IJERMT

International Journal of Engineering Research & Management Technology
(Peer-Reviewed, Open Access, Fully Refereed International Journal) ISSN: 2348-4039
Volume 11, Issue-2 March-April- 2024 Impact Factor: 7.09
Email: editor@ijermt.org www.ijermt.org

Analyzing the Impact of Mergers and Acquisitions on Financial Risk and Performance in Indian Public Sector Banks: A Study of Acquirer Banks

Surekha*

Research Scholar

Amity University Haryana, India.

Email: surekha2761@gmail.com

Dr. Ajay Kumar Pandey

Associate Professor

Faculty of Management Studies & Behavioural Sciences

Amity university Haryana, India.

Email: akpandey69@ggn.amity.edu

Abstract: This study examines the effects of mergers and acquisitions (M&As) on financial risk and performance in Indian public sector banks, with particular emphasis on the acquiring institutions. This research analyzes pre- and post-M&A financial parameters, including as profitability, liquidity, asset quality, and capital adequacy ratios, with a comprehensive dataset that covers a decade. Utilizing financial ratio analysis and econometric methods, we evaluate the impact of mergers and acquisitions on critical risk indicators, including credit risk, operational risk, and market risk, to comprehend how these transactions affect the financial stability and resilience of acquiring institutions. The study assesses alterations in shareholder value and operational efficiency following mergers to ascertain if M&As constitute a viable strategy for long-term growth and risk mitigation in the Indian banking sector. The findings are anticipated to provide significant insights for policymakers, banking executives, and stakeholders, elucidating the efficacy of mergers and acquisitions as a mechanism for fortifying public sector banks in the context of changing financial and regulatory environments.

Key words: Mergers and Acquisitions (M&As), Financial Risk, Banking Performance, Public Sector Banks, Acquirer Banks, Indian Banking Sector, Credit Risk

1. Introduction

In the last several decades, the banking industry in India has experienced revolutionary shifts as a result of regulatory reforms, economic liberalization, and globalization. Banks must implement strong strategies to stay competitive, resilient, and sustainable in this new financial ecosystem that has emerged as a result of this change. Mergers and acquisitions (M&As) have rose to prominence among these strategies, particularly in the public sector. The goal of these consolidations is to establish institutions that are stronger, more efficient, and better capitalized. To address problems with inadequate capital, high levels of non-performing assets (NPAs),

and operational inefficiencies, the Indian government and regulatory bodies, like the Reserve Bank of India (RBI), have aggressively encouraged mergers and acquisitions (M&As) among public sector banks. This would help achieve economic stability and national growth goals. The nation's public sector banks are vital to the Indian economy since they lend money to essential industries, help people gain access to banking services, and boost both social and economic growth. But regulatory restraints, low profitability, and exposure to risky industries provide special difficulties for these institutions. In light of these factors and the demands of globalization, mergers and acquisitions (M&As) are being considered more and more by politicians and bank executives as a way to build institutions that can endure economic shocks, boost efficiency, and fortify capital structures[1]. Although mergers and acquisitions (M&As) seem to have good intentions, how they affect the financial risk profile and performance of the banks that acquire them is still up for discussion and study. With an emphasis on the acquiring banks involved in these deals, this research intends to delve into the complex ways in which mergers and acquisitions affect the financial risk and performance of public sector banks in India. Profitability, liquidity, asset quality, and capital adequacy ratios are some of the financial performance indicators that we intend to thoroughly examine both before and after the merger. To determine if mergers and acquisitions (M&As) help reduce risk or leave acquirer banks more exposed, the study looks at how M&As affect risk indicators such credit, operational, and market risk. We hope to get some answers to some important questions through this analysis: Does mergers and acquisitions improve the efficiency and profitability of the acquiring bank? Does financial stability and resilience improve after these mergers, and how do these mergers affect exposure to operational risk and credit risk? What does this research mean for the future of India's banking system as a whole?

The effect of mergers and acquisitions on credit risk is an important factor to consider. Mergers and acquisitions (M&As) can either spread out or magnify credit risk, depending on the makeup of the combined assets. This is especially true for India's public sector banks, which commonly have a high proportion of nonperforming loans (NPAs) since they lend to high-risk industries. We seek to determine if, after a merger, acquiring banks see a decline in nonperforming assets (NPAs), which would mean better asset quality and credit risk management, or if M&As unintentionally increase credit risk by exposing them to more default-prone industries. Differences in organizational culture, technological platforms, and operational processes can amplify operational risk throughout the integration phase of mergers and acquisitions, which is another important area to concentrate[2]. We look at the operational efficiency of the acquiring banks after the merger to see if they have easier processes or problems that hurt their performance. The impact on market risk and financial stability is another metric used to assess mergers and acquisitions. Changes to the bank's risk appetite, the makeup of its portfolio, and its exposure to the market can all cause market risk to fluctuate after a merger. In order to determine if the merged banks are better able to weather market fluctuations and satisfy regulatory capital standards, we look at measures like capital adequacy ratios. The study also looks at how shareholder value and stakeholder confidence changed after the merger, since these things have a big impact on a bank's capacity to get investments and keep a good reputation in the market. Politicians, regulators, and bank CEOs can all benefit from this study's conclusions. The findings of this study can be used by policymakers to shape merger and acquisition policies and regulatory frameworks, making sure that the consolidation efforts are in

[1]Kumar, S., Sinku, S., Dubey, A., Chauhan, B., Kumar, M., & Sangya, S. (2024). Impact of merger & acquisitions on financial performance of public sector banks: An application of the CAMEL model. *Journal of Informatics Education and Research, 4*(1), 1455-1475.

