lambda -Risk Governance Practices

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	.974	12.333	17	.654

Source: Primary Data.

The Wilks' Lambda coefficient is 97.4%. It is found high reliability for the prediction and the classification of the risk governance practices of Catholic Syrian and Federal Bank in Kerala. The Chi-square test value is 12.333 and the p value is 0.654, greater than 5%.

Table 7.5

Functions at Group Centroids -Risk Governance Practices

Category of Bank	Function
	1
Federal Bank	-.192
Catholic Syrian bank	.136

Unstandardized canonical discriminant functions evaluated at group means

Source: Primary Data.

The Functions at Group Centroids show the classification of the risk governance practices of Catholic Syrian bank and Federal Bank in Kerala. All the positive coefficients of Risk Governance Practices fall under Catholic Syrian bank in Kerala and the negative coefficients falls under Federal Bank.

Table 7.6**Standardized Canonical Discriminant Function Coefficients -Risk Governance Practices**

Risk Governance Practices	Functions
Proper co ordination of all other departments	-.404
Empowerment of risk oversight committee	-.311
Rules and responsibilities of board level committees	-.007
framing of policy by the RMC	-.350
Transparent governance procedures	.309
Programmers on empowerment of risk oversight committee	.103
Co-ordination of all departments for Effective RG.	.723
Usage of modern technologies to minimize risks effects	-.104
Risks culture stay in line with the objective	.389
Internal audit reports and external expert report	-.457
Regular review of the risk strategy	.671
Risk management policies are framed by the RMC	.025
Proper handling of compliance function	.013
Integrity and ethical dealings	-.223
Risk metrics gives a clear idea about risk appetite	.235
Risk tolerance is earmarked with the CEO	-.357
Risk management committee is composed of skilled members	.146

Source: Primary Data.

Table 7.6 shows the results of discriminant function analysis by Catholic Syrian Bank and Federal Bank. Both the banks follow certain risk governance practices. The practice of empowerment of risk oversight committee, Internal and audit reports and external expert report, framing of policy by the RMC, usage of modern technologies, integrity and ethical dealings and adoption of risk metrics are the important risk governance practices followed by Federal Bank. In the case of Catholic Syrian Bank, the major risk governance practices include co-ordination of all departments, transparent governance procedures, risks culture stay in line with the objective, regular review of the risk strategy and proper handling of compliance function.

Section B

7.3. Identification of the Relationship between Profitability of the Banks and Risks

In order to analyze the relationship of the three types of risks namely credit risks, operational risks and liquidity risks on profitability of the selected Banks, correlation analysis has been done. The variables used for the analysis are presented in the following table.

Table 7.7
Variables used for the Analysis

DV	IVs
Profitability	IV1. Credit Risks
	IV2. Operational Risks
	IV3. Liquidity Risks

7.3.1 Relationship between Profitability of the Banks and Liquidity Risks

In order to analysis the correlation between liquidity risks and profitability. A null hypothesis was developed and tested by using spearman correlation.

Testing of Hypothesis No.16

H0: The liquidity risks have no significant relationship on the profitability of both the Federal Bank and Catholic Syrian Bank.

Table 7.8
Correlation between Profitability and Liquidity Risks– FB

Correlations			
		Profitability	Liquidity risks
Profitability	Pearson Correlation	1	.435**
	Sig. (2-tailed)		.000
	N	284	284
Liquidity risks	Pearson Correlation	.435**	1
	Sig. (2-tailed)	.000	
	N	284	284

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Primary Data.

As depicted on the table 7.8, there is relatively moderate positive association between profitability and liquidity risks in the case of Federal Bank ie., $r_s = 0.435$ and p-value of 0.000, which is less than 0.01. It means there is significant relation between the two variables.

Table 7.9
Correlation between Profitability and Liquidity Risks– CSB

Correlations			
		Profitability	Liquidity risks
Profitability	Pearson Correlation	1	.518**
	Sig. (2-tailed)		.000
	N	201	201
Liquidity risks	Pearson Correlation	.518**	1
	Sig. (2-tailed)	.000	
	N	201	201
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary Data.

As per the Table 7.9, p value is less than 0.01. It indicates that the liquidity risks have significant relationship on the profitability of the Catholic Syrian Bank. It means there is a correlation between liquidity risks and profitability. There is relatively strong positive association between both variables having $r_s = 0.518$. Hence, the null hypothesis that the liquidity risks have no significant relationship on the profitability of both the Banks can be rejected.

7.3.2 Relationship between Profitability of the Banks and Credit Risks

The correlation between profitability and credit risks of the selected two banks has been analysed. The results of the analysis are shown below. The following null hypothesis was developed and tested by using spearman correlation.

Testing of Hypothesis No.17

H0: The credit risks have no significant relationship on the profitability of both the Federal Bank and Catholic Syrian Bank.

Table 7.10
Correlation between Profitability and Credit Risks- FB

Correlations			
		Profitability	Credit Risks
Profitability	Pearson Correlation	1	.538**
	Sig. (2-tailed)		.000
	N	284	284
Credit Risks	Pearson Correlation	.538**	1
	Sig. (2-tailed)	.000	
	N	284	284

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Primary Data.

The above Table shows that there is a strong positive relationship between profitability and credit risks in the case of Federal Bank. The correlation is found as $r_s = 0.538$ and p-value of 0.000. It is significant at 1% level of significance.

Table 7.11
Correlation between Profitability and Credit Risks- CSB

Correlations			
		Profitability	Credit Risks
Profitability	Pearson Correlation	1	.536
	Sig. (2-tailed)		.000
	N	201	201
Credit Risks	Pearson Correlation	.536	1
	Sig. (2-tailed)	.000	
	N	201	201

Source: Primary Data.

In the case of Catholic Syrian Bank also, there is a strong positive relationship between profitability and credit risks. The correlation is $r_s = 0.536$. The p value is .000. Therefore, the null hypothesis that the credit risks have no significant relationship on the profitability of both the banks may be rejected.

7.3.3 Relationship between Profitability of the Banks and Operational Risks

The details of analysis on the correlation between profitability and operational risks are given in the 7.12. The following null hypothesis was developed and tested by using spearman correlation.

Testing of Hypothesis No.18

H0: The operational risks have no significant relationship on the profitability of both the Federal Bank and Catholic Syrian Bank.

Table 7.12

Correlation between Profitability and Operational Risks- FB

Correlations			
		Profitability	Operational Risk
Profitability	Pearson Correlation	1	.538**
	Sig. (2-tailed)		.000
	N	284	284
Operational Risks	Pearson Correlation	.538**	1
	Sig. (2-tailed)	.000	
	N	284	284
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary Data.

It is clear from the table 7.12 that there is a significant correlation between profitability and operational risks in the case Federal Bank. In this case the correlation is $r_s = 0.538$ and p-value of 0.000. Thus, it shows there is a relatively strong positive association between the two variables.

Table 7.13
Correlation between Profitability and Operational Risks- CSB

Correlations			
		ORE	Operational Risks
Profitability	Pearson Correlation	1	.401
	Sig. (2-tailed)		.000
	N	201	201
Operational Risks	Pearson Correlation	.401	1
	Sig. (2-tailed)	.000	
	N	201	201
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary Data.

It's evident from the table 7.13 that there is a moderate positive association between the variables under consideration with $r_s = 0.401$ and p-value of 0.001. Here, it has shown that operational risks moderate positive association with profitability of the Catholic Syrian Bank.

Thus in the case of both the banks it is found that there is positive relationship between operational risks and profitability of both the Banks under study. Hence, the hypothesis that the operational risks have no significant relationship on the profitability of both the Banks can be rejected.

7.4. Regression Analysis

Regression analysis was performed to examine whether there is any influence of these risks on profitability of the Banks. The results of the analysis are given below.

