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Bank Bankruptcy Analysis: Capital Adequacy Ratio, Loan-to-Deposit Ratio, Non-Performing Loans, Return on Assets

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Abstract: Bank failures in Indonesia have continued, with over a hundred banks, mostly rural banks, losing their licenses in recent years, raising concern for banking companies listed on the Indonesia Stock Exchange. Prior studies applying Altman, Springate, Zmijewski, and Grover models to Indonesian banks report inconsistent accuracy and rarely synthesize findings across periods, leaving a gap in which financial ratios most consistently explain listed-bank bankruptcy. This study examines how Capital Adequacy Ratio, Loan to Deposit Ratio, Non-Performing Loan, and Return on Assets relate to bank bankruptcy in Indonesia. A qualitative descriptive approach using a systematic literature review was applied, drawing on fifty secondary sources published between 2021 and 2026 from Springer, Wiley, ProQuest, Emerald, Taylor and Francis, Sage, Sinta, Copernicus, and Google Scholar. The review finds that all four ratios influence bank bankruptcy, with weak capital, aggressive lending, deteriorating credit quality, and declining profitability jointly signaling elevated risk. The novelty lies in integrating these ratios into one conceptual model built from multi-year literature synthesis rather than a single-period dataset, offering stakeholders and regulators a consolidated early-warning reference.

Keywords: Bank Bankruptcy, Capital Adequacy Ratio, Loan to Deposit Ratio, Non-Performing Loan, Return on Assets

INTRODUCTION

The banking sector plays a central role as a financial intermediary and a pillar of national financial system stability. The failure of a bank not only harms shareholders and customers but also has the potential to trigger a domino effect on public confidence and overall economic stability (Purwanti, 2021). The phenomenon of bank failures is therefore a serious concern for regulators, particularly for companies in the banking subsector that are listed on the Indonesia Stock Exchange (IDX) and raise funds from the public, as the failure of a listed bank has a direct impact on capital market confidence (Maula et al., 2024).

Data from the Deposit Insurance Corporation (LPS) and the Financial Services Authority (OJK) indicate that bank failures in Indonesia are not merely a theoretical concern. Since the deposit insurance program began through the end of 2022, 118 banks have had their

operating licenses revoked and been liquidated, consisting of 105 Rural Credit Banks (BPR) and 13 Sharia Rural Credit Banks (BPRS) (LPS, 2025). This trend continued during the 2024–2026 period: The OJK recorded that the operating licenses of approximately 20 BPRs/BPRSs were revoked throughout 2024, bringing the cumulative total to 138 banks, followed by 7 banks throughout 2025, and at least 10 additional banks by mid-2026, bringing the total number of liquidated banks to 154 as of June 2026, one of which was a commercial bank and the rest were BPRs/BPRSs (LPS, 2025; CNBC Indonesia, 2025; Pos Bali, 2026). This data is presented in Figure 1 below:

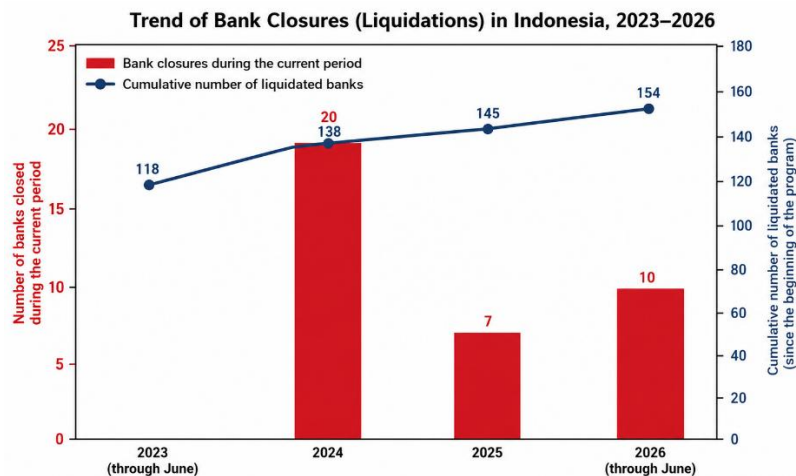


Figure 1. Trends in the Closure (Liquidation) of Commercial Banks, BPRs, and BPRSs in Indonesia for the 2023–2026 Period