[2]Arshi, & Vaishali. (2024). Assessment of financial performance post mergers and acquisitions: Evidence from the Indian banking sector. *International Journal of Business Forecasting and Marketing Intelligence, 9*(4), 408-422.

line with the larger objectives of financial inclusion and economic stability. Financial authorities, such as the Reserve Bank of India (RBI), rely on information gleaned from studies of mergers and acquisitions (M&As) to develop standards for the safe and long-term consolidation of financial institutions[3]. Effective integration processes, risk management techniques, and performance criteria that support long-term growth are some of the important aspects that this study identifies as contributing to successful mergers and acquisitions (M&As). These variables are especially relevant for banking executives. The next section of the article is structured as follows: first, a literature review on banking sector M&As; second, an examination of theoretical viewpoints and empirical results regarding the effects of M&As on financial risk and performance. The study approach is then thoroughly explained. This process involves analyzing financial ratios, using econometric models, and conducting statistical tests to compare the pre- and post-merger performance of the acquiring banks. Our analysis reveals that mergers and acquisitions have had a significant impact on profitability, asset quality, and risk measures; we proceed to present and analyze these findings. A summary of these results, together with suggestions for policy and consequences for future merger and acquisition tactics in the Indian banking industry, are presented in the discussion section. The conclusion concludes the study by summarizing its main points and outlining potential future research directions. This study seeks to add to the existing body of knowledge on the effects of mergers and acquisitions (M&As) in developing nations by investigating the inner workings of these deals and what they mean for the financial risk and performance of country's public sector banks. Our research aims to enhance financial stability and boost India's economic growth by establishing a banking industry that is both competitive and robust enough to meet the challenges of an ever-evolving economic landscape[4].

1.1. Background

Credit, financial inclusion, and social and economic progress are all propelled by India's public sector banks, which play an essential role in the country's economy. However, they are confronted with obstacles like as substantial non-performing assets (NPAs), poor profitability, and limited capital. With the goal of creating more robust and efficient institutions that can better manage risks and compete in today's globalized economy, the Indian government and the Reserve Bank of India (RBI) have advocated for mergers and acquisitions (M&As) as a means to combine these banks. Mergers and acquisitions are thought to boost operational efficiency, profitability, and capital reserves. On the other hand, they bring new difficulties, such integrating different company cultures, coordinating risk management strategies, and synchronizing technological infrastructures. Although mergers and acquisitions (M&As) have the ability to improve financial metrics for acquirer banks, they also entail the risk of operational and credit risk in the post-merger phase. The purpose of this research is to analyze how mergers and acquisitions affect the profitability, asset quality, and capital adequacy of public sector banks in India that are involved in the acquisition process. Policymakers and banking executives can use the findings to better structure mergers and acquisitions (M&As) for long-term growth and financial stability.

1.2 Introduction to Mergers and Acquisitions (M&As) in Banking

[3]Sant, S., & Bhattacharya, M. (2020). An insight into banking sector mergers and acquisitions: BRICS nations. *International Journal of Economics and Financial Issues, 10*(5), 37-38.
[4]Karthikeyan, K., & Hema, V. (2020). An analysis of financial performance of selected public sector banks before merger using the CAMEL model. *International Journal of Scientific Engineering and Science, 4*(4), 87-94.

Financial institutions around the world use mergers and acquisitions (M&As) as a significant instrument for risk management, capital strengthening, and operational efficiency improvements. Mergers and acquisitions (M&As) are considered as crucial tools to tackle financial and risk management issues, especially within the banking sector. Banks throughout the world are looking into mergers and acquisitions (M&As) as a way to consolidate resources and create more robust organizations in order to manage financial stability, maximize performance, and mitigate operational and credit risks. Public sector banks (PSBs) in India have been struggling financially for a long time due to issues like low profitability, capital limits, and high levels of non-performing assets (NPAs). One strategic instrument to deal with these difficulties is mergers and acquisitions. Mergers and acquisitions (M&As) are authorised by the Reserve Bank of India (RBI) and the Indian government with the goal of making banks more secure by merging them into bigger, more diverse institutions. In addition to providing a chance for expansion, these acquisitions help acquirer banks mitigate critical long-term financial concerns including liquidity, credit, and market risk[5].

Objectives of M&As in Banking: Financial and Risk Factors

1. **Capital Strengthening and Financial Resilience:** In the banking industry, bolstering the acquirer bank's financial health is a primary goal of mergers and acquisitions. Mergers help PSBs in India get the capital they need to comply with regulations imposed by the Reserve Bank of India and the Basel Committee, as many of these banks are undercapitalized. Because of their increased capital sufficiency, banks are better able to weather financial storms, take losses, and endure volatile markets. The capacity to lend money, encourage economic growth, and control risk are all improved when a bank has sufficient capital.
2. **Enhancing Risk Management Capabilities:** In order to better manage risk, mergers and acquisitions are essential tools. Credit risk is higher for India's public sector banks, particularly in industries like agriculture and infrastructure that are susceptible to economic swings. Acquiring banks can spread their risk across several sectors and countries by diversifying their loan portfolios through mergers and acquisitions. Both the concentration risk and the asset quality are reduced as a result of this diversification. In addition, banks can improve their capacity to handle operational and market risks by integrating risk management principles, procedures, and systems across merged institutions. Banks that grow through mergers and acquisitions (M&A) tend to have greater risk-adjusted returns because they are better able to weather economic and market storms[6].
3. **Improving Financial Performance and Profitability:** Mergers and acquisitions in the banking industry also aim to boost the acquiring banks' bottom lines through enhanced efficiency and profitability. Reduced operational expenses, stronger bargaining leverage, and better resource allocation are all possible outcomes of a merger or acquisition with a weaker bank. Improved cost savings, easier access to capital markets, and a stronger presence in the market are common benefits for larger banks. These elements have a beneficial effect on important financial metrics like cost-to-income ratios, return on equity (ROE), and return on assets (ROA). The success of post-merger risk management, especially with regard to financial risk management, will have a significant impact on the financial performance gains.

[5]Pandey, D. K., & Kumari, V. (2020). Effects of merger and acquisition announcements on stock returns: An empirical study of banks listed on NSE & NYSE. *The Review of Finance and Banking, 12*(1) 58-72.
[6]Manullang, S. O., Chauhan, R., & Suthar, B. (2020). A legal and economic study of selected private sector banks: Performance evaluation pre and post-merger. *Organization, 7*(11) 43-70.

4. **Liquidity and Funding Risk Management:** By pooling their resources, acquiring banks can improve their liquidity position through mergers and acquisitions. By diversifying and stabilizing financial sources, this helps lessen the likelihood of liquidity crises. Acquirer banks are also able to better control funding costs and get financing on better terms because to the enhanced access to capital markets that follows a merger. Financial stability is improved when larger banks are better able to handle liquidity challenges, which can be a result of regulatory changes and market volatility[7].

Finally, mergers and acquisitions (M&As) in banking are essential for managing and reducing financial risks, in addition to being about financial growth. The main goals of these acquisitions for the acquiring bank are to increase capital, diversify risk, boost financial performance, and control liquidity risks. The identification, evaluation, and management of financial risks during the post-merger integration phase are crucial to the success of these deals, even when mergers offer growth and increased competitiveness potential.