7.4.1. Influence of Risks on the Profitability of Catholic Syrian Bank

In order to analyse the influence on risks and profitability of Catholic Syrian Bank, Regression analysis has been performed. The following null hypothesis was developed and tested.

Testing of Hypothesis No.19

H0: The credit risks, operation risks, liquidity risks have no significant influence on the profitability of Catholic Syrian Bank.

Table 7.14

Model Summary – Risks and its Influence on Profitability - CSB

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.891 ^a	.794	.791	.472
a. Predictors: (Constant), CR, LR, OR.				

Source: Primary Data.

The table 7.14 provides the R and R square values. The R value represents the simple correlation and is 0.891 (The “R” column) It indicates a good degree of correlation. The R square value (The R Square column) indicates how much of the total variation in the dependent variable affects the independent variable. The table below represents ANOVA statistics, which reports how well the regression equation fits the data (i.e. Predicts the dependent variable)

Table 7.15

ANOVA-Risks and Its Influence on Profitability -CSB

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.820	4	.546	11.769	.000^b
	Residual	7.280	196	.046		
	Total	11.101	200			
a. Dependent Variable: PR						
b. Predictors: (Constant), CR, LR, OR.						

Source: Primary Data.

The table 7.15 indicates that the regression model predicts the dependent variable significantly well. From the table, it is noted that p value is less than 0.05 which

implies that overall the regression model significantly predict the outcome variable. The following tables show the regression co-efficient on risks and profitability.

Table 7.16
Regression Coefficients Risks and Profitability -CSB

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.167	.112		15.194	.000
	CR	.022	.024	.308	8.461	.000
	OR	.084	.027	.153	1.828	.000
	LR	.118	.030	.123	3.943	.000
a. Dependent Variable: PR						

Source: Primary Data.

The above table 7.16 presents Regression Coefficients profitability and selected risks whether independent variables contribute significantly to the model (“Sig”. Column). Here the p value is significant for three variables i.e. it implies that the profitability is influenced by these all three type of risks. All the prediction from the above table is positive and significant. The table shows the regression co-efficient for the model. The Colum B shows that Un-standardized regression coefficients for the equation can be constructed as follows.

$$Y=1.167+.022+.084+.118$$

From the table it can be observed that credit risks, operational risks, liquidity risks were significantly influence to profitability of the Catholic Syrian Bank. Hence the beta value is positive. So it can be interpreted from analysis that risks may leads to change in profitability. Hence, the null hypothesis that the credit risks, operation risks, liquidity risks have no significant influence on the profitability of Catholic Syrian Bank may be rejected. .

7.4.2 Influence of Risks on the Profitability of Federal Bank

Here an attempt has been made to analyse the influence of different types of risks on the profitability of Federal Bank. Regression analysis has been performed for this purpose. The null hypothesis developed and tested in this case is given below.

Testing of Hypothesis No.20

H0: The credit risks, operation risks, liquidity risks have no significant influence on the profitability of Federal Bank.

Table 7.17

Model Summary - Risks and Its Influence on Profitability - FB

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.778 ^a	.605	.600	.2913
a. Predictors: (Constant), CR, LR, OR.				

Source: Primary Data.

As per the table 7.14 the R value represent the simple correlation and is 0.778(The "R" column), which indicate a good degree of correlation. The R square value (The R Square column) indicate how much of the total variation in the dependent variable on the independent variable. The ANOVA statistics have been applied for this purpose. It reports how well the regression equation fit the data.

Table 7.18

ANOVA-Risks and Its Influence on Profitability - FB

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	87.92	5	17.85	11.769	.000^b
	Residual	52.13	275	.046		
	Total	140.06	280			
a. Dependent Variable: PR						
b. Predictors: (Constant), CR, LR, OR.						

Source: Primary Data.

It is clear that p value is .000. It implies that the overall the regression model significantly predict the outcome variable. The following table show the regression co efficient of risks on the profitability of the Federal Bank.

Table 7.19
Regression Coefficients Risks and Profitability - FB

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.856	.355		2.413	.000
	CR	.261	.126	.026	.213	.000
	OR	.225	.131	.281	1.718	.000
	LR	.027	1.632	.228	.160	.000
a. Dependent Variable: PR						

Source: Primary Data.

The above Regression Coefficients profitability and selected risks whether independent variables contribute significantly to the model. Here the p value is significant for three variables. It implies that the profitability is influenced by the three types of risks. All the prediction from the above table are positive and significant. The table shows the regression co-efficient for the model. The Colum B shows that Unstandardized regression coefficients for the equation can be constructed as follows.

$$Y = .856 + .261 + .225 + .027$$

From the table it can be observed that credit risks, operational risks, liquidity risks have influenced significantly the profitability of Federal Bank. Hence the beta value is positive. So it can be inferred from analysis that risks may leads to change in profitability. Therefore, the null hypothesis that the credit risks, operation risks, liquidity risks have no significant influence on the profitability of Federal Bank can be rejected.

In both the banks, different types of risks significantly influence their profitability. In the case of Federal Bank, credit risks and operational risks are the major risks which influence the profitability of the bank. However, in the case of catholic Syrian Bank, the profitability is mainly influenced by credit risks and liquidity risks.

Chapter 8

Findings, Conclusions and Suggestions

8.1. Introduction

Risk management has become the most important topic for banks in the recent years. Addressing risk management in the context of current challenges is a complex matter and a function of appropriate policies, procedures and culture. Risk management will be successful if the word of risk is understood well and clearly. In the view of growing complexity of banking business and dynamic operating environment, banks cannot survive and succeed unless they adopt apt and effective risk management practices. Risk at the apex level may be visualized as the probability of a bank's financial health being impaired due to one or more contingent factors. Risk management analysis, in a broad sense, is any method qualitative and quantitative for assessing the impact of risks on decision.

The management of private banks is very particular in adopting the best innovative risk management practices. As the technological advancements are taking place with a high velocity, chances of risk are more. Despite of a tool for reducing human effort, every new technology provides certain loop holes too. As banking industry is one of fastest adoptors of new technologies, risk management practices followed is a major concern of the investors and shareholders of the banks. The better the risk management practices, better is the confidence of investors. Several efforts have been made to improve the risk management and performance of the banks including the Basel Accords as well as risk management guideline by the international financial bodies. Consequently, the Reserve Bank of India has issued risk management guidelines to strengthen the risk management system and improve the performance of the banks

8.2. Problem in Brief

Risk is an inevitable phenomenon in all spheres particularly in the field of banking Industry. It is very difficult to eliminate the risks completely from the field of banking business context. However, it is highly inevitable to predict the occurrence of the various risks and which helps to adopt apt and appropriate measures to handle the situation most effectively. In the State of Kerala, the private players have come up with innovative products and services which lead to customer delight. In order to capture a sizeable share of market, the private sector Banks always compete with public sector banks. These banks adopt most - latest technological innovations to perform this. No doubt, all these innovative activities lead to different types of risks which hinder the Banks in achieving the aim of maximum profitability. In order to overcome these risks, the private sector Banks now follow various measures and practices through their separate risk management department.

In spite of the existing risk management system, it is reported that the Private Sector Banks still face different types of risks like credit risks, liquidity risks, interest rate risks, operational risks and foreign exchange risks in their business. Of course, the existing risk management practices affect the profitability of the Private Sector Banks. The occurrence these risks has significant influence not only on the success of the Bank but also on the customers and the society as a whole. From the available secondary data, it is clear that among the Private Sector Banks working in the State, the Federal Bank Ltd and the Catholic Syrian Bank Ltd are the most suitable candidates in this particular area. These two Banks occupy prominent position among the private banks in the field of risk management. Therefore, it is highly imperative to develop and adopt a suitable methodology in order to manage the risks of these Private sector Banks most effectively. Moreover, from an exhaustive literature survey conducted by the researcher, it has been found that no systematic and elaborate investigation on the different areas of risk management of the two selected Private Sector Banks in Kerala has been conducted. At this juncture, it is highly relevant to conduct an investigation on this specific issue. Hence, the present research work has been undertaken.