Source: Compiled from the LPS Institutional Report for the Third Quarter of 2025, OJK-LPS press releases, and news reports from CNBC Indonesia and Pos Bali (2024–2026)

As shown in Figure 1, the number of banks closed each year does fluctuate, but the cumulative line continues to rise, indicating that the banking industry’s consolidation process is still ongoing and that the majority of cases involve small-scale banks such as BPRs and BPRSs. Nevertheless, an empirical study of companies in the banking subsector listed on the Indonesia Stock Exchange (BEI) shows that the risk of bankruptcy is not limited to small-scale banks. Mufidah & Handayani, (2024) analyzed financial distress conditions among banking companies listed on the BEI during the 2020–2022 period using the Altman Z-Score, Grover, Springate, and Zmijewski models, and found varying levels of accuracy among the models: Grover at 100%, Springate at 64%, Altman at 60%, and Zmijewski at 52%. The differences in results among these predictive models indicate that there is no consensus yet on which financial ratios most consistently explain the risk of bankruptcy among banking issuers in Indonesia.

A research gap in this study is that previous studies on bank bankruptcy prediction in Indonesia generally have three limitations. First, most studies are quantitative in nature, focusing on a single data period and a limited research subject, such as the study by Sari & Mawardi, (2021), which only examined conventional commercial banks during the 2014–2018 period, or the study by Humaira et al. (2021), which focused solely on a single bank (PT Bank Muamalat Indonesia Tbk), making it difficult to generalize the results to all companies in the banking subsector listed on the IDX. Second, the use of independent variables varies inconsistently across studies; some include Net Interest Margin (NIM) and BOPO, while others focus only on Capital Adequacy Ratio (CAR), Loan-to-Deposit Ratio (LDR), Non-Performing Loans (NPL), and Return on Assets (ROA), making direct comparisons difficult. Third, there has been little research that comprehensively synthesizes these findings in the form of a systematic literature review covering the most recent timeframe (2021–2026), even though the dynamics of the national banking sector continue to evolve, including the massive wave of BPR/BPRS consolidation following the pandemic.

The novelty of this study lies in its effort to integrate four financial ratios which are most often studied separately namely the Capital Adequacy Ratio, Loan-to-Deposit Ratio, Non-Performing Loans, and Return on Assets into a single conceptual framework based on a multi-year literature synthesis (2021–2026), rather than on a single dataset from a specific period. The state-of-the-art nature of this study lies in its literature review approach, which combines secondary data from reputable international journal sources (Springer, Wiley, ProQuest, Emerald, Taylor and Francis, Sage) and nationally indexed sources such as Sinta, Copernicus, and Google Scholar. This results in a more comprehensive mapping compared to individual studies based on quantitative data from a single bank or a single period, while also updating our understanding of the phenomenon of bank failures by taking into account the latest trends in bank closures through 2026.

Based on the background and research gaps outlined above, the research questions in this study are: 1) Does the Capital Adequacy Ratio affect bank insolvency among companies in the banking subsector in Indonesia?; 2) Does the Loan-to-Deposit Ratio affect bank insolvency among companies in the banking subsector in Indonesia?; 3) Do non-performing loans affect bank failures among companies in the banking subsector in Indonesia?; 4) Does the Return on Assets affect bank bankruptcy among companies in the banking subsector in Indonesia?; and 5) What is the conceptual framework that can synthesize the effects of the Capital Adequacy Ratio, Loan-to-Deposit Ratio, Non-Performing Loans, and Return on Assets on bank bankruptcy based on a review of the literature from 2021 to 2026?

In line with these research questions, this study aims to: 1) Analyze the effect of the Capital Adequacy Ratio on bank bankruptcy in the banking subsector in Indonesia; 2) Analyze the effect of the Loan-to-Deposit Ratio on bank bankruptcy in the banking subsector in Indonesia; 3) To analyze the effect of Non-Performing Loans on bank bankruptcy among companies in the banking subsector in Indonesia; 4) To analyze the effect of the Return on Assets on bank bankruptcy among companies in the banking subsector in Indonesia; and 5) To develop a conceptual framework that synthesizes the effects of these four variables on bank bankruptcy based on a systematic literature review covering the years 2021–2026.