1.3 Risk Dimensions in Mergers and Acquisitions in Banking

When financial institutions merge or buy one another, it might put the acquiring banks in a precarious position. It is impossible to assess the combined entity's financial health and stability without first analyzing these risks. Credit, operational, and market risk are the main types of risk that mergers and acquisitions can affect. This section delves into these risks, evaluating the ways in which mergers and acquisitions might either lessen or heighten these exposures[8].

1. Credit Risk in M&As

The potential for loan default and subsequent financial losses is what causes credit risk. The credit risk associated with mergers and acquisitions might rise or fall based on the combined asset quality and credit portfolios of the combining banks.

Increased Credit Risk: Credit risk for the combined firm can be higher if one of the merging banks has a lot of troubled loans or other high-risk assets. There is a possibility that more hazardous loans will be consolidated as a consequence of this integration, which could raise the requirement for provisioning and write-offs.

Decreased Credit Risk: The flip side is that portfolio diversity can be enhanced through the merger of institutions with diverse geographical or sectoral exposures. The total exposure to defaults can be mitigated by spreading the credit risk across different industries and locations in a diversified portfolio. Loan evaluation and monitoring could be enhanced as a whole if the merged company is able to implement more advanced credit risk management systems.

[7]Gandhi, V., Chhajer, P., & Mehta, V. (2020). Post-merger financial performance of Indian banks: CAMEL approach. *International Journal of Banking, Risk and Insurance, 8*(2), 1-13.
[8]Mal, P., & Gupta, K. (2020). Impact of merger and acquisition announcements on stock return, volatility, and liquidity of acquirers: Evidence from the Indian banking sector. *Management & Accounting Review (MAR), 19*(1), 73-102.

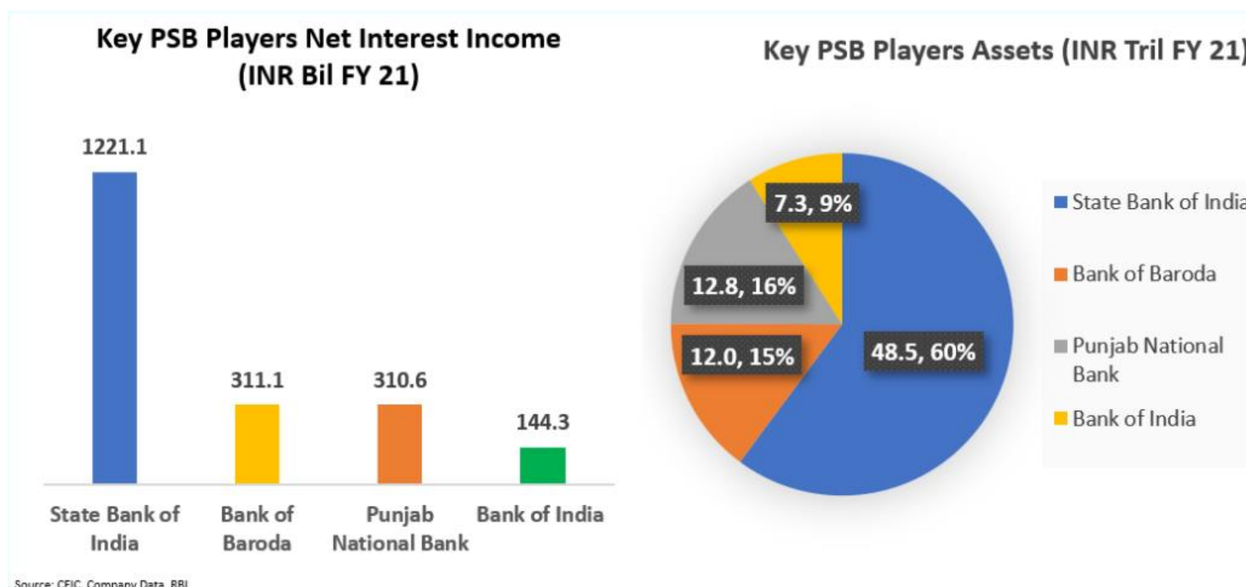

Fig. 1 KEY PSB INSIGHTS

2. Operational Risk in M&As

Loss that could occur as a result of external events or internal process or system failure is known as operational risk. Aligning different technical platforms, organizational cultures, and business processes is a common source of operational risk during mergers and acquisitions (M&As), particularly during the integration phase[9].

Increased Operational Risk: There may be major disruptions to operations as a result of merging two banks. Some of these difficulties include the need to standardize processes throughout the company, align human resources, and merge IT systems. Inadequate management of the integration process poses a risk to regular banking operations, client service, and financial reporting.

Decreased Operational Risk: Contrarily, when banks merge successfully, it opens the door to enhancing operational efficiency through the consolidation of back-office operations, the simplification of processes, and the adoption of best practices from both institutions. The operational risk can be gradually reduced over time by the larger entity's investment in state-of-the-art technology and risk mitigation methods, made possible by its greater financial resources[10].

[9]Alvarez-González, P., & Otero-Neira, C. (2020). The effect of mergers and acquisitions on customer–company relationships: Exploring employees' perceptions in the Spanish banking sector. *International Journal of Bank Marketing, 38*(2), 406-424.
[10]Zafar, M. R., & Shah, A. S. (2020). Long-run financial performance analysis of Pakistani banks after merger and acquisition in comparison with the whole banking industry. *KASBIT Business Journal, 13*(2), 62-84.