The present research work attempts to investigate into the following major research questions.

1. What are the risk management practices followed by the selected private sector banks in Kerala?
2. What is the level of risk understanding, identification, assessment, monitoring and controlling (risk management process) among the managers of the selected banks?
3. What are the key factors which contribute various types of risks in the selected Private Sector Banks?
4. Does the risk effect significantly influence the performance of the Banks?
5. What are the tools and techniques used by the selected private sector banks for efficient risk management?
6. What is influence of different types of risks on profitability of the selected banks?
7. What are the major risk governance practices followed by the two selected Banks?

8.3. Objectives of the Study

The specific objectives of the study are as follows.

1. To study the existing risk management practices followed by the selected Banks.
2. To review and compare the processes involved in the risk management of the two selected banks from the perspective of branch managers.
3. To identify the overall risk contributory factors and to analyze the influence effects of risks on the performance of the selected banks.
4. To analyze the influence of different types of risks on profitability of the selected Banks.

5. To review the risk governance practices followed by the selected Banks.

8.4. Hypotheses

The following hypotheses were developed and tested.

1. H0: There is no significant difference between Catholic Syrian Bank and Federal Bank in the case of risk management practices followed.
2. H0: In the case of strategic direction and policy followed, there is no significant difference between Catholic Syrian Bank and Federal Bank.
3. H0: In the case of risk tackling techniques followed, there is no significant difference between Catholic Syrian Bank and Federal Bank.
4. H0: In the case of risk profile and communication followed, there is no significant difference between Catholic Syrian Bank and Federal Bank.
5. H0: In respect of risk understanding, there is no significant difference between the Catholic Syrian Bank and Federal Bank.
6. H0: In respect of risk identification, there is no significant difference between the Catholic Syrian Bank and Federal Bank.
7. H0: In respect of risk assessment and analysis, there is no significant difference between the Catholic Syrian Bank and Federal Bank.
8. H0: In respect of risk monitoring and controlling, there is no significant difference between the Catholic Syrian Bank and Federal Bank.
9. H0: There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effect of credit risks on the performance of the Banks.
10. H0: There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effect of operational risks on the performance of the Banks.

11. H0: There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effect of liquidity risks on the performance of the Banks.
12. Ho: There is no significant difference between Catholic Syrian Bank and Federal Bank in respect of risk contributory factors and effects of credit risks.
13. Ho: There is no significant difference between Catholic Syrian Bank and Federal Bank in respect of risk contributory factors and effects of operational risks.
14. Ho: There is no significant difference between Catholic Syrian Bank and Federal Bank in respect of risk contributory factors and effects of liquidity risks.
15. H0: In respect of the risk governance practices followed, there is no significant difference between the Federal Bank and Catholic Syrian Bank.
16. H0: The liquidity risks have no significant relationship on the profitability of both the Catholic Syrian Bank and Federal Bank.
17. H0: The credit risks have no significant relationship on the profitability of both the Catholic Syrian Bank and Federal Bank.
18. H0: The operational risks have no significant relationship on the profitability of both the Catholic Syrian Bank and Federal Bank.
19. H0: The credit risks, operation risks, liquidity risks have no significant influence on the profitability of Catholic Syrian Bank.
20. H0: The credit risks, operation risks, liquidity risks have no significant influence on the profitability of Federal Bank.

8.5. Methodological Design

The present study is both descriptive and analytical nature. Both secondary and primary data were collected and used for the study. The secondary data were collected from published and unpublished reports and records Reserve Bank of India, Financial Reports of Banks, and Reports of BASEL Committee on Banking Supervision, Journals, periodicals, research dissertations, books, websites and

conference proceedings. The primary data were collected through observations, discussions and interviews with the chief risk managers at the corporate office and various bank managers of branches of the selected two private sector banks in Kerala. A two - stage sampling method has been adopted for the study. In the first stage sample banks were selected and in the second stage from the sample banks, sample branch managers were selected. For the purpose of the study, two private sector banks functioning in the State of Kerala namely the Federal Bank Ltd and the Catholic Syrian Bank Ltd have been selected. A total of sample 485 branch managers consisting of 284 from Federal Bank and 201 from the Catholic Syrian Bank were selected with the help of simple random sampling through lottery method. The data have been collected with the help of a structured pre-tested questionnaire and interview schedule after conducting pilot study and validity and reliability tests.

The different practices and strategies followed by the two selected Banks have been examined in detail with the help of primary data collected from the risk managers at the corporate offices (Interview schedule) and managers at the branch levels (Questionnaire) with a view to fulfil the first objective. In order to accomplish the second objective of study, a comparative analysis on risk management process based on these four components with the help primary data collected from bank managers has been done. In order to identify the key risk contributory factors experienced by the private sector banks, factor analysis has been performed with the help of primary data collected. Based on the four dependent risk contributory factors, 20 influencing/associating issues have been identified and analyzed. In order to examine the effects of risks on the performance of Banks, a comparative analysis on the effects of the three types of risks namely credit risks, operational risks and liquidity risks on the performance of the selected Banks has been done with the help of certain independent variables identified. The various risk governance practices followed by the banks for the effective risk management have been identified and analyzed with the help of discriminant analysis to study the risk governance practices. In order to analyze the influence of the three types of risks namely credit

risk, operational risk and liquidity risk on profitability of the selected Banks, certain variables have been identified and analysed.

The collected data were analyzed with the help of SPSS 21.0 version. The various tools like Percentages, Mean, Standard Deviation, t test, ANOVA, Tuskey's HSD test for multiple comparisons, Correlation, Regression and Discriminant Functional analysis and Structural Equation Model was performed by using AMOS.

8.6. Summary of the Chapters

The Thesis has been presented in in eight chapters.

The first chapter deals with the introduction and contains the significance of the study, statement of the research problem, scope of the study, objectives, hypotheses, methodology and data base, limitations of the study and chapter scheme of the research report.

In the second chapter, the available relevant literature related to the research work is presented and identified the research gap.

The third chapter gives an overview the theoretical framework of the risk management and sample profile of the two selected banks with the help of secondary data.

The fourth chapter attempts to review and compare the existing risk management practices followed by the selected two banks with the help of primary data collected from the risk managers from the corporate offices and branch managers.

The fifth chapter attempts to compare the risk management process such as risk understanding, risk identification, risk assessment and analysis and risk monitoring and controlling with respect of the selected banks and to find out the best techniques of risk identification, measurement and risk controlling.

The sixth chapter deals with the identification of overall risk contributory factors. It also attempts to analyse the influence of effect of risks on risk contributory factors and the performance of the selected Banks.

The seventh chapter attempts to identify the major risk governance practices followed by the selected two banks and to find out the relationship between profitability and various risks.

The eight and last chapter presents the findings, conclusions, suggestions and scope for further research.

For the purpose of discussion, the chapter is divided into three sections. Section A presents major findings. B is concerned with the conclusions drawn from the findings and section C deals with the suggestions based on the findings and conclusions of the study.

Section A

8.7. Findings at a Glance

Based on analysis of data collected through interview schedules and questionnaires from risk management officers of two selected private sector banks in Kerala viz., the Federal Bank Ltd and the Catholic Syrian Bank Ltd, the study throws light to some valuable findings which are shown in the following pages.

