ISSN: 2091-2986
DOI Prefix: 10.3126/ijssm

International Journal of Social Sciences and Management

Research Article

Exploring the Link between Bank Mergers and Credit and Systemic Risk: An Overview

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Article Information

Received: 05 August 2025
Revised version received: 23 October 2025
Accepted: 24 October 2025
Published: 30 October 2025

Cite this article as:
Sunny and G. Dalal (2025) Int. J. Soc. Sc. Manage. 12(4): 185-190. DOI: 10.3126/ijssm.v12i4.82746

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Abstract

The banking industry has always been important to the world economy, and is recently facing several challenging issues, so banks should be proactive rather than reactive to the shifting business environment, and the purpose of this paper is to develop insights into how such research is developing and to outline future research opportunities. In this research, a literature evaluation is conducted on the connection between bank mergers and credit risk, and systemic risk. These mergers have resulted in a concentration of resources; yet, they have also led to an increased chance of credit risk and systemic risk as a result of these mergers. It was found that the impact of bank mergers on bank credit and systemic risk is complex and multifaceted. While mergers can lead to increased efficiency and better access to credit, they can also lead to a reduction in lending and increased systemic risk.

Keywords: Bank mergers; Credit risk; Systemic risk; Systematic risk

Introduction

The banking industry in India has a huge canvas of history, which covers the traditional banking practices from the time of the Britishers to the reforms period, nationalization to privatization of banks and now increasing numbers of foreign banks in India. Therefore, Banking in India has been through a long journey. The banking industry in India has also achieved a new height with the changing times. The use of technology has brought a revolution in the working style of the banks. Nevertheless, the fundamental aspects of banking i.e. trust and the confidence of the people in the institution remain the same. The majority of the banks are still successful in keeping with the confidence of the shareholders as well as other stakeholders. However, the changing dynamics of the banking business bring new kinds of risk exposure.

In recent years, the banking industry has seen a trend of mergers and acquisitions as financial institutions seek to expand their market share and increase profitability. The current financial crises have emphasized the sector's vulnerability since it remains insufficiently resilient and incapable of responding to rapid market shifts. While the effects of these crises have highlighted shortcomings in credit and banking institutions creating a framework for a comprehensive reorganization and revision of the rules that govern them, leading to the creation of a better and more reliable system. Bank mergers have been critical in the present setting and are one of the key outcomes of this process (Savio, 2021).

While these mergers can bring about numerous benefits, such as improved efficiency and an increased customer base, they can also have significant implications for bank risks. Banks are confronting several difficulties in the market as a result of fierce rivalry, technological advancement, the global economic downturn, and stock market volatility. Banks all over the world are revamping their operations, assets, and contractual relationships with their shareholders, creditors, and other financial stakeholders in response to these factors. Corporate restructuring has made it easier for many organizations to re-establish their strategies so they can react to unforeseen market difficulties more quickly and successfully (Joshi & Goyal, 2012).

Bank managers, investors, regulators, and scholars are all interested in bank mergers. Academics and regulators are especially worried about the reasons for bank mergers and how they may affect bank efficiency, competition, and risk. Most of the post-merger research studies have concentrated on efficiency along with modifications in the bank's asset portfolio as a result of M&A by enabling the reorganization of merged companies' assets for possible economic gains. Mergers and acquisitions play a significant part in the business world as they enable markets to fairly compensate their shareholders and evaluate their risk. (Tanna, Yousef) A variety of structures (asset purchase, equity purchase, or hybrid form of both) are employed to maintain control over company assets subject to various tax and regulatory suppositions.

A common strategy for business expansion is mergers and acquisitions. The benefits of employing this technique have been researched by authors like Santeiro (2014), Socolich (2007), and Zozaya (2007), and they include operational synergies, financial synergies, market power, efficiency gains, tax advantages, use of surplus funds, and other motives strive to boost business. Some businesses might take action against rivals by merging or buying another company. Growth through M&A gives a company access to new resources and markets, and the success or failure of these deals is crucial for the economy as a whole, not just for the companies involved.

