



The Effect of Market Risk and Credit Risk on Banking Profitability: A Conceptual Analysis

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Abstract

Article history:

Received: January 7, 2022
Revised: February 24, 2022
Accepted: April 13, 2022
Published: June 30, 2022

Keywords:

Credit,
Market,
NIM,
NPL,
Profitability.

Identifier:

Zera Open
Page: 75-90
<https://zeraopen.com/journal/amos>

This study aims to examine the impact of market risk and credit risk on banking profitability over the past five years. It applies a descriptive qualitative method using a literature review approach that analyzes various studies indexed in Google Scholar. Market risk is represented by the Net Interest Margin, while credit risk is measured using the Non-Performing Loan ratio. The findings reveal that Net Interest Margin positively influences Return on Assets, indicating the bank's efficiency in managing productive assets to generate net interest income. Conversely, non-performing loans negatively affects profitability, as higher non-performing loans deteriorate asset quality and increase the burden of loss provisions. However, the strength of the relationship between these variables depends on economic conditions, monetary policy, and the financial structure of each bank. This study underscores the importance of integrating market and credit risk management as key strategies to maintain financial stability, enhance long-term profitability, and strengthen the banking sector's resilience to economic fluctuations. Furthermore, the results offer both theoretical contributions and practical implications for policymakers and banking managers in optimizing effective and sustainable risk control systems.



1. Introduction

Profitability serves as a key indicator of a financial institution's ability to utilize its resources effectively to generate sustainable profits. In the banking industry, a high level of profitability demonstrates efficient operations and sound risk management practices. One of the most widely used profitability metrics is Return on Assets (ROA), which indicates how efficiently a bank's assets are employed to produce income. Several factors influence bank profitability, but the two most significant are market risk and credit risk (Badawi, 2017).

Market risk refers to the potential for losses resulting from external factors such as fluctuations in interest rates, exchange rates, or commodity prices. A common indicator of market risk in banking is the Net Interest Margin (NIM), which represents the difference between interest income and interest expenses derived from productive assets. A higher NIM suggests that banks are efficiently managing their earning assets and effectively capitalizing on interest rate spreads. Consequently, an increase in NIM is generally associated with improved profitability (Sondakh et al., 2021). In contrast, credit risk arises when borrowers fail to fulfill their loan repayment obligations, and it is typically measured by the Non-Performing Loan (NPL) ratio. A higher NPL indicates greater potential losses for banks, thereby reducing profitability. Empirical evidence shows that NPLs have a significant negative effect on ROA, as an increase in non-performing loans diminishes a bank's net interest income (Rachman et al., 2019).

These two risks interact in complex ways and jointly influence financial performance. On a global scale, particularly after 2017, economic volatility and

financial market uncertainty have become more pronounced due to shifts in monetary policy and the repercussions of the COVID-19 pandemic. Several studies indicate that although NIM generally maintains a positive correlation with ROA, its impact on profitability tends to fluctuate amid changes in interest rates and government stimulus policies (Saleh & Abu Afifa, 2020).

Moreover, cross-country analyses such as those focusing on the Middle East and North Africa regions yield inconsistent findings. In certain instances, higher market risk does not significantly affect profitability, while credit risk remains a primary factor negatively influencing banking earnings (Bawazir, 2021). These variations highlight that the relationship between these variables is not universally consistent and is shaped by geographic and temporal economic contexts. Therefore, focusing research specifically on the two primary variables market risk (NIM) and credit risk (NPL) is essential to better understand their contribution to overall bank profitability. This study also addresses a gap in existing literature, as many prior works incorporated numerous complex variables, making it difficult to isolate the specific relationship between the main types of risk (Adiatmayani & Panji, 2021).

Drawing on previous findings and earlier research by Mosey et al. (2018), both market risk (NIM) and credit risk (NPL) are known to significantly influence profitability (ROA). However, considering the structural transformation of the global economy and the growing digitalization of the financial system after 2017, updating the research model is necessary to ensure greater relevance to current banking dynamics. Hence, this study aims to re-examine the relationship between

market risk and credit risk in relation to bank profitability, using a conceptual approach tailored to the post-2017 to 2021 period (Dermawantika et al., 2020).