I. Demographic Profile of Sample Bank Mangers

1. Majority (54%) of the respondents are male bank mangers.
2. It is seen that 26.6 per cent of the respondents falls the age group of 20-30 years and 25.4 per cent of respondents belong to the age group of 30-40 years. The lowest share of respondents is from the age group of up to 40 -50 years (23.7%).
3. With regards to educational background, 32.2 per cent of respondents are graduates, 37.7 per cent of the respondents are with post graduation qualification and 30.1 per cent of the respondents are professionals.
4. It is found that 28.5 percent of respondents have the experience of 10 to 20 years and 25.2 per cent of respondents have got only less than 10 years of service. It is

seen that only 22.3 per cent respondents are with the experience of 20 to 30 years.

II. Risk Management Practices

A. The Federal Bank Ltd

1. It is found that the Federal Bank adopts various practices for the management of different risks. The existing risk tolerance level of the bank is excellent which helps to maintain a good competitive position.
2. The Bank considers the Basel norms, RBI regulations and objectives of the bank before framing the risk management policies.
3. It is found that the compliance officer of the Bank is very vigilant in solving the issues without delay.
4. Bank has adopted sophisticated tools for risk management, both of qualitative and quantitative in nature. The bank follows two systems namely the Risk and Control Self Assessments (RCSA) system and a set of Key Risk Indicators (KRI). This helps the bank proper identification and controlling of risk.
5. It is found that major risks faced by the Federal Bank are credit risks, liquidity risks, interest rate risks, operational risks, foreign exchange risks and market risks.
6. It is observed from the analysis the bank has a policy manual in which the policy for compliance is clearly written. This serve as the compliance catalog for different branch offices. It remains up-to-date as per the current guidelines.
7. It is identified that the online and offline procedure for compliance function of the bank is well described in the manual.
8. The monitoring officers make sure that the branches are functioning as per the compliance function.

9. The risk management department is highly integrated which monitors and coordinates risk the risk management process.
10. The transaction monitoring cell works 24x7 to check and monitor transactions done in the bank to make sure that those transactions are safe and secure.
11. It is found that the bank has a very well developed and strong internal control system. The system is designed as per the size, scale and complexity of the branches of the bank. Risk rating of different branches is calculated by risk based internal audit.

B. The Catholic Syrian Bank Pvt Ltd.

1. In the case of Catholic Syrian Bank also, the risk tolerance level is found excellent.
2. The Bank organizes sessions on a regular basis which include awareness sessions on fraud and risk management, sessions for imparting compliance, vigilance workshops and preventive vigilance audits sessions.
3. Audit and inspection mechanism of the bank plays an important role in assisting the management for better control of operations of the bank.
4. The balancing of the tradeoff between risk and return and optimization of return on capital are identified as the major objectives of risk management of the Bank.
5. Reliability of preparation of financial reports and statements is ensured through the internal control system and procedural framework of the bank.
6. Compliance issues are also monitored by inbuilt software which ensures proper submission of returns to the bank.
7. Major types of risks which the Bank comes across are credit risks, market risks and operational risks.

8. Capital change on credit risk is calculated according to the standard approach and market risk by using standard deviation method. The basic indicator approach is used to calculate the capital change for operational risks.

C. Overall - Risk Management Practices of the Banks

1. It is found that major techniques used for identification of risk by the selected Banks are auditing, Risk survey, SWOT analysis, Scenario analysis, Internal and External reports, Documentation review and Checklist analysis.
2. The factors causing credit risks are incorrect recording of clients, employee collusion, internal fraud, non-reporting of transaction intentionally, poor loan underwriting and laxity in credit lending.
3. The major operational risks factors identified are frauds, unethical employment practices, incorrect client details, business disruption and system failures.
4. Liquidity risks are caused by over extension of risks, poor asset quality, mismanagement, large undrawn loan commitment and lack of proper liquidity policy and contingent plan.
5. Various kinds of risks are caused by different reasons. They are changes in external environment, deficiencies in system and procedure, internal or external errors, inadequate information and absence of required flow, communication gap or failure and unstable technology support and labor activity in organizations.
6. The Statistical tools used by the Banks for risk management are simulation methods and SWOT analysis. The techniques of managing risks include collateral arrangements, loss provision of loans, internal rating, securitization, swaps and derivatives,
7. The major risk management techniques as reported by the managers of the two banks are probability and impact matrix, risk data quality assessment, gap analysis, value at risk, stress testing and financial statement analysis.
8. It is found that both the Banks experience technology related risks.

9. The banks adopt appropriate tools for measuring and managing risks. They are equipped with an advanced data backup system.
10. It is found that the overall mean score obtained in the case of Catholic Syrian Bank and Federal Bank is 15.252 (σ 3.471) and 18.118 and (σ 3.896) respectively. It reveals that compared to the Catholic Syrian Bank, Federal Bank follows better strategic direction and policy.
11. The overall average means score shows that the mean value of Federal Bank (12.176) is higher than Catholic Syrian Bank (11.597) on risk tackling.
12. It is identified from the analysis the overall average mean score of risk profile and communication flow shows the mean response of Federal Bank (8.361) is higher than that of Catholic Syrian Bank (8.170). It is found that in the case of risk management practices followed, there is significant difference between Catholic Syrian bank and Federal Bank
13. In the case of strategic direction and policy followed, the significance level of p value is 0.003 and found that there is no significant difference between Catholic Syrian bank and Federal Bank.
14. Risk tackling reveals that there is significant difference between the two banks (Significant level 0.000).
15. Risk Profile and Communication Flow followed, the analysis shows that the significance level is 0.682. It shows that there is no significance difference between the two banks in this case.
16. It is found from the analysis that there is significant difference between Catholic Syrian Bank and Federal Bank in respect of their strategic direction and policy and risk tackling. However, differences are found following areas between the banks.
 - Degree of caution of the management in framing risk management policy
 - Risk management strategy to implementing to branch level

- Monitoring and reporting system (Risk tackling)

17. It is noticed from the analysis that risk management cells are absent in branch level of both the banks.
18. Majority(76%) of the respondents admit that RBI guidelines and BASEL recommendation norms have helped to minimize risk losses to a great extent.
19. It is found that 71% of the federal bank managers and 58 % of the catholic Syrian bank managers are opined that the compliance is timely reported to the top management by the compliance officer.
20. It is noticed that majority of the respondents advocate that training on system management help to effective control of risks in current scenario.
21. It is identified that most of respondents (44%) are of the opinion that improvement is needed in the areas of operational risk management in both the banks.

III. Risk Management Process

A -Risk Understanding

1. The overall average of risk understanding shows that the mean response of Federal Bank(3.183) is higher than that of Catholic Syrian Bank (2.846).This indicate that compared to the Catholic Syrian Bank, Federal Bank has been implemented better risk understanding system across the branch level.
2. It is found that the highest mean score is given to the element namely top level management communicates risk management policy effectively by Catholic Syrian Bank mangers (3.676 mean score with standard deviation of 1.255). Whereas, the highest mean score is given to element namely common understanding of risk management across the bank by Federal Bank (3.637 mean score and standard deviation of.6139).

3. The score of the element namely accountability for risk management is clearly set out and understood throughout the bank got low responses from Catholic Syrian Bank managers (mean value 2.995 ± 1.12).
4. The lowest response given to statement is Risk management responsibility is clearly set out and understood throughout the bank by the Catholic Syrian Bank managers with the mean score of 1.776. The Federal Bank managers also favoured this view.
5. It is identified in the case of all the elements; the p value of risk understanding is lower than 5 per cent in both the banks.