Types of Risks in The Banking Sector with Aspect to Bank Merger

Credit Risk**:** It is described as the failure of a borrower or a counterparty to meet their contractual obligations or when a borrower fails to pay the lender the necessary amount owing to a financial crisis. Banks have experienced massive losses due to credit risks in the past and continue to be vulnerable to such losses.

Market Risk**:** Market risks are defined as the risks associated with a reduction in the value of a company's share or the stock of third-party companies in which the bank has invested. Market risks can differ depending on the commodity that a bank holds. For example, if a bank owns foreign exchange, it is susceptible to forex risk; if it has gold, silver, or real estate, it is exposed to commodities risk, and so on. The scenario of equity risk is similar.

Default Risk**:** The inability of a borrower to make the required payment on their debt obligation is referred to as default risk.

Systematic Risk: It refers to the overall risk of the market or market sector. Systematic risk, often known as "undiversifiable risk," "volatility," or "market risk," affects the entire market rather than simply one stock or industry.

Unsystematic Risk: it is special to a certain company or sector also called Non-systematic risk particular risk, diversifiable risk, or residual risk. Diversification can reduce unsystematic risk in the context of an investment portfolio.

Systemic Risk: Systemic risk refers to the potential for a company-level incident to cause serious instability or the collapse of an entire sector of the economy. Systemic risk played a significant role in the 2008 financial crisis. "Too big to fail" refers to organizations that are viewed as systemic risks. Systemic risk is modeled as a function of the interconnectedness and the credit quality of financial institutions in the system, which we combine to produce a single measure of systemic risk. Systemic risk is coherently measured as the expected loss to depositors and investors when a systemic event occurs.

When banks merge, they combine their loan portfolios, potentially leading to a higher concentration of risky loans and an increase in credit risk. This has important implications for both banks and their customers, as credit risk affects the availability and cost of credit and can ultimately impact the overall health of the banking system. One potential benefit of bank mergers is that they can lead to increased efficiency and economies of scale, which can result in better access to credit for borrowers. By consolidating their operations, banks can reduce their costs and improve their ability to offer loans to businesses and individuals. Additionally, larger banks may be better equipped to navigate economic downturns and provide credit during times of crisis. However, critics of bank mergers argue that they can lead to a reduction in lending due to increased concentration. When banks merge, they may have a greater market share, which can lead to reduced competition and higher interest rates. This, in turn, can make it more difficult for borrowers to access credit, particularly for those who are deemed to be higher-risk borrowers. Additionally, the consolidation of banks can lead to a reduction in the number of lenders in a given market, which can reduce the options available to borrowers. In this light, it is of the utmost importance to investigate the impact that bank mergers have on credit risk and to investigate the various viable techniques for mitigating the risks that are included.

In the case of bank mergers, the consolidation of resources and the increased interconnectedness of banks can lead to an increase in systemic risk. This is another area of concern regarding the effects of bank mergers, which is referred to as systemic risk. The risk that the failure of one financial institution may have a domino effect that will harm the entire financial system is referred to as systemic risk. The increased concentration of assets in a small number of large banks is one potential source of systemic risk in the context of bank mergers. If these banks were to fail, the impact on the financial system could be significant. Additionally, the increased interconnectedness of banks as a result of mergers can increase the likelihood of contagion. One bank's failure might soon lead to the failure of other banks and financial organizations.

To mitigate these risks, regulatory bodies such as the Federal Reserve have implemented measures to ensure that banks engage in safe and sound practices. For instance, banks are required to maintain adequate capital and liquidity levels to ensure that they can absorb losses and continue lending during times of stress.

