



The Influence of Market Risk and Credit Risk on Financial Performance in the Banking Industry

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Abstract

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This study aims to analyze the influence of market risk and credit risk on the financial performance of banking institutions using a narrative study approach based on library research. The data were collected from Google Scholar-indexed journals and official financial reports published over the last five years. Market risk, measured by the Net Interest Margin, and credit risk, measured by the Non-Performing Loan ratio, are examined in relation to financial performance, proxied by the Return on Assets. The findings indicate that both market risk and credit risk negatively affect bank profitability, where financial performance decreases as interest rate fluctuations intensify and the volume of bad loans increases. Moreover, the interaction between these risks occurs simultaneously, suggesting that integrated risk management is essential to maintain bank stability and profitability. Theoretically, this study contributes to expanding the understanding of the interrelationship among key financial risks, while practically it offers valuable insights for banking practitioners and regulators to strengthen risk mitigation strategies, enhance asset management efficiency, and ensure long-term financial sustainability in a volatile economic environment.



1. Introduction

The development of the global banking industry in the last five years shows increasingly complex risk dynamics due to changes in economics, technology, and monetary policy. Volatile financial market conditions require banking institutions to implement more adaptive risk management in order to maintain stable financial performance. In this context, the two forms of risk that have the most influence on bank profitability are market risk and credit risk. Market risk is related to fluctuations in interest rates, exchange rates, and macroeconomic conditions that affect the bank's Net Interest Margin (NIM), while credit risk arises due to the debtor's failure to meet payment obligations that has the potential to reduce the Return on Assets (ROA).

According to the Basel Committee on Banking Supervision (2019), banks' ability to manage risk data and implement effective risk reporting is a fundamental element in maintaining financial stability. Financial performance measured through the ROA ratio is an important indicator for the effectiveness of risk management in the face of rapidly changing market dynamics. Research by Mamo et al. (2021) confirms that unmanaged interest rate fluctuations can suppress net interest income and have negative implications for bank profitability. This is in line with the findings of Bapat (2018) which states that banks' inability to balance income and interest costs will reduce operational efficiency and long-term profitability.

On the other hand, credit risk remains a major source of financial vulnerability in the banking sector. Saleh and Abu Afifa (2020) stated that the increase in the non-performing loan (NPL) ratio directly reduces net profit due to the increase in loss

reserve costs. The results of Dayana and Untu's (2019) research also show that both market risk and credit risk have a significant negative influence on the financial performance of regional banks in Indonesia. However, there are still differences in empirical findings in various developing countries regarding the magnitude of the influence of the two risks on profitability. For example, Hang et al. (2018) found that in Vietnamese banks, credit risk has a strong effect on ROA, while market risk is not statistically significant. These variations in results show that there is a research gap that needs to be studied further, especially considering the different economic conditions and monetary policies between countries.

The research gap is also seen in the integration aspect between the two risks. Most previous studies have examined the influence of credit risk separately without assessing how market fluctuations can strengthen or weaken their impact on financial performance (Agustin & Arimbawa, 2019). In fact, in practice, both risks often arise simultaneously, especially in periods of economic instability such as 2019–2021. This period was marked by geopolitical tensions, changes in global interest rates, as well as the impact of the COVID-19 pandemic which affected credit demand and bank interest income (Financial Services Authority, 2021). Therefore, a more focused analysis of these two main variables is needed to gain a sharper understanding of the dynamics of the relationship between market risk and credit risk on banking financial performance.

Based on this background, this study aims to empirically analyze the influence of market risk and credit risk on the financial performance of banks in a more general context without attributing to specific regions or entities. This approach allows the

results of the study to have broader generalizations as well as relevant to post-pandemic conditions and global financial stabilization trends in 2022. In addition, the study seeks to complement the existing literature by reviewing the results of research in the last five years and integrating it into a conceptual framework that emphasizes the importance of a balance between risk stability and bank profitability. Thus, this research is expected to contribute both theoretically and practically in strengthening a banking risk management system oriented towards sustainable financial performance.