METHOD

This study employs a descriptive qualitative approach in the form of a Systematic Literature Review (SLR), which aims to systematically and comprehensively identify, evaluate, and synthesize various findings from previous research. This approach was chosen because it provides an in-depth understanding of the phenomenon of bank bankruptcy through the integration of various scientific perspectives from a diverse body of literature, thereby yielding stronger and more generalizable conclusions compared to single-study research (Susanto et al., 2024). The literature review was conducted in a structured manner to capture the evolving theoretical and empirical dynamics in the fields of financial management and banking, particularly regarding the prediction and prevention of bank failures.

The data used consists of secondary data sourced from relevant prior scientific articles, academic books, research reports, and other scholarly publications. A total of 50 scientific articles served as the primary sources, obtained from reputable and indexed international journals such as Springer, Wiley, ProQuest, Emerald, Taylor & Francis, Sage, Sinta, Copernicus, and Google Scholar. The publications analyzed focus on the time period from 2021 to 2026 to ensure the recency and relevance of the empirical context to current conditions in the national banking industry. As supplementary data, this study also utilizes additional secondary data sourced from the annual financial reports of listed banks published on the official website of the Indonesia Stock Exchange (www.idx.co.id), banking statistics from the Financial Services Authority (OJK), and quarterly institutional reports from the Deposit

Insurance Corporation (LPS), to strengthen the empirical context regarding the dynamics of bank failures in Indonesia (Boulton, M. J., & Houghton, 2021).

The data analysis procedure was conducted through three main stages: data reduction, data presentation, and drawing conclusions. In the data reduction stage, the researcher screened the literature based on inclusion criteria (alignment of the topic with the variables Capital Adequacy Ratio, Loan-to-Deposit Ratio, Non-Performing Loans, Return on Assets, and bank bankruptcies within the 2021–2026 timeframe) and eliminated duplicates and articles irrelevant to the banking subsector. The data presentation stage was organized in the form of descriptive narratives and synthesis matrices. The conclusion-drawing stage was conducted through in-depth interpretation to construct a conceptual model, which was validated using triangulation of literature sources (Azhari et al., 2023).

RESULTS AND DISCUSSION

Results

Based on the research questions above, the findings of this literature review are as follows:

Bank Bankruptcy

Bank bankruptcy is a condition in which a bank no longer has the ability to meet its financial obligations to customers, creditors, or other stakeholders due to a sustained deterioration in its financial condition. Bankruptcy generally begins with a decline in a bank's financial health, characterized by deteriorating asset quality, declining profitability, weak liquidity, increasing credit risk, and insufficient capital to cover incurred losses (Galati & Capalbo, 2024).

The indicators or dimensions associated with the bank bankruptcy variable include: 1) Inability to Meet Obligations: Refers to a situation where a bank is unable to meet its obligations to customers, creditors, or third parties due to a shortage of funds or liquid assets. The higher the level of insolvency, the greater the risk of bankruptcy; 2) Deterioration in Asset Quality: Describes the worsening quality of productive assets, particularly the rise in non-performing loans (NPLs), which leads to a decline in revenue and an increase in the provisioning for loan losses; 3) Decline in Profitability: Indicates the bank's continuously declining ability to generate profits due to rising operating costs, credit risk, and low asset management efficiency. A decline in profitability is an early warning sign of financial distress; 4) Liquidity Difficulties: Describes a bank's inability to meet short-term funding needs, including customer withdrawals. Prolonged liquidity disruptions can accelerate bankruptcy (Galati & Capalbo, 2024).

Bank bankruptcy variables are relevant to previous studies conducted by: (Ullah et al., 2021), (Wahyuni et al., 2023), (Mauluddi & Fauziah, 2022), (Napitupulu & Puspitasari, 2023).

Capital Adequacy Ratio

The Capital Adequacy Ratio (CAR) is a ratio used to measure a bank's ability to provide capital to cover the risk of losses arising from operational activities and lending. The CAR reflects the strength of a bank's capital base in protecting public funds while maintaining the stability of the banking system (Rerung, 2022).