Analysis of the Existing Research

Knapp & Gart (2014) explored “post-merger changes in bank credit risk:1991-2006” and the results showed that there were considerable disparities between the levels and the variability of loan charge-offs and non-performing loans across the different loan categories. Second, after the merger, a considerable shift was discovered to have occurred in the distribution of loan categories across the loan portfolio. Third, expected variability in both the charge-off rate and non-performing loan rate rises significantly after a merger. Furfine & Rosen (2011) explored the “impact of mergers on the default risk” and discovered that, on average, a merger raises the default risk of acquiring firms and after an acquisition, the default risk for companies with significant levels of idiosyncratic risk is higher than it was before the acquisition. Hassan & Giouvris (2021) studied “Bank Mergers: The Cyclical Behavior of Regulation, risk, and Returns” and examined the influence of bank mergers on systemic and systematic risks on the comparative advantages of product and market diversification strategies was investigated. While economic freedom power with lower market concentration increases the risk of mergers. The financial size of the target does not affect risk contribution. Weiß *et al*. (2014) in their study “systemic risk and bank consolidation: international evidence” studied the systemic risk impacts of bank mergers to evaluate "concentration fragility" and found persuasive evidence that mergers raised systemic risk for merging banks, merged banks, and their rivals. Tanna *et al*. (2021) in their study “Probability of M&A deal failure” s. founded Short-term increases in acquirer risk after mergers only occur in the first few mergers conducted by the same acquirer, and only for systematic risk. Using a novel method for evaluating the long-term effect, it was determined that the change in risk associated with mergers is non-linearly related to the total number of mergers performed by a particular acquirer. Tanna & Yousef (2019) explored “Merger and Acquisition: Implications for Acquirer’s market risk” and Cross-sectional regression results show how the acquirer's pre-merger risk has affected the deal negatively. Diversification has no substantial effect on the acquirer's risk, although other factors do. Cash payment transactions and acquisitions of publicly traded targets minimize the acquirer's risk, but stock payment transactions increase risk. With each purchase, the risk for serial acquirers increases dramatically. Nguyen *et al*. (2019) explored “Does idiosyncratic risk matter? Evidence from merger and acquisition” and concluded that firm value significantly decreases (increases) with increases (decreases) in idiosyncratic risk. “The Effect of Mergers on US Bank Risk in the Short Run and in the Long Run” found for the first several mergers that the same acquirer undertakes, only systematic risk increases in the short run. Using a novel method for forecasting the long-term impact, researchers found that the risk associated with mergers increases non-linearly with the acquirer's total number of mergers and acquisitions. Ngo (2019) examines "The Effects of Mergers and Acquisitions on Bank Risks" claims that there is a direct and positive relationship between the default risk of banks and their MES and idiosyncratic risk prior to a merger. Next, we discovered no associations between default risk and MES or default risk and beta, suggesting that M&As have no effect on these associations. Patel and Shah (2016) studied “Merger and Acquisitions: A pre-post risk–return analysis for the Indian banking sector” Stock risk-return study revealed mixed results, i.e., some banks' performance increased after the merger, while others' performance declined. Jaffe *et al*. (2015) explored “Returns to acquirers of public and subsidiary targets” analyzes four under-researched theories of return differential synergy, target financial liquidity, target valuation uncertainty, and target bid resistance and finds that they cannot account for the observed variation in acquirer performance.