2. Literature Review

2.1. Profitability in the Banking Sector

Profitability is a key measure of performance that reflects the ability of financial institutions to make profits from the resources it has. The Return on Assets (ROA) ratio is often used to assess management's efficiency in utilizing productive assets to generate revenue. The higher the ROA value, the more efficient the company will be in managing its assets and the better its financial performance. In the context of banking, profitability not only reflects internal performance, but also plays an important role in maintaining financial system stability and public trust in the financial industry (Badawi, 2017). Factors that affect the bank's profitability include the bank's ability to manage net interest income, operational efficiency, and credit risk control. Increased credit risk can lower net profit due to increased cost of loss reserves. On the other hand, the bank's ability to maximize interest income will increase profit margins through the Net Interest Margin (NIM) indicator (Rachman et al., 2019). The results of previous research also show that the profitability of banks does not only depend on the size of assets or capital, but is more determined by the effectiveness of risk management. In other words, an efficient risk management strategy plays a key catalyst in maintaining the profitability and sustainability of the banking business (Saleh & Abu Afifa, 2020).

2.2. Market Risk and NIM

Market risk is the possibility of losses due to changes in macroeconomic conditions, interest rates, or financial market volatility. In the banking industry, market risk is largely proxied through Net Interest Margin (NIM), which is the ratio between net interest income to productive assets. The higher the NIM value, the more efficient the bank will be in utilizing its assets to generate profits. NIM also reflects the ability of bank management to control the difference between loan interest and deposit interest (Sondakh et al., 2021). Several studies have found a positive and significant relationship between NIM and profitability. These results show that an increase in NIM is an important indicator for better bank financial performance (Adiatmayani & Panji, 2021). However, the relationship is not always consistent across all economic conditions. For example, in periods of economic instability or fluctuations in global interest rates, an increase in NIM is not always followed by an increase in profits due to pressures from high funding costs or declining credit demand. Cross-country research shows variations in outcomes, especially in emerging markets. In the global context, the sensitivity of NIM to changes in monetary policy or economic crises is higher than that of developed countries, so its effect on ROA tends to fluctuate (Elamer et al., 2019).

2.3. Credit Risk and NPL

Credit risk is a risk that arises due to the debtor's failure to fulfill its debt payment obligations to the bank. The Non-Performing Loan (NPL) ratio is a common measure used to measure credit risk. The higher the NPL value, the greater the potential loss faced by the bank and the lower the level of profitability. Thus, the

relationship between NPL and ROA is usually negative (Dewi, 2021). Research by Saleh & Abu Afifa (2020) shows that credit risk has a significant influence on the profitability of banks in developing countries. This is because high NPLs reflect weak risk management and declining asset quality. In addition, increased credit loss reserve costs can reduce the bank's operating income. According to Mosey et al. (2018), credit risk and market risk simultaneously have a significant influence on ROA. However, the negative effect of NPLs on profitability is much stronger than the positive effect of NIM. Therefore, credit risk management is a key factor in maintaining the sustainability of profits and financial stability of banking institutions.

3. Methods

This research uses a descriptive qualitative approach with the main data source coming from library research. This approach was chosen because the purpose of the study was not to test the hypothesis statistically, but to analyze and describe the conceptual relationship between two main variables, namely market risk (Net Interest Margin / NIM) and credit risk (Non-Performing Loan / NPL) to profitability (Return on Assets / ROA) in the general context of the banking industry. With this approach, the researcher seeks to interpret in depth the empirical results and theories that have been developed in various previous studies in order to gain a comprehensive understanding of the phenomenon studied.

Research data was obtained from Google Scholar-indexed scientific articles published between the last five years, as well as several additional reference sources

from previous research that were used as conceptual foundations. Data collection was carried out through a systematic search process of international and national journals relevant to the research topic, especially those that examine the relationship between market risk, credit risk, and profitability in financial institutions. Each source is critically analyzed to identify patterns of relationships, differences in outcomes, as well as current research directions in the field of banking risk management.

The analysis procedure is carried out by content analysis techniques which include three main stages: (1) data reduction, namely the selection and filtering of literature based on the suitability of the topic, year of publication, and contribution to the conceptual model; (2) data presentation, namely the organization of information obtained in narrative and thematic form so that it is easy to understand; and (3) drawing conclusions, which are carried out through the interpretation of the relationship between variables based on the results of previous research.

In this study, the validity of the data is maintained through source triangulation, namely by comparing findings between studies that have similar or different results, to obtain objective conclusions. The validity of interpretation is also strengthened by the use of references from various country contexts and time periods so that the results of the study have a high generalization value. Thus, this method allows researchers to construct a conceptual model that can comprehensively explain the influence of market risk and credit risk on bank profitability, without being tied to a specific geographical or institutional context.