The indicators or dimensions included in the capital adequacy ratio variable are as follows: 1) Core Capital Adequacy: Describes the ability of core capital (*Tier 1 Capital*) to absorb losses arising from the bank's operational activities, thereby maintaining financial stability; 2) Risk-Bearing Capacity: Indicates the bank's capital's ability to cover credit risk, market risk, and operational risk in accordance with risk-weighted assets (RWA); 3) Capacity to Support Business Expansion: Strong capital enables the bank to expand credit disbursement, increase investment, and develop services without compromising the bank's financial health;

4) Compliance with Capital Regulations: Demonstrates the bank's ability to meet the minimum CAR requirements set by the OJK and Basel, ensuring the bank's operations remain in a sound condition (Astuti, 2022).

The capital adequacy ratio variable is relevant to previous studies conducted by: (Guicheldy & Sukartaatmadja, 2021), (Damayanti & Mawardi, 2022), (Lisa & Yusvita Nena Arinta, 2023).

Loan-to-Deposit Ratio

The Loan-to-Deposit Ratio (LDR) is a liquidity ratio that measures a bank's ability to channel funds collected from the public into loans. This ratio indicates the extent to which third-party funds have been utilized for loan financing, making it a key indicator for assessing both the level of liquidity and the effectiveness of a bank's intermediary function (Sukmadewi, 2020).

The indicators or dimensions included in the loan-to-deposit ratio variable are: 1) Fund Channelling Capacity: Describes a bank's ability to channel public funds into productive loans that generate interest income; 2) Liquidity Coverage Capacity: Indicates a bank's ability to meet short-term obligations to customers even though the majority of funds have been channeled in the form of loans; 3) Effectiveness of the Intermediation Function: Measures the bank's effectiveness in performing its role as an intermediary institution—that is, mobilizing public funds and channeling them back in the form of financing; 4) Balance Between Loans and Third-Party Funds: Indicates the balance between the amount of loans granted and the third-party funds mobilized, thereby enabling the management of liquidity risk (Ramadhan & Amalia, 2023).

The loan-to-deposit ratio variable is relevant to previous studies conducted by: (Susilawati & Nurulrahmatiah, 2021), (Suroso, 2022), (A. J. Saputra & Angriani, 2023).

Non-Performing Loan

Non-Performing Loan (NPL) is a ratio that describes the level of non-performing loans held by a bank compared to the total loans disbursed. This ratio serves as a key indicator of the quality of earning assets because it shows the extent of the risk of default by borrowers (Farras Brastama & Yadhya, 2020).

The indicators or dimensions included in the Non-Performing Loan variable are: 1) Non-Performing Loan Ratio: Describes the proportion of non-performing loans relative to total loans disbursed. The higher this ratio, the poorer the bank's credit quality; 2) Credit Portfolio Quality: Indicates the overall quality of earning assets derived from lending activities to borrowers; 3) Effectiveness of Credit Risk Management: Measures the bank's ability to analyze, monitor, collect on, and restructure loans so that the risk of default can be minimized; 4) Loan Collection Capability: Indicates the bank's effectiveness in collecting and resolving non-performing loans to minimize losses (Singh et al., 2021).

The non-performing loan variable is relevant to previous studies conducted by: (Maula et al., 2024), (Prananda et al., 2022), (Khan et al., 2020).

Return on Assets

Return on Assets (ROA) is a profitability ratio that measures a bank's ability to generate net income through the utilization of all its assets. ROA indicates the effectiveness of management in managing productive assets such as loans, securities, cash, and investments to generate profits (F. Saputra, 2022).

The indicators or dimensions included in the return on assets variable are: 1) Effectiveness of Asset Utilization: Describes a bank's ability to use all productive assets to generate profit optimally; 2) Profit-Generating Capacity: Indicates the amount of net profit

generated from all assets held by the bank over a given period; 3) Efficiency of Productive Asset Management: Measures management's ability to optimize assets such as loans, securities, and investments to yield high returns; 4) Management Performance: Describes management's success in managing resources, controlling operating costs, and increasing asset productivity to enhance the bank's profitability (Ayuningrum et al., 2021).

The return on assets variable is relevant to previous studies conducted by: (Wati et al., 2024), (Ningsih & Ilhami, 2023), (Erick, 2021), (Dewi & Asroi, 2022).