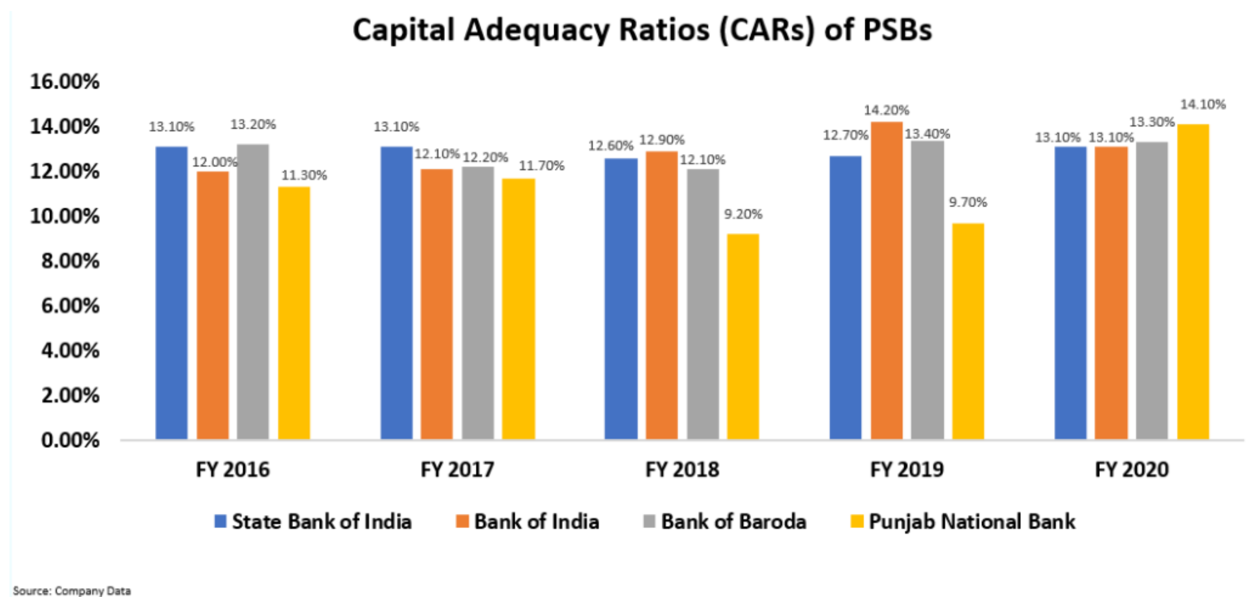

Fig. 2 Capital Adequancy Ratios (CARs) of PSBs

3. Market Risk in M&As

When interest rates, currency exchange rates, or asset values change, investors run the danger of losing money because of these movements in the market. Market risk exposure in mergers and acquisitions can vary according to the size, scale, and asset structure of the newly formed bank.

Increased Market Risk: The increased asset base that results from a merger can include securities like stocks, bonds, and foreign currency positions that are vulnerable to market swings. The combined company may be more vulnerable to market fluctuations if its exposure to these assets grows. The newly formed company may be more vulnerable to adverse market events like interest rate hikes or abrupt currency devaluations if it takes up potentially hazardous market positions.

Decreased Market Risk: On the flip side, bigger and more diverse banks might have a higher chance of hedging against market risk because of their wider asset bases. One possible outcome of a merger is a less concentrated portfolio of assets held by the combined bank. The bank's financial profile might become more stable as a result of improved hedging agreements negotiated with larger counterparties[11].

Overall Impact of M&As on Risk Exposure

Effective management of the integration process determines the extent to which mergers affect risk exposure. Instability in the financial markets, operations, and credit could result from a badly handled merger. Nevertheless, with good management, the combined firm can reap the rewards of increased capital buffers, diversified risk exposure, and improved risk management capabilities. The newly formed organization can reduce its overall exposure to financial risks by taking use of economies of scale, which allow it to use superior risk management procedures, advanced technologies, and access to bigger markets. However, minimizing risks is contingent upon the acquirer's skill in navigating integration's intricacies while upholding rigorous

[11]Singh, S., & Das, S. (2018). Impact of post-merger and acquisition activities on the financial performance of banks: A study of Indian private sector and public sector banks. *Revista Espacios Magazine, 39*(26), 25-28.

governance and risk supervision. Finally, a bank's exposure to market, operational, and credit risks can go up or down depending on the M&A deal. To ensure the newly established bank's profitability and stability in the long run, it is necessary to effectively manage these risks during integration[12].

1.4 List of Bank Mergers in India

The consolidation of the PSBs followed the 2019 announcement by Union Finance Minister Nirmala Sitaraman and the subsequent notification by the RBI through a circular on 1st April 2020. The consideration of regional variables and bad loans had a role in the decision-making process. Twelve PSBs, including the newly formed State Bank of India and Bank of Baroda, have emerged in India as a result of the mergers. This is a decrease from the 27 PSBs that were in existence in 2017. The goal is to establish three or four of India's leading multinational banks[13].

Stay up-to-date on the latest news regarding the recent mergers in India's banking sector:

Name of Acquiring Bank	Name of Banks Merged	Additional Information
Punjab National Bank (PNB)	• Oriental Bank of Commerce • United Bank of India	The Punjab National Bank acquired the Oriental Bank of Commerce (OBC) and the United Bank of India (UBI) to become India’s second-largest public sector bank in terms of branch network, trailing only after the State Bank of India (SBI). PNB has 11,437 outlets post-merger, and the bank’s overall business is Rs. 17.95 lakh crores.
Canara Bank	• Syndicate Bank	Canara Bank acquired Syndicate Bank to become the fourth-largest public sector bank in India. The branch strength of Canara Bank was brought to 10,342, with a total of 89,885 employees. The net NPA ratio for the post-merger bank is 8.77%, and the combined business will be Rs. 15.20 lakh crores. For this deal, the Government of India provided Rs. 6500 crores in capital to Canara Bank.
Union Bank of India	• Andhra Bank • Corporation Bank	The Union Bank of India acquired Andhra Bank and Corporation Bank, becoming the 5th largest PSB post the merger. The combined business base of the merged banks will be Rs. 14.59 lakh crore, with a net NPA of 6.85%. The Government of India provided Rs. 11,700 crores to UBI to facilitate this merger.
Indian Bank	• Allahabad Bank	The Indian Bank merged with Allahabad Bank and, post-merger became the seventh-largest PSB. The combined business of the bank will be Rs. 8.07 lakh crore, and the total NPA ratio of the Indian Bank is now 3.75%. The bank got Rs. 2500 crore worth of capital from the Indian government to complete this merger.

[12]Ghosh, S., & Dutta, S. (2015). Mergers and acquisitions in the Indian banking sector: Pre-post analysis of performance parameters. *International Organization of Scientific Research in Journal of Business and Management, 17*(3), 1-9.
[13]Joash, G. O., & Njangiru, M. J. (2015). The effect of mergers and acquisitions on financial performance of banks: A survey of commercial banks in Kenya. *International Journal of Innovative Research and Development, 4*(8), 101-113.