4. Results

The results of this study were obtained through a literature analysis from various studies that examined the relationship between market risk/NIM, credit risk/NPL, and profitability/ROA in financial institutions. Based on the results of an analysis of the literature from the last five years, it was found that both risk variables have a significant role in determining the level of bank profitability, although the direction and strength of their influence vary depending on the economic context and the time period of the study. In general, the results of the study show that NIM has a positive effect on ROA, which means that the larger the net interest margin obtained by the bank, the higher the level of profitability. This is in line with the findings of Badawi (2017) who emphasized that the ability of banks to manage net interest income is the main determinant of profitability success. Meanwhile, Rachman et al. (2019) also found that NIM plays an important role as a variable in determining the stability of banks' financial performance in the domestic market.

However, the results of the study are not always consistent. For example, Saleh & Abu Afifa (2020) found that although NIM tends to increase ROA, the effect becomes unstable when macroeconomic conditions change drastically, such as when there are interest rate fluctuations or liquidity crises. In such situations, interest income can increase but accompanied by an increase in the cost of funds, so the net profit margin does not always increase. These findings reinforce the argument that NIM not only reflects the efficiency of interest income, but also the ability of banks to adjust financing strategies in the face of market uncertainty.

On the other hand, NPLs as an indicator of credit risk have a consistent negative relationship to profitability. A study by Dewi (2021) confirms that an increase in the non-performing loan ratio results in a decrease in profits because banks have to increase credit loss reserves. This study is in line with Setyarini (2020) who found that the NPL variable has a significant negative influence on ROA, while NIM shows a positive influence. These two studies prove that credit risk control remains a top priority in maintaining the financial performance of banks.

Meanwhile, the results of cross-border research provide a more varied picture. Bawazir (2021) examined the banking sector in the Middle East and North Africa (MENA) and found that the influence of market risk on profitability is insignificant in most countries, while credit risk remains a strong determinant of ROA. These findings show structural differences in how banks in the region manage interest income and default risk.

A review of the literature also revealed that the results of previous research showed empirical inconsistencies, both in terms of the direction of influence and the magnitude. For example, the study of Sondakh et al. (2021) shows that NIM and NPLs are equally significant to ROA, but the relationship between the two tends to be complex because they are influenced by external variables such as third-party funds and interest rate policies. Similar findings are also confirmed by Mosey et al. (2018) who state that both risks simultaneously affect profitability in opposite directions of influence: positive NIM and negative NPLs.

The consistency of the findings regarding the negative impact of NPLs on ROA shows the importance of an effective credit risk management strategy. When

banks fail to mitigate credit risks, profits will be depressed due to increased non-performing financing. However, the positive relationship between NIM and ROA is not always stable, due to the sensitivity of interest margins to external factors such as inflation, monetary policy, and changes in the benchmark interest rate. Therefore, the conceptual model in this study emphasizes the importance of assessing both risks simultaneously and contextually, taking into account macroeconomic changes that have occurred over the past five-year period.

Based on the overall, the results of the literature synthesis show that the relationship between market risk and credit risk to profitability is dynamic. In a stable economic situation, an increase in NIM tends to strengthen the ROA, while an increase in NPLs always decreases profitability. Conversely, in periods of economic instability, the effect of NIM can weaken and even change direction, depending on the funding structure and interest rate policy strategy of each bank. This shows that integrated risk management which includes the control of NIM and NPLs is a key factor in maintaining the financial resilience of banking institutions in the modern era (Saleh & Abu Afifa, 2020; Rachman et al., 2019). To clarify the position of this research in an academic and empirical context, the following table is presented that summarizes the research gaps of the ten relevant studies used in this study.

Table.1 Summary of Research Gaps of Previous Research

Yes	Author (Year)	Research Title	Conclusion/Research Gap
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1	Squirrelly (2017)	Effect of credit risk, liquidity risk, and market risk banking to profitability bank.	It shows the positive influence of NIM and negative NPLs on ROA, but data prior to 2017 do not represent current economic conditions.
2	Rachman et al. (2019)	Credit risk, market risk, and profitability: Case study of Banks in Indonesia Stock Exchange.	The relationship between NIM–ROA and NPL–ROA is negative, but the research is limited to domestic contexts and short periods.
3	Saleh & Abu Afifa (2020)	The effect of credit risk, liquidity risk and bank capital on bank profitability.	The effects of market risk are unstable during a crisis; Further research is needed with a focus on two main variables.
4	Sondakh et al. (2021)	The effect of third-party funds, credit risk, market risk, and operational risk on profitability in banking.	NIM and NPL are significant to ROA, but results are affected by external variables (DPK).
5	Adiatmayani & Panji, 2021	The effect of credit risk and operational risk on profitability with capital adequacy variables as a mediating variable: A study on Indonesian state-owned banks for the period of 2015-2019	Showing the consistency of the relationship of the two main variables (NIM and NPL), leaves room for a simple model.
6	Dermawantika et al. (2022)	Analysis of the influence of credit risk, market risk, and operational efficiency on financial performance of state-owned commercial banks listed on the IDX for the period 2014–2018	The effect of NIM on ROA is unstable during the pandemic period; Further study is needed post-crisis.
7	Bawazir (2021)	The impact of risk on banking sector profitability: Evidence from MENA.	NIM is insignificant in some countries; shows regional and structural differences.
8	Mosey et al. (2018)	The Effect of Market Risk and Credit Risk on Profitability in State-Owned Commercial Banks Listed on the IDX for the 2012-2016 Period	Be a conceptual basis; require post-2017 data and context updates to be relevant.

