



# International Journal of Financial Management and Economics

P-ISSN: 2617-9210  
E-ISSN: 2617-9229  
IJFME 2024; 7(2): 663-668  
[www.theeconomicsjournal.com](http://www.theeconomicsjournal.com)  
Received: 10-08-2024  
Accepted: 16-09-2024

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## An impact on risk management in public banking sector

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DOI: <https://doi.org/10.33545/26179210.2024.v7.i2.435>

### Abstract

This study looks at the importance of risk management in the banking industry, with a special emphasis on the Indian public sector. It draws attention to the ever-changing operating environment and the growing intricacy of bank operations, both of which call for strong risk management procedures. Credit risk, market risk, and operational risk are all emphasized in the study's classification of hazards into financial and non-financial categories. Despite modest increases in liquidity ratios in recent years, it talks about banks' precarious liquidity positions and Ratio analysis for top 3 public sector banks emphasizes the significance of efficient cash flow management. From 2019–20 to 2023–24, the study examines the strategies and practices used by Indian scheduled commercial banks to control market and liquidity risks. According to a comparative investigation, PSBs risk management practices are not significantly different from one another. The results indicate that, especially in an increasingly liberalized economic climate, successful risk management is critical to the long-term viability of banking institutions. The study comes to the conclusion that in order for banks to prosper in a turbulent financial environment, they must implement thorough risk control procedures. Diversification of the credit portfolio is particularly important in order to reduce concentration credit risk. It is also advised that specialist risk management committees be established in order to improve strategic decision-making and oversight in risk management procedures.

**Keywords:** Risk management, public banking sector, credit risk, market risk, operating risk

### Introduction

Risk management in the public banking sector is a critical function that ensures the financial stability and resilience of these institutions. Public banks face particular difficulties and risks because of their crucial role in the economy. Good risk management techniques are necessary to preserve public trust, protect depositor money, and defend the financial system as a whole. Public banks may navigate a complex and dynamic environment, supporting sustainable growth and advancing economic development, by recognizing, evaluating, and minimizing potential risks. To put it simply, anticipating a risk and taking proactive measures to manage it is always preferable to waiting for it to happen. Risk management is a process that involves locating, evaluating, and dealing with specific risks. This is an ongoing procedure that is useful as a tool for decision-making. The Higher Education Funding Council for England (HEFCE) states that they increase the likelihood that good things will occur in addition to lowering the probability that negative things will occur. According to the "Prospect Theory" paradigm, an individual is more likely accept a risk to experience an assured loss.

The public banking industry, which is essential to social welfare and economic stability, is exposed to a huge range of hazards which could have a substantial effect on its techniques and financial stability. These difficulties call for a strong and proactive approach to risk management, ranging from operational risk and reputational risk to credit risk and market risk. The global financial scene has changed dramatically in recent years due to rising volatility, shifting regulations, and advances in technology. These elements have increased the necessity for public banks to implement advanced risk management techniques. By successfully recognizing, evaluating, and reducing these risks, public banks can preserve their resources, defend the interests of depositors, and support long-term economic expansion.

Three of India's most well-known public sector banks, SBI, BOB, and PNB, have recently made great progress. Due to a bullish trend in the banking industry as a whole and favourable market sentiment, their share values have skyrocketed. Convenient services including toll-free balance inquiries and statement requests via missed calls and SMS are being introduced by these banks, who are actively embracing digital transformation. But issues still exist. Their lending portfolios have been influenced by the new RBI restrictions for infrastructure projects that are still in the planning stages. Furthermore, this public sector behemoths' environment is still being shaped by the state of the world economy and growing competition from private sector banks and fintech firms.

**Objectives of the study**

The study aims to achieve the following.

- To determine the risks that the public banking sector faces.