Bank of Baroda	• Dena Bank • Vijaya Bank	On 1st April 2022, the Bank of Baroda (BoB) acquired Vijaya Bank and Dena Bank, bringing the combined employee count to 85,675 and total branches to 9500+. The three-way consolidation was done to improve profitability, adopt best technology practices across amalgamating entities and improve cost efficiency, risk management, and financial inclusion among the banks.
State Bank of India	• State Bank of Bikaner & Jaipur • State Bank of Mysore • State Bank of Patiala • Bharatiya Mahila Bank • State Bank of Travancore • State Bank of Hyderabad	The State Bank of India was merged with the Bharatiya Mahila bank and its associate banks in 2017, and this consolidation brought its total branches to 22,500+ with a network of 58,000+ ATMs. The SBI group now has an asset base of Rs. 37 lakh crores and will have a consolidated customer base of 50 crores.
HDFC Bank	• HDFC	HDFC, on 4th April 2022 announced that it would merge into HDFC Bank, a move that was made to consolidate its market capitalization, making it the third-largest entity in India.

Source -https://upstox.com/saving-schemes/recent-list-of-banks-mergers-and-acquisitions-in-india/

As a consequence of bank mergers in India, four PSU banks were formed by merging various public sector banks. While the aforementioned amalgamated institutions were required to do so by the instruction, six banks—the Bank of Maharashtra, the Indian Overseas Bank, UCO Bank, Punjab & Sind Bank, Bank of India, and Central Bank of India will continue to operate separately[14].

2. Literature Review

In their analysis of public sector banks' financial health using the CAMEL model, Kumar et al. (2024) find that mergers and acquisitions can improve asset quality and capital adequacy. These deals help banks simplify their cost structures and reduce risks, particularly in capital sufficiency, which is important for regulatory compliance and being resilient to economic shocks, by removing redundancies and increasing operational scalability. Improvements in capital adequacy after a merger indicate more stability, they say, but they warn that the gains are frequently small and steady. Capital volatility may be observed in the immediate post-merger

[14]Sai, V. R. N., & Sultan, D. S. T. (2013). Financial performance analysis in the banking sector: A pre & post-merger perspective. *International Monthly Refereed Journal of Research in Management & Technology, 2*, 56-66.

phases as banks deal with integration-related expenses. This adjustment period is necessary for the consolidation of resources to be effective.

Arshi and Vaishali (2024) assess the effects of mergers and acquisitions on Indian public sector banks' profitability and find that, on average, these institutions see an increase in revenue and an improvement in efficiency after a merger. They imply that when banks grow their client bases, they are able to cross-sell more financial products, which in turn increases profit metrics. But they say the bank's ability to implement thorough risk management procedures is crucial to its long-term profitability. To reduce nonperforming assets (NPAs), for instance—an area where many public sector banks have historically struggled—strict credit monitoring procedures are crucial. For continued profitability in the post-merger environment, this study's results highlight the significance of balancing expansion with strong credit evaluation methods.

To give a comparative viewpoint, Sant and Bhattacharya (2020) expand the scope to include mergers and acquisitions in BRICS countries, which includes India. While mergers and acquisitions (M&As) improve scale efficiencies and market positioning, organisational culture and workforce integration issues can impede post-merger success, according to their research. Merging businesses frequently bring varied operating philosophies and managerial styles to Indian public sector banks, which can lead to cultural compatibility issues. Aligning organizational cultures is critical for post-merger integration efforts; failure to do so can lead to internal conflicts that lower morale and productivity. The importance of organizational alignment in turning operational efficiencies into measurable performance improvements is emphasized in this study.

Indian banks frequently experience initial instability in these indicators as they rebalance their capital structures, according to Karthikeyan and Hema (2020), who use the CAMEL model to study pre- and post-merger capital adequacy and asset quality. However, with the help of resource consolidation and optimal distribution of capital, capital adequacy tends to stabilize over time. The authors point out that when banks merge, their credit evaluation procedures get stronger, and the merged institutions use more stringent lending criteria to reduce risk. This, in turn, improves asset quality. Particularly for public sector banks attempting to overcome their past difficulties with nonperforming assets (NPAs), these results highlight the need of strong credit policies in maintaining asset quality improvements.

Pandey and Kumari's (2020) research on the relationship between stock returns and market reactions to merger and acquisition announcements sheds light on the mood of banking industry investors. Stock price increases following merger and acquisition announcements are indicative of optimistic market sentiment, but these gains may be temporary if the integration process following the combination is inadequate, according to their research. In order to stabilize market perceptions and keep stock performance steady in the face of integration risks, the authors underline the importance of clear, strategic communication from bank management during the transition. Transparent communication is an essential part of post-merger strategy, as this study highlights the possible volatility of stock performance induced by mergers and acquisitions.

Legal complications in India, including as labor laws and procedural restrictions, can hinder smooth transitions, according to Manullang, Chauhan, and Suthar (2020), who concentrate on the regulatory and legal elements of M&As. Staff reorganization is already a major challenge in public sector banks due to unionization and other forms of strong employment protections. According to the research, banks may accomplish their efficiency goals with less integration delay if regulators back measures like simplified merger and acquisition

processes and explicit instructions on personnel realignment. Their findings highlight the importance of regulating bodies actively helping merged public sector banks adjust to the new circumstances.

Gandhi, Chhajer, and Mehta (2020) have brought the importance of competent management to the bottom line after a merger has closed to light. They find that banks with good management may maximize efficiency and resource utilization by taking advantage of merger and acquisition synergies. The need of strong leadership and sound decision-making procedures in the post-merger period is highlighted by this study. By employing careful operational and risk management strategies, competent management teams boost performance in the short term and stability in the long run. Merged organizations can achieve operational efficiency more quickly through enhanced technological integration, which the authors further examine in the context of competent leadership.

While stock return volatility surges immediately following merger and acquisition announcements, investor confidence often improves as the combined bank indicates it can stabilize operations, according to Mal and Gupta's (2020) investigation of liquidity and stock return volatility after M&A announcements. According to their findings, consistent operational and financial performance from bank management is essential for addressing post-merger problems including managing stock volatility and keeping liquidity levels high. Stable liquidity management promotes a stronger market presence and supports sustainable growth, which is why this study stresses the necessity of proving financial resilience to investors.

While mergers and acquisitions (M&As) frequently lead to increased profitability indicators, Singh and Das (2018) point out that improvements in asset quality are more complex and necessitate a targeted strategy for managing credit risk, and they study both public and private sector banks. They state that, due to the NPA problems these banks have, the capacity to include strong credit evaluation procedures is crucial to the success of mergers and acquisitions in India's public sector banks. This study highlights the importance of careful post-merger risk management in achieving sustainable improvements to asset quality, even though mergers and acquisitions can open doors to financial development.