Previous Research

Based on the findings above and previous studies, the research discussion is formulated as follows:

Table 1. Results of Relevant Previous Research

No	Author (Year)	Research Findings	Similarities with This Study	Differences from This Study	Hypothesis
1	(Sari & Mawardi, 2021)	The variables Free-Based Income, Cost Inefficiency, CAR, LDR, and Firm Size influence the bankruptcy of conventional commercial banks in Indonesia listed on the Indonesia Stock Exchange (IDX) during the 2014–2018 period	Similarities with this study include the independent variable Capital Adequacy Ratio and the dependent variable Bank Bankruptcy	The research subjects were conventional commercial banks in Indonesia listed on the IDX during the 2014–2018 period	H1
2	(Alyana & Munawar, 2021)	The variables LDR, NPL, CAR, and NIM influence the bankruptcy of Islamic banks during the 2013–2019 period	Similarities with this study regarding the independent variable Loan-to-Deposit Ratio and the Bank Bankruptcy variable	Differences in the other independent variables, namely NPL, CAR, and NIM	H2
3	(Asyva et al., 2021)	The variables CAR, NPL, BOPO, and LDR have an effect on the bankruptcy of commercial banks listed on the Indonesia Stock Exchange	Similarities with this study regarding the independent variable Non-Performing Loans and the dependent variable Bank Bankruptcy	Differences in the other independent variables, namely CAR, BOPO, and LDR	H3
4	(Humaira et al., 2021)	The variables ROA, BOPO, CAR, and FDR influence bank bankruptcy at PT Bank Muamalat Indonesia Tbk	Similarities with this study regarding the independent variable ROA and the dependent variable "Bank Bankruptcy"	The research was conducted on PT Bank Muamalat Indonesia Tbk The difference lies in the other independent variables, namely BOPO, CAR, and FDR	H4

Discussion

Based on the background, research questions, research objectives, and previous research findings outlined above, the discussion of this study—which focuses on the banking sector is as follows:

1. The Effect of the Capital Adequacy Ratio on Bank Bankruptcy

Based on a literature review and relevant previous studies, it is known that *the capital adequacy ratio* influences bank bankruptcy in Indonesia.

To avoid or minimize bank bankruptcies in the Indonesian banking sector, stakeholders or banking executives must pay attention to or implement the four indicators of the capital adequacy ratio, which include: 1) Core capital adequacy: Retaining a portion of net income rather than distributing it excessively as dividends. Conducting a capital injection (*rights issue*) or issuing new shares when market conditions are favorable; 2) Risk-bearing capacity:

Implementing a periodic *stress-testing* framework to simulate the impact of extreme macroeconomic crises on capital adequacy; 3) Ability to support business expansion: Controlling the growth rate of Risk-Weighted Assets (RWA) so that it does not exceed the growth rate of accumulated core capital; 4) Compliance with capital regulations: Maintaining the CAR ratio above the required *Capital Conservation Buffer*, *Countercyclical Buffer*, and *Systemic Risk Buffer*.

If banking stakeholders or executives are able to monitor or implement the four capital adequacy ratio indicators, this will have a negative impact on bank bankruptcies in Indonesia, including: 1) Inability to meet obligations: Strong capital ensures that banks always have positive net equity to cover all obligations to depositors and creditors. Banks are spared from *insolvency* (where total liabilities exceed total assets), thereby maintaining public and money market confidence; 2) Deterioration in asset quality: ATMR-based capital supervision encourages management to be more selective in extending credit; 3) Decline in profitability: A solid capital structure reduces a bank's reliance on expensive funding to cover risks. In addition, RAROC-based capital allocation ensures that productive assets generate a healthy *net interest margin* (NIM); 4) Liquidity difficulties: Well-capitalized banks have much easier access to the interbank money market and lender-of-last-resort liquidity facilities. This prevents *bank runs*, which are often the primary trigger for instant bankruptcy.

The results of this study are consistent with previous research conducted by the (Sari & Mawardi, 2021), which states that there is a relationship between the capital adequacy ratio and bank bankruptcies in Indonesia.

2. The Effect of the Loan-to-Deposit Ratio on Bank Bankruptcy

Based on a literature review and relevant prior research, it is known that *the loan-to-deposit ratio* influences bank bankruptcy in Indonesia.