2. Literature Review

2.1. Market Risk and Financial Performance

Market risk is a form of risk that arises due to changes in external conditions such as interest rates, inflation, exchange rates, and asset price volatility that can affect the stability of bank interest income. The Basel Committee on Banking Supervision (2019) explains that market risk must be managed in a measured manner because any economic fluctuation can directly affect net interest income (Net Interest Margin – NIM) and ultimately financial performance (Return on Assets / ROA). Mamo et al. (2021) added that an increase in loan interest rates without being offset by fund cost efficiency will reduce banks' operating profits. A study by Bapat (2018) also found that banks that are unable to balance interest spreads tend to experience a significant decrease in financial efficiency. In this context, market risk management serves as a mechanism to maintain a balance between profitability and risk exposure. A larger NIM reflects effective market risk management, while a

decline in NIM indicates a weakening of banks' ability to optimize their productive assets. Thus, the relationship between market risk and financial performance is negative when economic uncertainty increases, as market instability reduces the ability of financial institutions to generate consistent profits.

2.2. Credit Risk and Profitability

Credit risk occurs when the debtor fails to meet payment obligations according to the agreed agreement. Saleh and Abu Afifa (2020) emphasized that the increase in the Non-Performing Loan (NPL) ratio led to a decrease in net profit due to an increase in the burden of credit loss reserves. These results are in line with the research of Dayana and Untu (2019) which found a significant negative relationship between NPL and ROA in Indonesian banking over the past five years. In addition, Quoc Trung (2021) highlights that in developing countries such as Vietnam, credit risk is the most dominant variable in explaining fluctuations in bank profitability compared to market risk or liquidity. These studies confirm that the effectiveness of credit risk management determines the sustainability of a bank's financial performance. When NPL levels can be suppressed through rigorous loan evaluation and portfolio diversification, profitability can increase steadily. On the contrary, the spike in NPLs signals the weak internal control function and the bank's inability to mitigate potential defaults. Therefore, credit risk control is the main strategy in maintaining financial stability and maintaining public confidence in the banking system.

2.3. Integration of Market Risk and Credit Risk in Banking Risk Management

Both forms of market and credit risk often appear simultaneously in banking operations. However, most previous studies examined the two separately resulting in inconsistent findings (Agustin & Arimbawa, 2019). The integration of the two becomes important because market fluctuations can worsen credit quality; For example, rising interest rates can increase the interest burden on customers, increasing the potential for default. Yusuf and Surjaatmadja (2018) show that interest rate factors play a role as a moderator that strengthens the relationship between market risk and credit risk to profitability. Meanwhile, the Financial Services Authority (2021) emphasized that strengthening an integrated risk management system is a policy priority to maintain the resilience of the national financial industry post-pandemic. An integrated risk management approach allows banks to simultaneously monitor risk exposures and establish more comprehensive mitigation strategies. Thus, the study of the simultaneous relationship between NIM and NPL to ROA not only makes an empirical contribution to the financial literature, but also supports the development of a more adaptive risk surveillance model oriented towards long-term financial system stability.

3. Methods

This study uses a narrative study approach with a library research method that focuses on collecting, reviewing, and synthesizing the results of previous research that are relevant to the topic of the relationship between market risk (Net Interest

Margin / NIM), credit risk (Non-Performing Loan / NPL), and financial performance (Return on Assets / ROA). This approach was chosen because it allows researchers to explore a deep theoretical and empirical understanding of the phenomenon of banking risk management by tracing previously studied relationship patterns in various economic contexts and time (Basel Committee, 2019).