B- Risk Identification

1. The overall mean scores of federal bank and catholic Syrian bank are 3.204 and 3.129 in the case of risk identification process.
2. It is found that the average means score of most of the statements have exceeded the midpoint of 3 on the five point likert scale; it reports that the bank managers of selected banks have a good risk identification level.
3. It is clear that the highest mean score is given to the statement namely Bank has developed and applied procedure for the systems of the other banks by Catholic Syrian Bank managers (3.567 mean score with standard deviation of .7188). Whereas the highest mean has is given to the element of Bank carries out a comprehensive and systematic identification of its risk relating to each of its declared aims and objective with a mean score of 3.493 and standard deviation of .6751 by Federal Bank.
4. It is clear from analysis the lowest response is to the element namely bank finds it difficult to identify, and prioritize its main risk by the Catholic Syrian Bank managers is (mean sore 2.617 and of 1.194). But the Federal Bank has assigned lowest score to the statement of bank is aware of the strength and weaknesses of the risk management system of the other bank. In this case the mean score and standard deviation is 2.370 and .8067 respectively.

5. It is realized from the analysis that there is no significant difference between Catholic Syrian Bank and Federal Bank in respect of their Risk Identification.

C - Risk Assessment and Analysis

1. The overall mean score of the eight elements analysed on risk assessment and analysis is found 3.203 and 3.197 among Catholic Syrian Bank and Federal Bank.
2. The highest mean value is given to the element namely Bank analysis and evaluates opportunities to achieve the objective of the organization by the two banks under study. The mean score and standard deviation are 3.667 and .7619 respectively among the Catholic Syrian Bank Mangers. It is 3.718 and .6733 respectively among Federal Bank mangers.
3. The lowest response is given to the element of Bank assesses the likelihood of risk occurrence by both the banks. In this case mean score and standard deviation are the 2.303 and .8261 respectively among Catholic Syrian Bank mangers. It is 2.349 and .8985 respectively among Federal Bank mangers.
4. In all cases of risk assessment and analysis, the p value is less than 5 per cent. It means there is a significant difference in the risk assessment and analysis of the Catholic Syrian Bank and Federal Banks in Kerala

D - Risk Monitoring and Controlling

1. It also noticed from analysis that the overall mean score is 3.627 in the case of Catholic Syrian Bank and 4.038 in Federal Bank.
2. The fourth item of risk monitoring and control namely reporting and communication process of the bank for the effective management of risk has got the highest mean in the both the banks. It is 4.130 in Federal Bank and 3.836 in Catholic Syrian Bank.
3. It is found from the analysis that the lowest mean value is given to element namely that the bank reviews the country rating on a regular basis. The mean

score and standard deviation in the case is 3.162 and .7469 among the managers in Catholic Syrian Bank and it is 3.757 and .7138 among the managers in Federal Bank.

4. Another finding of the study that in all cases of risk monitoring and controlling, the value of p is higher than 0.05ie, there is no significant difference between the banks in this case.
5. The top five risk identification technique used by private sector banks are Probability and Impact Matrix (17%), Audit Reports (16.8%), Checklist Analysis (16.3%), SWOT Analysis (16.2%) and Root Cause Analysis (15.3%).
6. The Collateral Arrangement is the most risk mitigation technique used by the sample private sector banks. The other important techniques in that order are Securitization (13.8%), Provisions (12.7%), Derivatives (12.1%), Balance Sheet Netting (12%), Insurance (11.9%) and Guarantee (11.5%). The other techniques like Hedging and Swaps and Internal Rating are the least used techniques by the sample banks.
7. It is clear from the analysis that Risk Reassessments (17.9%), Root cause Analysis (15.9%), Reserve Analysis (13.5%), Risk Data Quality assessment (12.4%) and Staff Supervision and Training(9.6) are the techniques used for risk assessment and identification.
8. Collateral Arrangement (14%) is mostly used by private banks to mitigate their risk. The top five risk mitigation technique used by private sector banks are Collateral Arrangement (14%), Provisions (12.7%), Securitization (13.8%), Derivatives (12.1%) and Insurances (11.9%).

IV. Risk Contributory Factors and the Effects of Risks

1. Principal Component Analysis is used and four components are extracted towards the risk contributory factors. The most contributing factor based on the highest coefficient is for the components High Absenteeism (CV-0.960), Bank is not adopting standard reporting system (CV-0.943), there is no smooth flow of

communication (CV-0.948), Bank does not have good data storage and backup system and Compliance office does not report the unusual situation promptly (CV-0.938).

2. Risk contributory factors are classified into four group's namely working environment and risk management policy, communication gap & loop holes in technology support, deficiency in systems and procedures and system intricacy.

IV -Influence of the Effects of the Risks on the Performance of the Banks

A - Effects of Credit Risks on the Performance of the Banks

1. The overall average shows that the mean value of Catholic Syrian Bank (3.587) is higher than that of Federal Bank (3.577) on effects of credit risks on performance.
2. The highest mean score is given to the effects of risks namely affect reputation of bank. The Catholic Syrian Bank managers are assigned 3.607 mean score with a standard deviation of .7482 and the Federal Bank managers are assigned 3.609 as mean score with a standard deviation of .7271.It shows that credit risk is significantly influence the reputation of both the banks.
3. The lowest response is given to the financial distress of the bank. The mean score assigned by Catholic Syrian Bank mangers and Federal Bank mangers is 3.264 and 3.254 respectively.
4. There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effects of credit risks on the performance of the Banks

B - Effects of Operational Risk on the Performance of the Banks.

1. The overall average shows that the mean value of Catholic Syrian Bank (3.099) is higher than Federal Bank (3.095) in the case of effects of operational risks on performance of the bank
2. The business interruption is the most important effect due to operation risks in the case of Catholic Syrian. The mean score is 3.273. The mangers of responded

that the most important effect of operations risk is business interruption with a mean score of 3.271.

3. The lowest response given to the effect of damage to bank physical assets by the Catholic Syrian Bank managers (3.090 mean score with a standard deviation of .7758) and the Federal Bank managers assigned 3.081 mean score with a standard deviation of .7499.
4. There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effect of operational risks on the performance of the Banks.

C - Effects of Liquidity Risks on the Performance of the Banks

1. The overall average shows that the mean value of Catholic Syrian Bank (1.039) is higher than Federal Bank (1.034) on effects of liquidity risks on performance.
2. It is observed that the highest mean score is given to the effects of liquidity risks affects Bank's stability by the Catholic Syrian Bank managers with a mean score of 3.323. But the Federal Bank managers are assigned 3.303 mean score for this effect. This shows that liquidity risk significantly influences the stability of both the banks.
3. The lowest response given to effect of liquidity risks causes disputes and legally liable. In this case, the Catholic Syrian Bank managers assigned 3.522 mean score with a standard deviation of .8892. But the Federal Bank managers assigned 3.504 mean score for this.
4. There is no significant difference between Catholic Syrian bank and Federal Bank in respect of the effect of liquidity risks on the performance of the Banks

V - Influences of Risk Contributory Factors and Effects of Risks

1. Accordingly, the p values of independent variables namely system intricacy (0.000), communication gap & loop holes in technology support (0.000) and

working environment and risk management policy(0.000) influences the effects of credit risk of Catholic Syrian Bank and Federal Bank individually.

2. It is observed that the variance of the dependent variable effects credit risk of the Catholic Syrian Bank is accountable as valid to the extent of 64.3 percent with the influence of the independent variables namely working environment & risk management policy, communication gap & loop holes in technology support, deficiency in systems and procedures and system intricacy.
3. It is noticed that the variance of the dependent variable effects of credit risk of the Federal Bank is accountable as valid to the extent of 63.2 percent with the influence of the independent variables.
4. It is found that the variance of the dependent variable effects of operational risks of the Catholic Syrian Bank and Federal Bank. It is accountable as valid to the extent of 90.6 percent with the influence of the independent variables.
5. It is noticed that the variance of the dependent variable effects of liquidity risks of the Catholic Syrian Bank and Federal Bank is accountable as valid to the extent of 79.7 percent with the influence of the independent variables.