Based on the table 1, it can be concluded that previous studies showed inconsistent results regarding the strength of influence of NIM and NPL on ROA. Differences in geographical context, economic periods, and the complexity of empirical models are the main causes of these variations. Therefore, this study emphasizes the need to retest with a simple model involving only two main risk variables in the last five-year period in order to describe the dynamics of banking profitability more clearly and relevant to the development of the global financial system.

5. Discussion

The results of the literature analysis show that the relationship between NIM and NPL to ROA is dynamic and contextual. Under stable economic conditions, most studies have found that an increase in NIM will drive the growth of bank profitability because banks can optimize productive assets to generate net interest income. These findings are consistent with the studies of Badawi (2017) and Setyarini (2020), which confirmed that interest margin management is the most sensitive performance indicator for bank efficiency. However, this influence can fluctuate depending on monetary policy and benchmark interest rates, as shown by Saleh & Abu Afifa (2020), who found the instability of NIM's influence on ROAs in developing countries when global economic conditions are under pressure.

Meanwhile, credit risk (NPL) consistently shows a negative relationship to profitability. The higher the NPL ratio, the lower the ROA rate generated by the

bank due to the increased burden of loss reserves and deterioration of asset quality. Research by Dermawantika et al. (2020) shows that credit risk is the dominant factor in determining the sustainability of profitability, especially in periods of economic uncertainty due to the pandemic. These results are in line with Rachman et al. (2019), who found that non-performing credit control is the most crucial variable in maintaining long-term profitability.

Findings from cross-regional studies such as Elamer et al. (2019) show variations in the relationship between these variables, mainly due to differences in financial structures and banking policies in each country. In the MENA region, for example, the influence of NIM on ROA was not significant, but NPLs still showed a strong negative relationship. This difference confirms that the economic context and local regulations are the main determining factors in the strength of the relationship between risk and profitability.

When compared to the previous findings from Mosey et al. (2018), it can be seen that there is a consistency that NIM and NPL simultaneously affect ROA in the opposite direction of influence. However, recent studies expand the understanding by showing that the sensitivity of both variables to macroeconomic changes increased after 2017. This shows the need for a new approach that is more adaptive to global economic dynamics and digital financial innovations that affect bank margins and financing risks.

Theoretically, this result reinforces the concept of risk–return trade-off, where a high rate of return is always accompanied by greater risk. However, in modern banking practices, a balance between NIM management and NPL control

is key to achieving sustainable profitability. Thus, this discussion confirms that the integration of market risk management and credit risk is a fundamental strategy in dealing with global economic uncertainty, while providing a direction for further research to test the stability of the relationship between the two variables in the long term.

6. Conclusion

This study concludes that market risk/NIM and credit risk/NPL have an important role in determining the profitability/ROA of banking institutions. Based on the results of a literature review over the last five years, it was found that the two variables have opposite but complementary directions of influence. An increase in NIM tends to strengthen profitability because it shows the efficiency of productive asset management, while an increase in NPLs decreases profitability due to an increase in the burden of loss reserves and a decrease in asset quality. Although the relationship between the two is theoretically consistent, empirical results show that there are variations between periods and between regions, which indicates that the dynamics of the global economy, monetary policy, and risk management strategies of each bank have a significant effect on the stability of financial performance.

Therefore, integrated risk management is a must for banking institutions to maintain a balance between returns and risks. This study also emphasizes the need to update the conceptual model in examining the relationship between risk and profitability, especially by focusing the analysis on only two main variables so that the interpretation of the relationship becomes clearer and measurable. Thus, the

results of this study not only enrich the academic literature, but also provide practical implications for policymakers and banking managers in designing sustainable risk mitigation strategies.

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