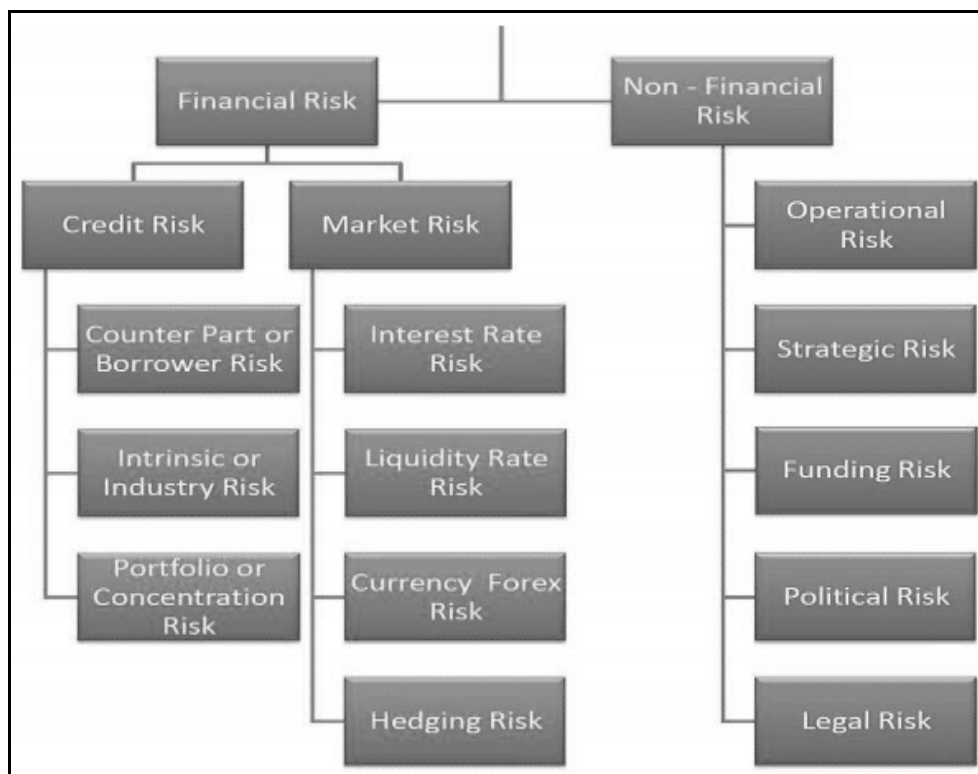
- To know the risk management system and procedure.
- To investigate the risk management strategies used by the public banking sector.

**Types of risk in public banking sector**

Risk management has become extremely dynamic nature of the operating environment and the growing complexity of bank operations have made risk management crucial, particularly in the financial sector. The greatest degree of risk can be represented by the probability that one or more contingent occurrences will have a negative effect on a bank's financial health. Many additional criteria can also be very important, even if the metrics used to evaluate a bank's health can vary. Examples of these measures are market value of shares and net interest margin.

**Types of risk**

- Financial Risk
- Non-Financial Risk



**Financial risk**

Any business transaction a bank undertakes that carries a risk of loss gives rise to financial risk. Credit risk and market risk are two more categories into which this risk falls.

**Credit Risk**

The possibility of a lender suffering financial loss in the event that a borrower defaults on a loan or other debt is known as credit risk. This risk results from the potential for a borrower to default, which can happen for a variety of reasons, including unanticipated events, financial hardships, and downturns in the economy. In order to determine whether a borrower will be able to repay the loan, lenders use a variety of techniques, such as credit scoring, financial analysis, and collateral requirements, to assess credit risk.

Credit risk management consists of the following steps:

- a) Credit rating or scoring system is used for

- measurement;
- b) An estimate of likely loan losses is used for quantification;
- c) Scientific pricing is used for science;
- d) An effective loan review process and portfolio management are used for control.

**Market Risk**

Market risk is the possibility that a bank could lose money as a result of changes in the market. Commodity and currency prices, as well as movements in the equity and interest rate markets, may have a negative effect on the value of holdings that are on or off the balance sheet. A bank's profits and capital are impacted by price volatility brought on by changes in market interest rates, stock prices, foreign exchange rates, and securities. This is known as market risk.

### Non-Financial Risk

Non-Financial risks do not directly involve cash losses but nonetheless have the potential to affect an organization's operations and success are known as non-financial risks. Numerous variables, including as operational considerations, strategic choices, reputational problems, legal issues, and environmental concerns, could give rise to these hazards

### Operational Risk

Human mistake, natural disasters, and financial fraud are ever-present hazards to institutions. The recent WTC disasters and the Barings controversy have increased public awareness of the possible financial losses linked to operational risk. The two primary factors that have contributed to these risks are the exponential expansion in technology use and the interconnectivity of the world's financial systems. The possibility of losing money as a result of both external events and inadequate or ineffective internal systems, personnel, and procedures is known as operational risk.

### Review of Literature

#### Amir Sabripoor, *et al* 2024 <sup>[1]</sup>

The banking industry faces complex difficulties when it comes to overseeing the cash positioning plan for Automated Teller Machine (ATM). This approach calls for a thorough analysis of logistical expenses, inventory regulations, and replenishment vehicles routing. The availability of cash at each branch is a crucial factor in banks' commitment to providing consumers with the best services possible, just like other enterprises. Cash-in-Transit (CIT) companies usually enable this, although they run the danger of robberies with serious repercussions when they move money between branches. To mitigate these risks and associated costs, CIT firms have turned to fixing Vehicle Routing Problems (VRP). This study uses the proposed cooperative mathematical VRP model to optimize CIT's truck routing, which includes two objective functions that attempt to minimize risk and expense. The results section begins with a study of a real bank's transportation system, which shows a trade-off between risk and cost. This emphasizes how important it is for money transfer routing models to incorporate risk concerns. After that, the cooperative method model is used to evaluate how well CIT firms are able to optimize vehicle routing. Numerical results from robust optimization show that collaboration among banks increases, leading to cost and risk reduction synergies.