This study collects secondary data in the form of Google Scholar-indexed journal articles, official reports of the Financial Services Authority (2021), and academic publications for the last five years. Selection criteria include: (1) research focusing on market risk and/or credit risk in the context of banking; (2) the results of the study display NIM, NPL, and ROA indicators; and (3) the source has academic reliability through citation or indexation of scientific journals. Each literature reviewed was analyzed narratively to assess the consistency, contradictions, and theoretical gaps that emerged.

The analysis process is carried out through three stages. First, identify key concepts related to risk management and profitability (Ali et al., 2020). Second, a synthesis of empirical findings from various studies, including the reference research of Dayana and Untu (2019) which affirmed the significant negative influence between NIM and NPL on ROA in the Indonesian banking sector. Third, the development of a conceptual model that integrates these outcomes into a systematic relationship framework.

The conceptual model of this study places market risk (NIM) and credit risk (NPL) as independent variables, while financial performance (ROA) as dependent variables, with a negative relationship direction. Fluctuations in interest rates,

economic conditions, and monetary policy affect NIM which has a direct impact on a bank's profits. Meanwhile, the increase in NPLs reflects a decline in the quality of productive assets and the efficiency of credit management, which ultimately lowers ROA (Hang et al., 2018).

Visually, the relationship among the variables can be illustrated as follows:

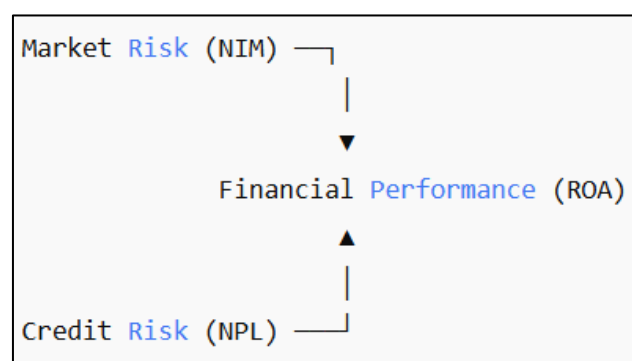


Figure.1 Conceptual Framework

Figure 1 show conceptual model that illustrates that market risk (NIM) and credit risk (NPL) act as independent variables, while financial performance (ROA) serves as the dependent variable. The model assumes that increases in market and credit risks negatively affect financial performance. Volatility in interest rates and macroeconomic conditions influences NIM, thereby impacting bank profitability, while higher NPL levels reflect reduced credit quality and efficiency, leading to lower ROA. This framework forms the theoretical foundation for understanding how risk management and profitability interact within the banking sector.

4. Results

The results of this narrative study illustrate how market risk and credit risk simultaneously or partially affect the financial performance of banks in the 2017–2021 period. Based on the analysis of various empirical studies, there is a similar pattern that shows that the two risk variables have a significant negative relationship to banking profitability as measured by Return on Assets (ROA). However, there are differences in the intensity and direction of influence that depend on the characteristics of the financial system, monetary policy, and risk management strategies implemented by each financial institution.

Research by Dayana and Untu (2019) is one of the strong foundations underlying this analysis. They found that Net Interest Margin (NIM) as a proxy for market risk, and Non-Performing Loans (NPLs) as a proxy for credit risk, both had a significant negative effect on ROA in the banking sector in Indonesia. These findings suggest that any increase in NIM reflecting high interest rate volatility may decrease the efficiency of the use of productive assets, while an increase in NPLs directly reduces net profit due to increased cost of reserve losses. Similar results were also obtained by Saleh and Abu Afifa (2020) who analyzed banks in developing countries and found that an increase in NPLs significantly lowered profitability as it indicated weak credit risk management. They emphasized the importance of monitoring loan quality and diversifying the credit portfolio as preventive measures to minimize the risk of default.

A study by Mamo et al. (2021) highlights the other side of market risk, namely sensitivity to changes in interest rates. They point out that the increase in the

benchmark interest rate has a direct impact on declining net interest income and increasing market uncertainty, which ultimately suppresses ROA. These findings strengthen the argument that interest rate policy is one of the main determinants of banking financial performance, particularly in a financial system that relies heavily on interest margins. Bapat (2018) research also supports these findings by stating that in unstable economic conditions, interest rate fluctuations exacerbate market risks and reduce banks' financial efficiency.