VI - Risk Governance Practices

1. The overall average of risk governance practices shows that the mean response of Federal Bank (3.387) is higher than that of Catholic Syrian Bank (3.356).
2. It is observed from analysis that the highest mean score is given to the practices namely risk metrics gives a clear idea about risk appetite by Catholic Syrian Bank managers (3.726 mean score with a standard deviation of 0.979). Whereas, the managers of the Federal Bank assigned the highest mean score to the practice namely usage of modern technologies to minimize risks effects (3.721 mean score with a standard deviation of .922).
3. The least important risk governance practices followed by the Federal Bank are the accountability of the internal auditors to the bank is ensured by the board of directors (with a mean score of 2.947) and risk management committee is

composed of skilled members with a mean score of 3.222. But in the case of Catholic Syrian Bank, the practice of the accountability of the internal auditors to the bank is ensured by the board of directors is found to be the least used practice in this respect .

4. Empowerment of risk oversight committee, internal and audit reports and external expert report, framing of policy by the RMC, usage of modern technologies, integrity and ethical dealings and adoption of risk metrics are the important risk governance practices followed by Federal Bank.
5. In the case of Catholic Syrian Bank the major risk governance practices include co-ordination of all departments, transparent governance procedures, risks culture stay in line with the objective, regular review of the risk strategy and proper handling of compliance function.

VII - Influence of Different Types of Risks on Profitability of the Banks

1. The correlation analysis shows that there is positive relationship between profitability and risks in both the banks.
2. There is relatively moderate positive association between profitability and liquidity risk in the case of Federal Bank (ie., $r_s = 0.435$ and p-value of 0.000, which is less than 0.01).
3. It is clear from the analysis that the liquidity risk has significant relationship on the profitability of the Catholic Syrian Bank. It means there is a correlation between liquidity risk and profitability. There is relatively strong positive association between both variables having $r_s = 0.518$.
4. In the case of Federal Bank also there is a strong positive relationship between Profitability and Credit Risks. The correlation is found as $r_s = 0.538$ and p-value of 0.000.
5. It is noticed that there is a strong positive relationship between Profitability and credit risks in Catholic Syrian Bank. The correlation coefficient is $r_s = 0.536$.

6. It is clear from the analysis that there is a significant correlation between profitability and operational risks in the case Federal Bank. In this case the correlation coefficient is $r_s = 0.538$
7. It is found that there is significant influence of risks on the profitability of both the banks.
 - In the case of federal bank credit risk and operational risk highly influences the profitability of the bank.
 - Similarly in the case of Catholic Syrian Bank credit risk and liquidity risk highly influences the profitability of the bank.

Section B

8.9. Conclusions

The important conclusions drawn from the foregoing findings are listed below.

1. Both the Federal Bank and the Catholic Syrian Bank Ltd adopts different practices of both qualitative and quantitative in nature for the management of risks they experience. Even though, both these banks consider the Basel Norms and RBI Regulations before framing risk management policies, still they face different types of risks. The credit risks, liquidity risks, interest rate risks, operational risks, market risks and foreign exchange risks are the types of risks experiencing by the Federal Banks. However, Credit risks, market risks and operational risks are the major risks of the Catholic Syrian Bank Ltd.
2. Both the Federal Bank and Syrian Catholic Bank operate the scheme of training to employees regularly to manage the risks. The frequently updated policy manual of the Federal Bank and the internal control and internal audit of the Catholic Syrian Bank help the banks in managing their risk management system to a significant level. Both the Bank managers follow the tools of collateral

arrangements, provision for loss to loans, internal rating, securitization, swaps and derivatives for the management of risks.

3. The major risk management practices adopted by the selected private sector banks are strategic direction and policy, risk tackling and risk profile and communication flow. The degree of caution of the management in framing risk management policy, the level of risk tackling, risk identification, risk prioritizing & risk management, risk management strategy to implement to branch level & the impact of risk profile and communication flow of Catholic Syrian bank need more improvement for the effective management of risks.
4. In the case of different elements of the risk management process, the elements of risk understanding and risk assessment & analysis, the federal bank enjoys better position. The important areas where Federal Bank fares well are better risk understanding system and smooth flow of communication. In the case of risk assessment and analysis, Federal Bank occupies a prime position. This is due to application of most modern tools and techniques to assess and analysis risks by the Bank. However, in the case of risk identification, risk monitoring and controlling, both banks enjoy more or less the same position.
5. The major risks faced by the private sector banks are credit risks, liquidity risks, interest rate risks, operational risks, foreign exchange risks and market risks. There is no significant difference between the two banks in the case of key factors which contribute various types of risks. The prominent factors which cause the operational risks are unethical employment practices, Business practices of unhealthy clients and business interruption and system failure. Incorrect client details, poor loan underwriting, laxity in giving credit and lack of proper credit policy are the main reasons for the occurrence of credit risks. However, the liquidity risks are due to major factors like poor quality asset mismanagement, lack of proper liquidity policy, large undrawn loan commitments and lack of proper plans for contingencies. The overall risk contributory factors include workforce problems in the organization, absence of

adequate information, communication gap and loop holes in technology support and changes in external environment.

6. In the case of both the banks, the effects of risks significantly influence their performance. Credit risk mainly affects the performance of the banks in the areas of profitability, NPA, financial distress and bank reputation, goodwill, bank stability, disputes and legally liable and business interruption are the areas which significantly affected due to the liquidity risks. The operational risks influenced the performance of the banks in the form of business interruption, reputation, bank legally liable and damage to bank assets.
7. In both the banks, different types of risks significantly influence their profitability. In the case of Federal Bank, credit risks and operational risks are the major risks which influence the profitability of the bank. However, in the case of Catholic Syrian Bank, the profitability is mainly influenced by credit risk and liquidity risk.
8. At present both the banks adopts various tools and techniques for the efficient management of various types of risks. For risk identification, the tools like audit reports, risk survey, probability and impact matrix, root cause analysis, scenario analysis, SWOT Analysis, documentation review have been employing. Reserve analysis, root cause analysis, risk data quality assessment, risk reassessments are the major tools and techniques used for risk monitoring and assessment. Collateral arrangement, provisions, securitization are the major techniques used for risk mitigation.
9. Both the banks follow certain risk governance practices. The empowerment of risk oversight committee, Internal and audit reports and external expert report, framing of policy by the RMC, usage of modern technologies, integrity and ethical dealings and adoption of risk metrics are the important risk governance practices followed by Federal Bank. In the case of Catholic Syrian Bank, the major risk governance practices are co-ordination of all departments, transparent governance procedures, risks culture stay in line with the objective, regular review of the risk strategy and proper handling of compliance function.

Section C

8.10. Suggestions

Based on the above - mentioned findings and conclusions, the following suggestions are offered for the improvement of the preset situation.

1. Training Programmes on Risk Management

Training is one of the practices followed by the banks for the effective management of risks. However, from the analysis it has been found that the existing system for providing training facilities to risk managers at the corporate office and managers at branch level is not up to the mark. Hence, the following suggestions will be helpful to improve the situation.

- It is necessary to arrange innovative practical training on the area of emerging trends of various risks especially in training on system management at frequent intervals.
- The facility of the existing training Centres of the Banks maybe utilized at its full potentiality for this purpose with the help of external experts in the field.
- The Bank management should follow the practice of monitoring and evaluating the effectiveness of training regularly.
- Special care may be given to incorporate latest technological innovations in area of risk management training.
- The administrators of the Bank namely the Board of Directors can play a positive role in the efficient risk management of banks. Hence, it is necessary to arrange suitable programmers for the enhancement of the skill as well as knowledge on risks associated with bank among the members of the Board.
- For providing more effective training, the management can seek the support and assistance from reputed centers of management training like IIMs. This will

help them in framing appropriate risk management policies and procedures for the bank.