3. Methodology

Event Study Methodology for Stock Price Analysis

Objective

The goal is to assess how the market responded to merger and acquisition news by looking at the acquiring banks' unusual stock returns within the event window.

Methodology Steps

1. **Define the Event Date**
   - When the merger or acquisition is formally announced, it is considered the event date (Day 0).
2. **Select the Event Window**
   - Standard event windows encompass brief intervals (ranging from -1 to +1), medium-length periods (ranging from -5 to +5), or long durations (ranging from -30 to +30) surrounding the event date.
3. **Determine the Estimation Window**
   - In order to determine the anticipated returns under typical market circumstances, select a pre-event estimating period, such as −120 to −30 days.

4. **Calculate Abnormal Returns (AR)**
   - The discordance between actual and predicted returns is known as abnormal returns:

$$AR_{it}=R_{it}-E(R_{it})$$

   - AR_{it}: Abnormal return for stock i on day t
   - R_{it}: Actual return for stock i on day t
   - $E(R_{it})$: Expected return, often estimated using models like the Market Model:

$$E(R_{it})=\alpha_i+\beta_i R_{mt}$$

   - R_{mt}: Market return on day ttt
   - α_i, β_i: Parameters estimated during the estimation window
5. **Aggregate Abnormal Returns**
   - To determine the overall effect, calculate the Cumulative Abnormal Returns (CAR) across the duration of the event:

$$CAR_{i(t1,t2)}=\sum_{t=t_1}^{t_2} AR_{it}$$

6. **Statistical Significance Testing**
   - Determine the significance of the abnormal returns using statistical tests (e.g., t-tests).

Research Design

This study employs a mixed-methodologies strategy to examine the effects of M&As on public sector banks in India. It combines quantitative and qualitative methods to provide a full picture of how these deals have altered financial performance and the dynamics of risk. Quantitatively, the research makes use of financial data like ROA, ROE, NPA, and CAR that is sourced from public financial disclosures, reports from the Reserve Bank of India (RBI), and the yearly financial statements of the banks. For a longitudinal study that includes both short-term and long-term monetary effects, these data will cover the period from three years before the merger to three years after the merger. A comparison technique is utilized by integrating a control group of non-acquirer banks for benchmarking, ensuring accuracy in detecting M&A-specific consequences. This allows the research to separate the effects of mergers and acquisitions (M&As) from those of general industry shifts. To assess changes in risk and financial performance after the merger, statistical methods like regression analysis and risk indicators like Value-at-Risk (VaR) will be employed. Thematic analysis of interviews with bank executives is one qualitative approach that can supplement quantitative data by shedding light on managerial viewpoints on the difficulties, gains, and changes to strategy brought about by mergers and acquisitions.

Theoretical Analysis

To provide a comprehensive examination of the effects of mergers and acquisitions on public sector banks in India, the theoretical framework draws from a number of different theoretical traditions. By applying Synergy Theory, we can see if mergers really bring about the savings, gains in income, and better allocation of risks that were hoped for. Because synergies are typically a main motive in M&As—the expectation that merged firms would be more efficient and competitive—this idea is critical for comprehending the reasoning behind

M&As. How acquiring banks' risk profiles could change as a result of M&As is a topic explored in Risk Management Theory. Mergers aim to reduce risk by diversifying holdings and expanding asset bases; yet, operational risks might actually rise due to the complexity that comes with integrating activities. Changes in acquiring banks' governance are evaluated using Agency Theory. Mergers can cause complicated decision-making dynamics and conflicts of interest, and the theory can help us figure out if larger organizations after a merger encourage riskier management or better monitoring. Last but not least, we look at how financial distress and risk management theories explain whether mergers and acquisitions help financially troubled banks or cause them to be even more vulnerable to market and operational risks as a result of greater exposure and internal pressures. Mergers and acquisitions (M&As) cause public sector banks to undergo changes in their financial and risk management strategies. This study seeks to understand these changes better by combining these ideas.

Ethical Considerations

Since M&As affect so many different groups of people—employees, consumers, and shareholders—ethical issues are important to think about while assessing them. Strict data protection methods and compliance with relevant laws governing financial and managerial data ensure confidentiality and data privacy in the study. In the banking industry, where customers' personal and financial information is highly protected, this is of the utmost importance. Mergers and acquisitions (M&As) often result in changes to the staff, the closure of branches, and changes to customer service, all of which have an effect on stakeholders. To deal with these implications, the study reports ethically on the good and bad effects of mergers and acquisitions on employment, customer accessibility, and service quality. The integrity of the study relies on openness and unbiased reporting, which the analysis will endeavor to achieve. For a whole picture of the effects of mergers and acquisitions, it's important to consider both the positives, like improved financial stability, and the negatives, such expanded operational risk. This study intends to offer a responsible, impartial, and stakeholder-conscious assessment of mergers and acquisitions (M&As) in the Indian banking sector by following these ethical criteria.

4. Finding & Discussion

Findings

The analysis of mergers and acquisitions (M&As) in Indian public sector banks reveals both positive and negative outcomes regarding financial performance, risk management, and operational efficiency. Initially, acquirer banks exhibited a temporary decline in financial performance indicators such as Return on Assets (ROA) and Return on Equity (ROE), primarily due to the costs and complexities associated with integrating the acquired bank's operations. However, over a medium-term horizon, some acquirer banks demonstrated improvements in these metrics, attributed to operational synergies, larger asset bases, and stronger capital positions. These improvements were particularly evident in banks that had successfully integrated the acquired banks and streamlined operations effectively. In terms of risk, M&As had a variable impact. Banks that acquired weaker institutions with high levels of Non-Performing Assets (NPAs) initially faced an increase in credit risk, which was reflected in the rise of NPAs post-merger[15]. On the other hand, banks that acquired healthier institutions saw a reduction in risk exposure due to increased asset diversification and stronger capital

[15]Devarajappa, S. (2012). Mergers in Indian banks: A study on mergers of HDFC Bank Ltd and Centurion Bank of Punjab Ltd. *International Journal of Marketing, Financial Services & Management Research, 1*(9), 33-42.