In the context of developing countries in Southeast Asia, relatively consistent results were also found by Quoc Trung (2021) who researched banking in Vietnam. They confirmed that credit risk was the dominant factor in explaining the variation in ROA versus market risk. A decline in loan quality is a major issue that suppresses bank profitability, especially during the period of monetary policy adjustment and tight liquidity in the money market. Meanwhile, Agustin and Arimbawa (2019) found that the simultaneous influence of market risk, credit risk, operational risk, and liquidity on financial performance is more complex than the results of previous research. They highlight that the relationship between risks is dynamic and can reinforce each other in certain economic conditions, such as during the COVID-19 pandemic which worsened credit conditions while depressing net interest margins.

Research by Yusuf and Surjaatmadja (2018) provides an additional dimension by including interest rates as a moderation variable between financial risk and financial performance. The results show that interest rates have a strengthening effect on the negative relationship between market risk and profitability. This means that when interest rates rise, the impact of market risk on ROA becomes increasingly

significant. This shows the importance of monetary policy in strengthening or weakening the impact of risk variables on bank profitability. These findings are also strengthened by the Financial Services Authority (2021) which in its report emphasized that Indonesian banks face increased credit risks due to the pandemic and deteriorating asset quality, while market risks increase in line with exchange rate instability and adjustments to the benchmark interest rate.

A cross-border study by Ekinci and Poyraz (2019) examining banking in Turkey showed that the relationship between NPLs and ROAs was significantly negative, with a greater influence in periods of economic crisis than in periods of stability. They emphasized that banks' ability to maintain profitability is highly dependent on the effectiveness of non-performing loan management and operational cost control. On the other hand, Puspitasari et al. (2021) found that although NIM fluctuates following changes in interest rates, the impact on ROA can be positive in the short term if banks are able to take advantage of market conditions to optimize interest income. This suggests that the relationship between market risk and profitability is not linear, but rather depends on management strategies and the economic conditions that surround them.

Overall, the results of the 10 main studies reviewed show that the influence of market risk and credit risk on financial performance has a negative direction, albeit with varying intensities. This pattern indicates that the higher the level of risk the bank faces, the lower the profitability that can be achieved. However, the degree of influence of market risk tends to fluctuate more than credit risk because it is strongly influenced by macroeconomic conditions and short-term monetary policy. In

contrast, credit risk is more stable but has a significant long-term effect on banking profitability and solvency.

This narrative analysis also highlights important regional contextual differences. In Indonesia, as explained by Dayana and Untu (2019) and OJK (2021), banks' revenue structures are still highly dependent on interest, so small changes in NIM have a direct impact on net profit. In other countries such as Vietnam and Nigeria, credit risk is more dominant due to the financial market structure that has not been fully diversified and still relies on the consumptive credit sector. This shows that the relevance between market risk and credit risk is largely determined by the national economic structure and the risk management strategies implemented.

Based on the results of the literature integration, it can be concluded that previous research still leaves a significant research gap. First, most studies examined risk variables separately without considering the simultaneous effects of both on ROA. Second, there are variations in results influenced by different macroeconomic conditions between countries and time periods. Third, there is still limited research that utilizes narrative approaches to synthesize the conceptual relationship between these two risks theoretically. Therefore, the results of this study strengthen the argument for the need for more integrative, time-oriented, and conceptual model research that links NIM and NPL as key determinants of financial performance.