- Bank should encourage their existing staff to appear for risk management examination conducted by Indian Institute of Banking and Finance. The qualification acquired by staff members from this examination may be given due weightage for their career.

2. Formation of Risk Monitoring and Management Cell at Branch Level

- It is found that there is significant relationship between risk effects and risk factors. Therefore; it is highly inevitable to form a risk monitoring and management cell in all the branches under the supervision of the branch manager.
- The Management should specify the stipulation that every branch manager is accountable for identifying the risks at grass root level. This scheme of course, will be a helpful measure to identify the occurrence of the risks at the early stage itself.

3. Introduction of Proper System of Dissemination of Information on Risks among

Stakeholders

- It is highly inevitable to make awareness among stakeholders on different type of risks and the effects of these risks on the performance and profitability of the banks. The stakeholders of the bank include management, customers, employees and Government authority. In order to disseminate the relevant information on various risks and its effects to the stakeholders, the techniques like publishing of brochures, issuing of circulars and notices can be adopted.
- Special care should be taken to include different risk management practices adopted, risk management process and risk governance practices in their published reports.

4. Establishment of Risk Management Cell at Branch and Zonal Level

- From the primary survey it has been found that no risk management cell is functioning at the branch level in both the selected banks. Therefore, the managers cannot take an independent decision to handle the issues related to risks occurring at branch level. Hence, it is necessary to form Risk Management Cell at Branch level under the monitoring of higher level authorities. This measure will, of course, help to minimise the risks at the grass root level.
- Both selected banks operate its banking business through zonal offices. However, there is no risk management system at the zonal level as such. Therefore, as a solution to handle the risk management most efficiently, in addition to Branches, it is necessary to establish risk management system at zonal level under the headship of Zonal Risk Officer.
- The Zonal level Risk Officer can collect the details of various types of risks of banks working under his zonal office and initiate to take necessary step to solve them. It will help to communicate quickly and reduces delay in decisions on risks.
- Management should take special care imparting training to risk managers at Zonal office on the latest and innovative methods and techniques on management of risks of different type in the banking filed.

5. Introduction of Database Management System on Risk Management

- The bank management can introduce a tailor - made database management system for the efficient management of risks.
- The data base management will help the banker to record the details of risks identified and the causes and effects of risks.
- The System will help the management to introduce apt measures to handle risks properly at an early stage.

6. Conduct of Awareness Programmes

- Banks occupy a predominant role in technology adoption in their various services. Now, banks offer various products and services mainly through digital platform. Hence, there are more chances for different operational risks. As a solution to this, proper awareness camps may be organized by the bank management for the benefits of stake holders.
- The bank management and regulatory authority, in association with local bodies, can arrange the awareness programmes. While arranging the awareness programmes, social media is the best platform and may be utilized.

7. Introduction of New Courses on Risk Management at the University level

- Considering the importance and gravity of the situation, Universities may take initiatives to start risk management programmes at undergraduate and postgraduate levels.
- While designing the Course content, the principle of University - Financial Service Industry Consortium may be followed. This will help to recruit prospective employees as risk managers with both theoretical knowledge and practical exposure on risk management area in financial service sector.
- Necessary initiatives may be taken by the RBI to sanction financial grant to the researchers doing research in the area of risk management in banking Sector.
- The RBI can also sponsor the conduct of various seminars/webinars/workshops on Bank risk management related areas organised by Universities and academic institutions.
- The bank management should give permission to the managers dealing with risk management system in the Banks to pursue research work in the relevant area. This will help the managers to acquire more innovative and practical knowledge on the area.

- It is necessary to institute awards for the bank which shows excellence in risk management and also to the branch manager who witness outstanding performance in the area. The RBI should take initiatives in this respect.

8.11. Scope for Further Research

The following topics are suggested for further research in future.

1. A Comparative study on Risk Management Practices of Private and Public Sector Banks in Kerala.
2. A Study on Risk Management Practices of Co-operative Banks in Kerala.
3. Market Risks of New Generation Private Sector Banks - An Evaluative Study.
4. Risk management Practices of Banks and Insurance Companies in Private sector in Kerala.

Appendixes

Appendix I - Interview Schedule for Risk Mangers in Corporate Office

1. How does the bank identify the risks?
2. List out major risks faced by the banks?
3. What are the factors, which lead to different types of risks?
4. Which measurement tools are mostly used by the risk management department in minimizing risks?
5. Does your bank have faced any difficulty in measuring and managing risks?
6. Do you have the backup of the database for avoiding losses?
7. How are risks unique to your bank's risk management system?
8. What can you say in general about your banks risk measurement and management practices?
9. What setup does the bank have for compliance function?
10. How your bank's unique to risk management

Appendix II

Questionnaire for Risk Mangers in Corporate Office

1. Indicate your opinion of the following statements on Risk Management Practices.

Where 1- Strongly Disagree, 2 - Disagree, 3 - Neutral, 4 - Agree and 5 - Strongly Agree.

Sl. No.	Practices	Alternatives				
I	Strategic Direction and Policy	1	2	3	4	5
1	Strategic direction of the bank governing risk management					
2	Level of flexibility of the risk strategies to cope with the other risk					
3	Degree of caution of the management in framing risk management policy.					
4	Risk management policy clearly identified different kinds of risk confronted by the bank					
5	Revision of the policy and procedure					
6	Strategy for implementing policy and practices at branch level					
II	Risk Tackling	1	2	3	4	5
1	Existing risk management system access the risks					
2	Monitoring and reporting system					
3	System of internal control and verification					
4	Integration overall risk controlling system					
5	Treatment of compliance issue					
III	Risk Profile and Communication Flow.	1	2	3	4	5
1	Risk measurement tools fit to the risk profile					
2	Backup data facility of your bank					
3	Communication flow through the scalar chain					

	by the executive management.					
6.4	The staff of the bank is provided with the risk management policy document.					
6.5	There is a highly effective system that reviews risk management and performance of bank on a regular basis.					
6.6	The bank gives training programme on risk identification and risk management as per risk management policy.					
6.7	The bank ensures the recruitment of highly experienced personnel for managing its risks.					
6.8	The risk management policy of the bank is communicated effectively from top to bottom of the scalar chain.					
6.9	Banks ensure the effectiveness of their risk management practices.					
6.10	The risk management policy of bank is flexible with the dynamic situation.					
6.11	There is a positive shift in efficiency of risk management after the application of Basel II and Basel III Accord.					
6.12	The bank is equipped with adequate capital to meet its risk profile in micro and macro situation.					

7. Do you have a separate risk management cell in this branch?

Yes No

8. Does the compliance office timely report the unusual situation to the top - level management?

Yes No

9. Indicate to what extent you agree/disagree with the following statements on Risk Management Process.

Where 1- Strongly Disagree, 2 - Disagree, 3 - Neutral, 4 - Agree and 5 - Strongly Agree.

Sl. No.	Components/Elements	Alternatives				
		1	2	3	4	5
Risk Understanding		1	2	3	4	5
9.1	Common understanding of risk management across the bank.					
9.2	Risk management responsibility is clearly set out and understood throughout the bank.					
9.3	Accountability for risk management is clearly set out and understood throughout the bank.					
9.4	Bank has proper system for understanding various types of risks.					
9.5	Top level management communicates risk management policy effectively.					
Risk Identification		1	2	3	4	5
9.6	Bank carries out a comprehensive and systematic identification of its risk relating to each of its declared aims and objective.					
9.7	Bank finds it difficult to identify, and prioritize its main risk.					
9.8	Changes in risk are recognized and identified with the bank's rules and responsibilities.					
9.9	Bank is aware of the strength and weaknesses of the risk management system of the other bank.					
9.10	Bank has developed and applied procedure for the systems of the other banks.					
Risk Assessment and Analysis		1	2	3	4	5
9.11	Bank assesses the likelihood of risk occurrence.					
9.12	Bank risks are assessed by using quantities technique.					
9.13	Bank risks are assessed by using qualitative technique.					
9.14	Bank analysis and evaluate opportunities to achieve the objective of the organization.					
9.15	Bank response to analyzing risks includes an assessment of the cost and benefits of each relevant risk.					
9.16	Bank response to analyses risks including prioritizing of risk and risk treatment.					
9.17	Bank undertakes a credit worthiness analysis before granting loan.					