buffers, which provided greater resilience against economic fluctuations. Moreover, the study suggests that while M&As offered an opportunity for improved risk management, the integration of different risk management frameworks from the merged entities often led to short-term operational risks and challenges. Operational efficiency, a major expected benefit of M&As, was realized in several instances, particularly through cost savings from reduced branch networks, optimized staffing, and shared technological resources. However, these efficiency gains were contingent upon the speed and success of the integration process. Banks that experienced delays in integrating systems and processes often saw limited improvements in operational performance in the short term. Finally, the impact on stakeholders, including employees and customers, was mixed. Employee morale was affected by workforce reductions, and branch closures led to some customer dissatisfaction, especially in areas where services were discontinued. However, acquirer banks that maintained service quality and communicated effectively with stakeholders were able to manage these transitions more smoothly. The overall stakeholder response highlighted the need for clear communication and strategic planning during the merger process to mitigate adverse effects on both employees and customers. In conclusion, while M&As in Indian public sector banks show promise in improving financial strength and efficiency, their success is largely determined by the effectiveness of the integration process, the quality of the acquired bank's assets, and the ability to manage increased risks during the transition period[16].

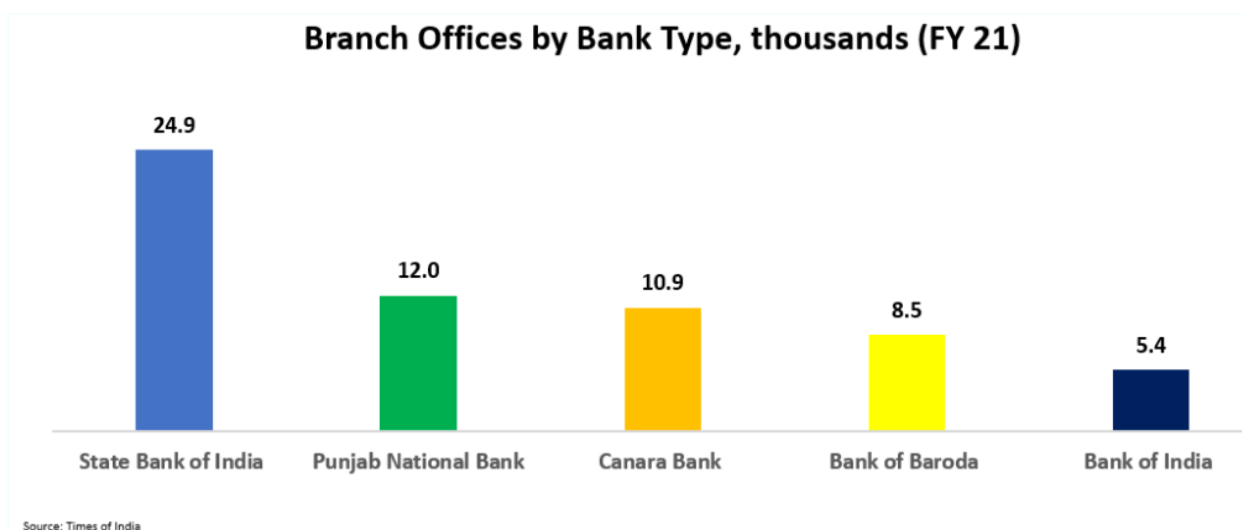

Fig. 3 Branch Offices

Discussion

The findings suggest that while M&As in the Indian public sector banking sector offer potential benefits, such as enhanced capital strength and operational efficiency, the integration process poses substantial challenges, especially in the initial phases. The mixed performance in financial metrics like ROA and ROE indicates that short-term costs associated with M&As can outweigh immediate financial gains, suggesting that successful integration and risk management strategies are critical for realizing long-term benefits. In terms of risk, the ability to manage and mitigate credit and market risk post-merger largely depends on the quality of assets acquired and the acquirer bank's risk management framework. For banks that acquired high-NPA entities,

[16]Joshua, O. (2011). Comparative analysis of the impact of mergers and acquisitions on financial efficiency of banks in Nigeria. *Journal of Accounting and Taxation, 3*(1), 1-7.

heightened credit risk underscores the importance of careful due diligence in evaluating acquisition targets. Market risk appears to be more manageable, as the larger asset base and diversified portfolio help distribute income sources, thus reducing reliance on a single market segment. Operational efficiency emerges as a key benefit of M&As when managed effectively. The observed cost reductions from shared infrastructure and streamlined branch networks support the rationale that economies of scale can be achieved through consolidation. However, banks facing integration challenges or delays are less likely to realize these gains, highlighting the importance of a structured and agile integration approach. From a stakeholder perspective, the study emphasizes the need for acquirer banks to implement strategies that minimize disruptions to customers and employees. Transparent communication, retraining programs, and careful restructuring can mitigate some of the negative effects on employees, while ensuring consistent customer service can help retain customer loyalty in the transition period. In conclusion, M&As offer strategic benefits for Indian public sector banks, particularly in enhancing capital and operational efficiency, but careful planning, risk management, and integration are essential for maximizing these benefits[17].