Theoretically, these results support the risk management theory put forward by Fahmi (2014) and reinforced by the Basel Committee (2019), that market risk and credit risk are the two main pillars in financial system stability. When either of the two risks increases without being offset by effective mitigation policies, the bank's

financial stability is compromised, ultimately lowering the ROA. In practical terms, the results of this synthesis confirm the importance of the implementation of integrated risk management and risk-based supervision to ensure the financial resilience of banks in the future. In the post-pandemic context, adaptive risk management, the application of risk analytics technology, and data-driven strategic planning are key to maintaining a balance between profitability and stability.

5. Discussion

The results of the literature review show a consistent negative relationship between market risk (NIM) and credit risk (NPL) on financial performance (ROA). This relationship indicates that as market instability increases, the efficiency of the bank's productive assets decreases; Meanwhile, the increase in non-performing loans worsened profitability due to increased reserve costs and a decrease in customer confidence. These findings are in line with banking risk management theory which asserts that every financial risk has a systemic impact on financial stability if it is not managed in an integrated manner (Basel Committee, 2019).

In the context of market risk, interest rate fluctuations prove to be the most influential factor on net interest margins. As explained by Mamo et al. (2021), the increase in the benchmark interest rate suppresses net interest income because the cost of funds increases faster than the adjustment of loan interest rates. This phenomenon explains why many banks in developing countries experience a decrease in ROA when monetary policy tightening. However, in the short term, some financial institutions are able to maintain profitability through portfolio

adjustment strategies and operational efficiency (Puspitasari et al., 2021). This indicates that market risk management depends not only on macroeconomic conditions, but also on the bank's internal capabilities in effectively balancing assets and liabilities.

Meanwhile, credit risk remains a major threat to the sustainability of bank profitability. A study by Saleh and Abu Afifa (2020) shows that the surge in Non-Performing Loans (NPLs) significantly lowers net profit due to the increased formation of loss reserves. This research is consistent with Dayana and Untu (2019) who emphasized that the high NPL ratio reflects weak credit evaluation and supervision of loan portfolios. In the context of the pandemic, the Financial Services Authority (2021) highlighted that the increase in credit risk stemmed from loan restructuring and weakening of debtors' ability to pay, which ultimately pressured the profits of the national banking sector.

The results of the analysis also show that the interaction between market risk and credit risk is synergistic, interest rate hikes or exchange rate fluctuations can worsen bad credit conditions, as explained by Agustin and Arimbawa (2019). As such, effective risk management must integrate both types of risk into one unified surveillance system. An integrated risk management model not only helps reduce loss exposure, but also improves the banking sector's long-term resilience to global economic changes.

The theoretical implication of these findings is the importance of expanding the financial risk management model to include simultaneous interactions between risk variables. In practical terms, these results confirm the need for financial

institutions to develop data-driven mitigation strategies, such as risk-based pricing, credit scoring systems, and dynamic interest rate management, to maintain a balance between stability and profitability. Overall, these discussions reinforce that the synergy between market risk control and credit risk control is the main foundation for the sustainability of banks' financial performance in an era of global economic uncertainty.

6. Conclusion

Based on the results of the literature review and narrative analysis conducted, it can be concluded that market risk (NIM) and credit risk (NPL) have a significant negative influence on financial performance (ROA) in banking institutions. Financial performance declined in line with increasing market fluctuations and high levels of non-performing loans, suggesting that bank stability is highly dependent on management's ability to control both risks simultaneously. The study also confirms that market risk and credit risk cannot be separated because they have mutually reinforcing relationships in volatile economic conditions. When interest rates increase or exchange rates fluctuate, the debtor's ability to repay loans decreases, so credit risk increases and impacts profitability.

Therefore, the implementation of integrated risk management is important to maintain a balance between banking stability and profitability. From the theoretical side, the results of this study broaden the understanding of the simultaneous interaction between market risk and credit risk on financial performance. From a practical perspective, this finding is expected to be a reference for regulators and

banking industry players in strengthening risk mitigation strategies and improving the efficiency of asset management. Thus, long-term financial stability can be maintained despite the changing global economic dynamics.

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