Nguyen *et al*. (2019) in their study "Systematic Risk Shift and Post-Merger Performance" presented proof that a risk shift can occur in either a positive or negative direction when the acquirer's equity beta is lower (higher) than the target's beta and negative and statistically significant cumulative abnormal returns are seen in the first five and 10 days after the announcement date but they rapidly disappear when abnormal returns are assessed using beta adjustments. Bozos *et al*. (2013) in "Beta risk and price synchronicity of bank acquirers' common stock following merger announcements" shows how the common stock of acquiring institutions experiences a shift in risk once a merger is announced (Vallascas and Hagendorff, 2011). "The Impact of European Bank Mergers on Bidder Default Risk" revealed that mergers and acquisitions, on average, do not alter the risk profile of the acquiring institutions. In addition, they do not discover any evidence that risk can be reduced through activity diversifying or cross-border mergers and acquisitions. Evripidou (2012) explored "M&A in the airline industry: motives and systematic risk" examine the impact of mergers on bidder firms' systemic risk in the airline industry It highlighted cost efficiency, economies of scale, and market power as the primary motivators for M&A in the airlines industry (Erel, 2011). "The Effect of Bank Mergers on Loan Prices: Evidence from united states" provides evidence to lend support to the hypothesis that, on average, consumers benefit from lower borrowing rates as a result of bank mergers. Additionally, in-market mergers, where the acquirer and target have some market overlap before the merger and thus more potential for cost savings, have a larger decline in spreads compared to market-extension mergers. However, the effect does not increase monotonically with market overlap. Feito-Ruiz and Menéndez Requejo (2013) explored "Acquirers of listed vs. unlisted firms: determinants in a different legal and institutional environment". The paper concluded that three out of every four M&A announced by European listed firms are of the unlisted firm. A significant rise of about 2.7% may be associated with the announcement of such transactions whereas the acquisition of listed firms leads to an average rise of 0.59%. Dube and Glasscock (2006) explored the "Effect of the method of payment and mode of acquisition on performance and risk metrics" and found that stock mergers underperformed operating performance when adjusted for benchmarks but that acquirers' post-acquisition risk-adjusted stock performance was unaffected by payment method or acquisition structure. Mishra *et al*. (2005) looked into "Bank mergers and components of risk: an evaluation" to see how the target (acquisition) impacts the risk profiles of acquiring banks when the acquiring bank obtains the majority of the payment in the form of equity. and as a result, post-merger risk characteristics of non-conglomerate bank mergers were found to decrease overall and unsystematic risk while having no statistically significant influence on systematic risk. This suggests that increased diversification may encourage bank mergers. Cyree & Degennaro (2002) in their study "A Generalized Method for Detecting Abnormal Returns and Changes in Systematic Risk" discover a considerable change in the acquiring companies' systemic risk, significant ARCH effects, and an event period that expires before the announcement date. Brooks *et al*. (2000) in their study "The impact of shifts in forecasted earnings and systematic risk on acquiring firm shareholder wealth in domestic and international acquisitions" demonstrate that, on average, shareholders of acquiring firms experience significant wealth losses during domestic acquisition but not during international acquisitions However, there is no statistically significant difference.

Fig. 1 describes the centrality of the linkage between credit risk and other risks associated with banking operations. The ripple effects of a bank credit risk aggravate such operational risks like liquidity, concentration; market, and reputational risks among others. Findings in some other studies have also identified systemic, international, and national macro-economic variables as well as un-systemic bank-specific factors as determinants of credit risk (Demirguk-Kunt, 1989; Ariff and Marrisetti, 2001; Cebenoyan and Strahan, 2004; Athanasoglou *et al*., 2008).

More than systemic and macro-economic variables, bank-specific factors such as the size of risky loan making up the credit portfolio; bank internal loan policy; pre-lending assessment of borrower, and past audit analysis of financed project constitute significant factors that shape the quality of a bank credit portfolio (Ahmed, 2003; Ahmed and Ariff, 2008). Other sources of credit risk highlighted in some studies include deficient loan appraisal processes, inadequately defined lending policies, high credit concentration, poor credit analysis skills of bank officials, as well as a mismatch between credit monitoring system and external operating environment; (Bidani *et al*., 2004; Chen *et al*., 2005).

According to Peter and Sylvia (2008), the probability that a deposit banking institution's credit portfolio will decline in value and perhaps become worthless is known as credit risk while various attempts designed to control and protect banks against adversities associated with this risk exposure are referred to as credit risk management processes.