#### Dawane Sudarshan Kishanrao 2023 <sup>[2]</sup>

Risk is the primary factor influencing financial performance. The financial system would be much more straightforward if there was no risk. However, the actual world is full of risks. For financial institutions to thrive in an extremely unpredictable world, risk management must be done effectively. The dynamics of risk management will surely be the foundation of banking in the future. In the long term, only banks with an efficient risk control mechanism will remain in the market. A banking institution's long-term success depends on adequate risk management, of which the efficient management of credit risk is a dangerous part. Due to the nature of their operations, banks are naturally exposed to the oldest and largest risk: credit risk. However, this has

gained more importance recently for a number of reasons. Among these, the global trend of economic liberalization is the most prominent. India's economic trend toward a market-driven economy is not unique. The empirical association between the concentration credit risk profile and non-performing assets (NPAs) of public sector banks demonstrates that better credit portfolio diversification improves the prospects of lower concentration credit risk.

#### B. Brahmiah 2022 <sup>[3]</sup>

This paper's main goal is to analyze the methods and procedures used by Indian scheduled commercial banks (SCBs), which include both public sector banks (PSBs) and private sector banks (PVSBS), to manage market risk and liquidity risk over the five years from 2016–17 to 2020–21. Comparing the methods used by public sector banks (PSBs) and private sector banks (PVSBS) to manage market and liquidity risk is the other goal. The study's other goal is to examine the approaches taken by SCBs in their risk management procedures. A sample of six of the biggest banks from PSBs and PVSBS is selected in order to examine the risk management procedures. The findings show that there are no appreciable differences between PVSBS and PSBs in terms of their policies and procedures for assessing, evaluating, monitoring, regulating, and taking risks related to market and liquidity risk. Those interested in studying the banking sector's risk management will find this material useful and pertinent. This study comes under descriptive form and used in secondary source of data.

#### Wulan Rahma Dewi 2021 <sup>[4]</sup>

The bank's financial performance is influenced by market risk and operational efficiency, but not by credit risk, capital, or liquidity. Effective risk management is essential for companies. The purpose of this study is to examine and assess the effects of capital, liquidity, credit risk, market risk, and operating efficiency on bank financial performance. This study's research design is quantitative. This research uses data from private banks that will be listed on the Indonesia Stock Exchange (IDX) in the next three years. Technical analysis use multivariate linear regression to analyse secondary data. The results show that the bank's financial success is greatly impacted by both market risk and operational effectiveness. The bank's financial performance is not greatly impacted by money, capital, liquidity, or credit risk.

#### N. Shah, *et al* 2020 <sup>[5]</sup>

Credit risk management must be practiced by institutions to maintain exposure to credit risk within reasonable and acceptable parameters. Credit risk, which increases the probability of loss, develops when borrowers default on loans or fail to meet their contractual obligations. To measure credit risk management, researchers examined non-performing asset, credit adequacy, and return on asset data from the top five public and private sector banks based on their balance sheet assets for the 2018–19 fiscal year. To evaluate the public and private sector banks' credit risk efficiency, researchers have performed regression analysis between NPA, CAR, and ROA. Research shows a significant relationship between credit risk management and bank performance. Managing credit risk can assist us in assessing banks' performance and credit risk effectiveness.

**Dilek Bulbul, et al 2019** <sup>[6]</sup>

Advanced risk management techniques are used as a result of bank rivalry, whereas credit portfolio modelling is facilitated but credit risk transfer is impeded by loan market sector concentration. Banks employ a variety of risk management techniques, each with a distinct level of complexity. The factors that influence the selection of risk-management techniques are examined in this research. The selection of risk management tools is influenced by two main factors in a theoretical model: sector concentration in the loan market and bank competitiveness. We experimentally evaluate the predictions of our model using manually collected data on the credit risk management of 249 German savings institutions. Our hypothesis is supported by the results: Banks are forced to adopt sophisticated risk management techniques by competition. Credit portfolio modelling is encouraged by sector concentration in the lending market.

**Research Methodology**

Secondary Data: Information that has already been gathered and examined by someone other than the user is referred to as secondary data. Books, periodicals, journals, newspapers, and other publications are common sources of secondary data. Secondary data gathering was used in this investigation. Secondary sources have provided the data used in this investigation. The sources include journals, websites, and the bank's annual reports.

**Sample Design**

Data collection and analysis can be done in an organized manner with descriptive research designs that make use of standardized instruments.

**Statistical tool**

In order to efficiently evaluate and condense data, statistical tools employ ratio analysis.