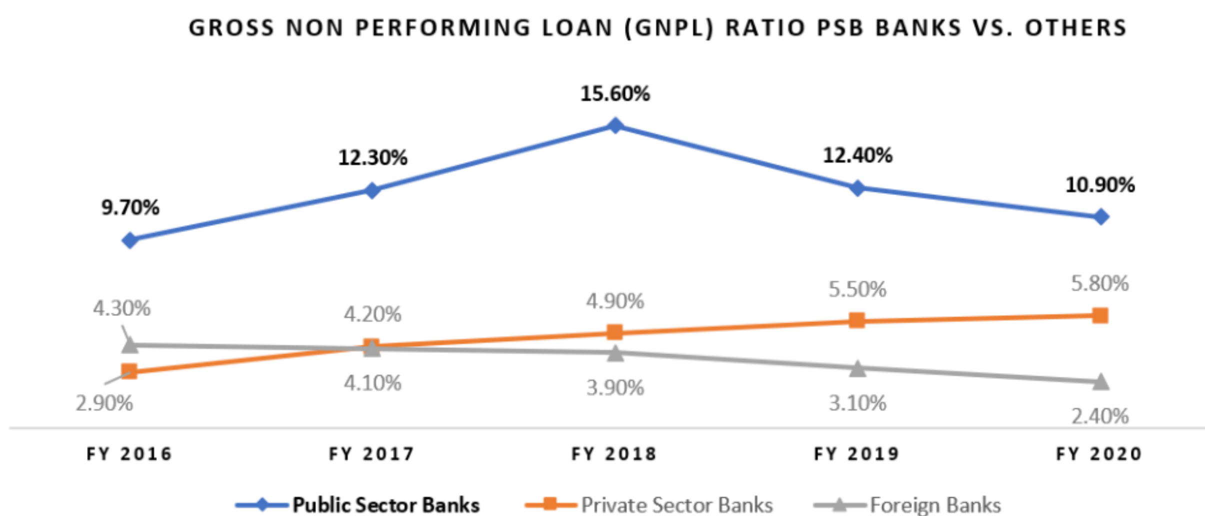

Fig. 3 Gross Non Performing Loan Ration PSB Banks vs Others

5. Conclusion

Research into the effects of M&As on the financial risk and performance of public sector banks in India paints a complex picture of the advantages and disadvantages that acquiring banks encounter. There have been some beneficial outcomes from bank consolidation, such as increased capital adequacy, bigger asset portfolios, and possible operational efficiency, but not all institutions have felt the same way. The expenses and challenges of integrating operations, systems, and cultures may explain why financial performance indices, such as Return on Assets (ROA) and Return on Equity (ROE), initially indicated reductions after the merger. As a result of synergies gained from simplified operations and increased market reach, however, some acquiring banks eventually recovered and even improved their financial performance. Furthermore, the results highlight the fact that risk is bivalent. Some banks were able to reduce their exposure to market risk through diversification and capital increases, while others who took on troubled businesses with high levels of non-performing assets

[17]Khan, A. A. (2011). Merger and acquisitions (M&As) in the Indian banking sector in the post-liberalization regime. *International Journal of Contemporary Business Studies, 2*(11), 31-45.

(NPAs) faced an increase in credit risk. Due diligence performed during the merger and the acquirer bank's existing risk management capabilities were crucial in determining the ability to handle these risks. Furthermore, operational efficiency could be a gain, but it would depend on how well the integration strategy worked and how quickly the new entity's systems and processes were standardized. In a broader sense, the study highlights how important it is for acquiring banks to manage stakeholder interests, especially those of their workers and customers, in an organized, transparent, and well-communicated manner. Consolidations often lead to layoffs and closed branches; but, with good preparation and open dialogue, these changes can have a less negative effect on morale and customer service. To sum up, mergers and acquisitions in India's public sector banks have the potential to strengthen their financial positions and increase their visibility in the market. However, for these deals to be successful, they must be integrated well, financial risks must be carefully managed, and stakeholder concerns must be addressed. This research shows that mergers and acquisitions (M&As) in the banking industry are complicated, and that careful strategic planning is essential for maximizing their advantages.

5. Reference

[1] Kumar, S., Sinku, S., Dubey, A., Chauhan, B., Kumar, M., & Sangya, S. (2024). Impact of merger & acquisitions on financial performance of public sector banks: An application of the CAMEL model. *Journal of Informatics Education and Research, 4*(1)1455-1475.

[2] Arshi, & Vaishali. (2024). Assessment of financial performance post mergers and acquisitions: Evidence from the Indian banking sector. *International Journal of Business Forecasting and Marketing Intelligence, 9*(4), 408-422.

[3] Sant, S., & Bhattacharya, M. (2020). An insight into banking sector mergers and acquisitions: BRICS nations. *International Journal of Economics and Financial Issues, 10*(5), 37-48.

[4] Karthikeyan, K., & Hema, V. (2020). An analysis of financial performance of selected public sector banks before merger using the CAMEL model. *International Journal of Scientific Engineering and Science, 4*(4), 87-94.

[5] Pandey, D. K., & Kumari, V. (2020). Effects of merger and acquisition announcements on stock returns: An empirical study of banks listed on NSE & NYSE. *The Review of Finance and Banking, 12*(1), 58-72.

[6] Manullang, S. O., Chauhan, R., & Suthar, B. (2020). A legal and economic study of selected private sector banks: Performance evaluation pre and post-merger. *Organization, 7*(11), 43-70.

[7] Gandhi, V., Chhajer, P., & Mehta, V. (2020). Post-merger financial performance of Indian banks: CAMEL approach. *International Journal of Banking, Risk and Insurance, 8*(2), 1-13.

[8] Mal, P., & Gupta, K. (2020). Impact of merger and acquisition announcements on stock return, volatility, and liquidity of acquirers: Evidence from the Indian banking sector. *Management & Accounting Review (MAR), 19*(1), 73-102.

[9] Alvarez-González, P., & Otero-Neira, C. (2020). The effect of mergers and acquisitions on customer–company relationships: Exploring employees' perceptions in the Spanish banking sector. *International Journal of Bank Marketing, 38*(2), 406-424.

[10] Zafar, M. R., & Shah, A. S. (2020). Long-run financial performance analysis of Pakistani banks after merger and acquisition in comparison with the whole banking industry. *KASBIT Business Journal, 13*(2), 62-84.

[11] Singh, S., & Das, S. (2018). Impact of post-merger and acquisition activities on the financial performance of banks: A study of Indian private sector and public sector banks. *Revista Espacios Magazine, 39*(26), 25-28.

[12] Ghosh, S., & Dutta, S. (2015). Mergers and acquisitions in the Indian banking sector: Pre-post analysis of performance parameters. *International Organization of Scientific Research in Journal of Business and Management, 17*(3), 1-9.

[13] Joash, G. O., & Njangiru, M. J. (2015). The effect of mergers and acquisitions on financial performance of banks: A survey of commercial banks in Kenya. *International Journal of Innovative Research and Development, 4*(8), 101-113.

[14] Sai, V. R. N., & Sultan, D. S. T. (2013). Financial performance analysis in the banking sector: A pre & post-merger perspective. *International Monthly Refereed Journal of Research in Management & Technology, 2*, 56-66.

[15] Devarajappa, S. (2012). Mergers in Indian banks: A study on mergers of HDFC Bank Ltd and Centurion Bank of Punjab Ltd. *International Journal of Marketing, Financial Services & Management Research, 1*(9), 33-42.

[16] Joshua, O. (2011). Comparative analysis of the impact of mergers and acquisitions on financial efficiency of banks in Nigeria. *Journal of Accounting and Taxation, 3*(1), 1-7.

[17] Khan, A. A. (2011). Merger and acquisitions (M&As) in the Indian banking sector in the post-liberalization regime. *International Journal of Contemporary Business Studies, 2*(11), 31-45.