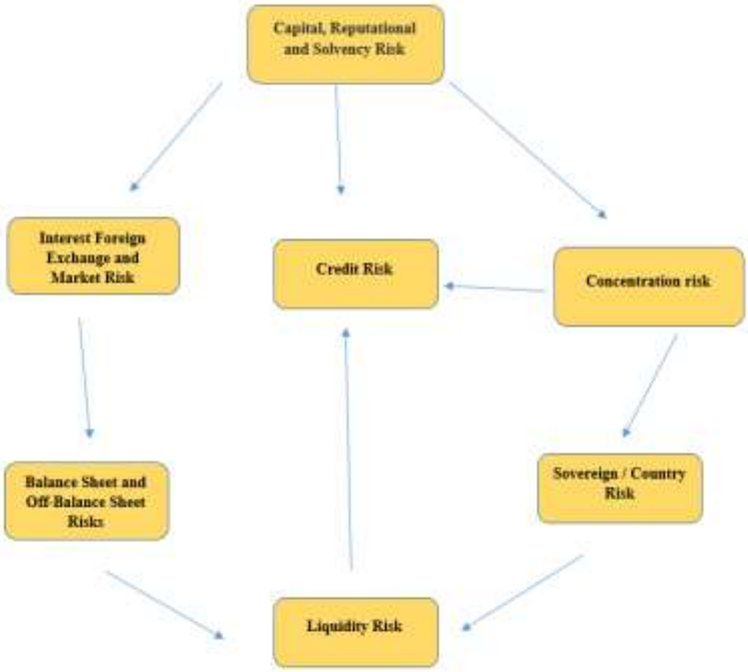

Fig. 1: Generic Linkage Between Various Bank Operational Risks

The process of analyzing credit risk, ranking, and quantifying them constitutes a substantial aspect of the framework and governance structures for most bank management. Among the reasons advanced for CRM include managerial self-interest and appraisal goals; the high cost of financial distress and the existence of capital market imperfection. Another motivation for expending managerial resources on CRM according to Meyer (2000) is the need for insolvency avoidance, given the likelihood of poor credit risk management snowballing into a financial crisis.

A credit risk model is concerned with exploring the basic relationship between the bank performance (portfolio) and loss distribution in the study period. It is an attempt to provide a quantitative analysis of the extent to which the loss distribution (risk factors) varies with changes in bank credit management efficiency. According to Pesaran *et al* (2004) and Satchidananda (2006), this type of modeling can either be approached from the perspective of individual loans making up the entire portfolio or by considering returns on the loan portfolio directly.

Conclusion

The banking industry has seen a trend of mergers and acquisitions as financial institutions seek to expand their market share and increase profitability. The recent financial crises have brought to light the sector's fragility, which is still insufficiently resilient and unable to respond to rapidly shifting markets. Bank mergers have been crucial in the present setting and are one of the key outcomes of this process. Savio (2021). While these mergers can bring about numerous benefits, such as improved efficiency and an increased customer base, they can also have significant implications for bank risks. Some studies found significant differences in the levels of loan charge-offs and non-performing loans, as well as variability across various loan categories. They also found significant shifts in the mix of loan categories in the loan portfolio after a merger. Others, on the other hand, came to the opposite conclusion. They discovered that the mode of acquisition and method of payment has no bearing on the acquirers' post-acquisition risk-adjusted stock performance. Additionally, they discovered a substantial but minor underperformance for stock mergers in operating performance when compared to benchmark adjustments. According to the findings of many studies, the default risk that banks face during the pre-merger phase has a direct and positive influence on their MES risk as well as their idiosyncratic risk. Next, concerning the influence of bank mergers, there were no associations found between default risk and either MES or beta. This suggests that M & As do not typically affect the associations being discussed. In the end, it was discovered that the influence of bank mergers on the credit of surviving banks as well as the danger to the overall financial system is intricate and multi-faceted. While mergers can lead to increased efficiency and better access to credit, they can also lead to a reduction in lending and increased systemic risk. Regulatory bodies play an important role in mitigating these risks and ensuring that banks engage in safe and sound practices. Ultimately, the benefits and drawbacks of bank mergers will be influenced by several parameters, such as the specific market conditions, the regulatory environment, and the capacity of the banks to efficiently manage risk.

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