9.18	Bank use modern tools and technique to assess and analysis risks with the aid of information technology.					
Risk Monitoring and Controlling		1	2	3	4	5
9.19	Monitoring the effectiveness of risk management is an integral part of routine management reporting.					
9.20	Level of control by the bank is appropriate for the risk that it faces.					
9.21	The bank has adopted a standard reporting system					
9.22	Reporting and communication process of the bank for the effective management of risk					
9.23	The bank effectively monitors the credit limit of counterparty.					
9.24	The bank reviews the country rating on a regular basis.					

10. What type of training is suitable for effective risk management?

Training on procedure level Training on legal issue

Training on system management

Training on H R management

11. To what extent do you agree that BASEL recommendation and RBI guidelines in this matter have helped in minimizing risk?

Grate extent

Reasonable extent

Not to significant extent

Does not make any difference

13. Which area of risk management system needs further improvement?

Credit Risk Management

Operational Risk Management

Liquidity Risk Management

12. Please tick the important methods used for following Processes.

a) Risk Identification

Risk Identification Techniques	Yes	No
Audit Reports		
Risk Survey		
Probability and Impact Matrix		
Root Cause Analysis		
Scenario Analysis		
SWOT Analysis		
Documentation Review		
Checklist Analysis		

b) Risk Monitoring and Controlling

Risk Monitoring and Control Techniques	Yes	No
Reserve Analysis		
Credit Worthiness Analysis		
Root cause Analysis		
Risk Data Quality assessment		
Cost and Benefit Analysis		
Reports(audit and financial)		
Variance and Trend Analysis		
Risk Reassessments		
Staff Supervision and Training		

c) Risk Mitigation

Risk Mitigation Techniques	Yes	No
Collateral Arrangement		
Provisions		
Internal Rating		
Derivatives		
Hedging and Swaps		

Securitization		
Balance Sheet Netting		
Insurances		
Grantee		

Part – III Risk Contributory Factors and Risk Effect

13. Indicate to what extent you agree/disagree with the following statements related to risk contributory factors.

Where 1- Strongly Disagree, 2 - Disagree, 3 - Neutral, 4 - Agree and 5 - Strongly Agree.

Sl. No.	Risk Contributory Factors	Alternatives				
		1	2	3	4	5
13.1	Management not regularly reviews performance.					
13.2	Inadequate auditing procedure					
13.3	Ineffective risk management frame work					
13.4	Rigid risk management strategy					
13.5	Internal audit does not help to find the risk					
13.6	Bank is not adopting standard reporting system					
13.7	Employees have unawareness about their duties and roles in dealing with risks					
13.8	Risk management training is not effective to handle risks					
13.9	High Absenteeism of employees.					
13.10	High level of omission and error					
13.11	Function of human resources department is not well.					
13.12	Working environment is not healthy and supportive					
13.13	Bank does not adopts modern risk measurement technology					
13.14	Bank management is not cooperative					
13.15	There is no smooth flow of communication.					
13.16	Bank system(ICT) is not reliable					
13.17	Compliance office does not report the unusual situation promptly					

13.18	Bank does not have good data storage and backup system					
13.19	The bank is not well protected from physical damage					
13.20	Risk scenario is not useful to manage the risk					

14. How do you rate the following effects of different types of risks on there level of significance?

Where 1 - Very Insignificant, 2 - Insignificant , 3 - Modernly Significant , 4 - Significant and 5 - Very Significant .

Sl. No.	Effects of Risk	Alternatives				
		1	2	3	4	5
Effects of Credit Risk		1	2	3	4	5
14.1	Reduce profitability					
14.2	Increase NPA					
14.3	Financial distress					
14.4	Affect reputation					
Effects of Operational Risk		1	2	3	4	5
14.5	Damage to bank Physical assets					
14.6	Affect reputation					
14.7	Interruption of banking business					
14.8	Creates legally liable to banks					
Effects of Liquidity Risk		1	2	3	4	5
14.9	Banks stability					
14.10	Affect goodwill					
14.11	Business interruption					
14.12	Disputes and legally liable					

Part - IV. Risk Governance Practices and Risks and Profitability Analysis

15. Indicate to what extent you agree/disagree with the following statements.

Where 1- Strongly Disagree, 2 - Disagree, 3 - Neutral, 4 - Agree and 5 - Strongly Agree.

Sl. No.	Risk Governance Practices	Alternatives				
		1	2	3	4	5
15.1	Proper co ordination of all other departments					
15.2	Empowerment of risk oversight committee					
15.3	Rules and responsibilities of board level committees					
15.4	framing of policy by the RMC					
15.5	Transparent governance procedures					
15.6	Programmers on empowerment of risk oversight committee					
15.7	Co-ordination of all departments for Effective RG.					
15.8	Usage of modern technologies to minimize risks effects					
15.9	Risks culture stay in line with the objective					
15.10	Internal audit reports and external expert report					
15.11	Regular review of the risk strategy					
15.12	Risk management policies are framed by the RMC					
15.13	Proper handling of compliance function					
15.14	Integrity and ethical dealings					
15.15	Risk metrics gives a clear idea about risk appetite					
15.16	Risk tolerance is earmarked with the CEO					
15.17	Risk management committee is composed of skilled members					
15.18	Risk Management Function your bank is looked after by the chief risk officer					

Risks and Profitability Analysis

16. Indicate to what extent you agree/disagree with the following statements.

Where 1- Strongly Disagree, 2 - Disagree, 3 - Neutral, 4 - Agree and 5 - Strongly Agree.

Sl. No.	Statements	Alternatives				
		1	2	3	4	5
Credit Risk Analysis						
16.1	The credit risk strategies set by the board of directors are very effectively.					
16.2	Bank gathers information on a borrower's credibility					

	from other source.					
16.3	Board periodically reviews the credit risk strategy and credit risk policy and reports.					
16.4	Bank has Credit Risk Management Committee to monitor credit risk management function.					
16.5	Bank has a credit risk rating policy across all type of credit risk activity.					
Operational Risk Analysis		1	2	3	4	5
16.6	Effectiveness of the internal audit tackles operational risk.					
16.7	Excising management system to monitor the operational risk policy is very effectively.					
16.8	Operational risk management policy identifies the people, process and system of the bank.					
16.9	The excising systems and procedures developed for the effective management of operation risk.					
16.10	Effectiveness of the internal audit tackles operational risk.					
16.11	Degree of clarity of the role of individual in banking operation and risk management.					
Liquidity Risk Analysis		1	2	3	4	5
16.12	Management Board defines the liquidity risk strategy clearly (short and long term).					
16.13	Policy to flexible capable to deal with various internal and external conditions.					
16.14	Bank establishes Assets and Liabilities Management Committee.					
16.15	The banks regularly prepare periodic report of liquidity risk.					
16.16	Banks have used adequate tools foe liquidity management.					
Profitability Analysis		1	2	3	4	5
16.17	Various risks significantly influence the profitability of the bank.					
16.18	The rules and regulations adopted by the board of directors affect the profitability of the bank					
16.19	The economic changes influence on the profitability of the bank.					
16.20	Frequent changes in the existing norms by the regulatory authority relating to the bank affect to the profitability.					

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