**State Bank of India (SBI)**

To evaluate SBI's financial analysis in cash, quick, and current ratios. The bank's capacity to fulfil short-term obligations is indicated by these ratios, which quantify liquidity.

| Year      | Current Ratio | Quick Ratio | Cash Ratio |
|-----------|---------------|-------------|------------|
| 2023-2024 | 1.0549        | 0           | 0          |
| 2022-2023 | 1.0515        | 0.539       | 0.034      |
| 2021-2022 | 1.0503        | 0.943       | 0.097      |
| 2020-2021 | 1.0521        | 0.539       | 0.086      |
| 2019-2020 | 1.0525        | 0.162       | 0.033      |

**Interpretation**

Over the previous five years, the company's liquidity position seems to have been generally satisfactory, notwithstanding minor variations in its capacity to fulfil short-term obligations. The management of the company should keep a careful eye on its liquidity ratios to make sure that it can pay its short-term debts on time and maintains a sound balance between its current assets and liabilities.

**Bank of Baroda (BOB)**

To evaluate BOB's financial analysis in cash, quick, and current ratios. The bank's capacity to fulfil short-term obligations is indicated by these ratios, which quantify

liquidity.

| Year      | Current Ratio | Quick Ratio | Cash Ratio |
|-----------|---------------|-------------|------------|
| 2023-2024 | 0             | 0           | 0          |
| 2022-2023 | 0.539         | 0.539       | 0.034      |
| 2021-2022 | 0.943         | 0.943       | 0.097      |
| 2020-2021 | 0.539         | 0.539       | 0.086      |
| 2019-2020 | 0.162         | 0.162       | 0.033      |

**Interpretation**

Over the previous five years, there has been a notable decline in the company's liquidity position. The cash ratio, quick ratio, and current ratio have all continuously decreased, suggesting a declining capacity to satisfy short-term obligations with current assets. All things considered; the company's deteriorating liquidity ratios raise questions regarding its financial stability. It might have to raise its current assets, decrease its current liabilities, or better manage its cash flow in order to strengthen its liquidity situation.

**Punjab National Bank (PNB)**

To evaluate PNB's financial analysis in cash, quick, and current ratios. The bank's capacity to fulfil short-term obligations is indicated by these ratios, which quantify liquidity.

| Year      | Current Ratio | Quick Ratio | Cash Ratio |
|-----------|---------------|-------------|------------|
| 2023-2024 | 0.42          | 0.35        | 0.18       |
| 2022-2023 | 0.44          | 0.36        | 0.19       |
| 2021-2022 | 0.46          | 0.38        | 0.20       |
| 2020-2021 | 0.48          | 0.39        | 0.22       |
| 2019-2020 | 0.49          | 0.34        | 0.17       |

**Interpretation**

Although it has somewhat improved over the last five years, the company's liquidity position is still quite fragile. Its ability to satisfy short-term obligations with its current assets has been steadily improving, as seen by the slight rising trend of all three liquidity ratios: the cash ratio, quick ratio, and current ratio. The company's liquidity position has slightly improved overall, but it is still precarious. In addition to taking action to improve cash flow management and lessen its dependency on short-term debt, the company should keep a careful eye on its liquidity ratios.

**Findings**

- The survival and success of banks depend on effective risk management.
- Credit, market, liquidity, and operational hazards are among the many kinds of risks to which banks are subject.
- The efficacy of risk management is influenced by a bank's capitalization, size, operations, and systemic significance.
- Improved bank performance is correlated with strong credit risk management.
- Proactive risk management is necessary due to the financial sector's rapid developments.
- Forming a special committee is advised to provide efficient supervision.
- Diverse credit holdings help reduce NPAs and concentration risk.



## Suggestions

- Financial institutions need to consistently assess and revise their risk management structures.
- It is crucial to recognize and deal with possible weaknesses.
- Having enough capital is vital for absorbing losses.
- It is essential to guarantee the capability to fulfill obligations.
- It is important to prevent and alleviate operational losses.
- A specialized risk management committee can offer valuable supervision.
- Reducing concentration risk and lessening the effects of defaults is crucial.

## Conclusion

Risk management is essential for public banking institutions to preserve financial stability, protect depositor money, and defend the financial system overall. Public banks are able to accomplish their social and economic goals, maintain public confidence, and navigate a challenging and complicated environment by effectively identifying, evaluating, and mitigating a variety of risks. By putting in place an efficient risk management process, these institutions may support economic development, encourage sustainable expansion, and provide essential financial services to their communities. The quantity and calibre of the balance sheet, the intricacy of the operations, the expertise of the technical personnel, the condition of the management information system, and other factors should all be taken into consideration when designing a bank's risk management duties. Risk-adjusted rates of return on capital and internal rating systems are shown to be significant factors when implementing risk management approaches. The efficacy of risk measurement in banks is influenced by the branch operations' computerization, Management Information System, and net functioning.

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