To prevent or minimize bank bankruptcies in the Indonesian banking sector, stakeholders and banking executives must pay attention to or implement the following four indicators of the loan-to-deposit ratio: 1) Lending capacity: This must be enhanced through credit policies that are productive, selective, and based on the principle of prudence; 2) Liquidity adequacy: Management must ensure sufficient liquid assets, such as cash, demand deposits at Bank Indonesia, government securities, and readily convertible money market instruments; 3) Effectiveness of the intermediation function: Banks need to balance credit growth targets with the quality of financing through the implementation of *risk-based lending*; 4) Balance between loans and third-party funds: Management needs to set an LDR target within a healthy range in accordance with regulatory requirements and the bank's risk profile.

If banking stakeholders or executives are able to pay attention to or implement these four loan-to-deposit ratio indicators, it will have a positive impact on preventing bank failures in Indonesia, including: 1) Inability to meet obligations: Sound LDR management will reduce the risk of insolvency. High-quality lending and adequate liquidity enable banks to meet their obligations to customers, creditors, and regulators on time, thereby minimizing the risk of default; 2) Decline in asset quality: Loans granted based on comprehensive risk analysis will curb the formation of *non-performing loans* (NPLs), ensuring that productive assets remain of high quality and the bank's economic value is preserved; 3) Decline in profitability: Optimal LDR management prevents a decline in profitability. Effective lending increases interest income, while credit risk control and funding cost management maintain operational efficiency; 4) Liquidity difficulties: Implementing a balanced LDR strategy reduces liquidity difficulties. The availability of adequate liquid assets, diversification of funding sources, and sound cash flow management enable banks to cope with fluctuations in customer withdrawals without disrupting operational activities.

The results of this study are consistent with previous research conducted by the (Alyana & Munawar, 2021), which found a correlation between the loan-to-deposit ratio and bank bankruptcies in Indonesia.

3. The Impact of Non-Performing Loans on Bank Bankruptcy

Based on a literature review and relevant previous research, it is known that *non-performing loans* have an impact on bank bankruptcies in Indonesia.

To prevent or minimize bank failures in the Indonesian banking sector, stakeholders and banking executives must pay attention to and implement the following four *non-performing loan* indicators: 1) Non-performing loan ratio: Banks must conduct a thorough verification of borrower data, analyze repayment capacity based on cash flow, evaluate the borrower's business prospects, and utilize information from the OJK's Financial Information Service System (SLIK) to assess a prospective borrower's credit history; 2) Credit portfolio quality: Management needs to conduct regular monitoring of the entire credit portfolio to identify potential declines in credit quality at an early stage; 3) Effectiveness of credit risk management: Banks need to establish a system for identifying, measuring, monitoring, and controlling credit risk that is integrated with all business activities; 4) Loan collection capabilities: Loan collection capabilities must be enhanced through an effective system for monitoring and resolving non-performing loans. Banks need to establish a *real-time* mechanism for monitoring installment payments so that late payments can be identified immediately. Borrowers who begin to experience payment difficulties must be provided with immediate assistance through credit restructuring, rescheduling, reconditioning, or restructuring in accordance with the borrower's financial condition.

If banking stakeholders or executives are able to pay attention to or implement these four *non-performing loan* indicators, it will have a positive impact on preventing bank bankruptcies in Indonesia, including: 1) Inability to meet obligations: Effective NPL management will reduce the risk of insolvency. A low level of non-performing loans allows banks to generate a steady cash flow from principal and interest payments, thereby maintaining their ability to meet obligations to customers, investors, creditors, and regulators; 2) Decline in asset quality: Controlling NPLs will prevent a decline in asset quality. A healthy loan portfolio preserves the value of the bank's productive assets, thereby reducing the need to set aside loan loss reserves. With good asset quality, the bank's balance sheet becomes stronger, and its resilience to various economic risks increases; 3) Decline in profitability: Low NPL levels prevent a decline in profitability. The smaller the number of non-performing loans, the greater the interest income the bank can receive, and the lower the provisioning costs and the costs of handling non-performing loans; 4) Liquidity difficulties: Optimal NPL management will reduce liquidity difficulties. Cash flow from loan repayments will remain stable, ensuring the bank has sufficient funds to meet customer deposit withdrawals, disburse new loans, and fulfill various other operational obligations.

The results of this study are consistent with previous research conducted by the (Asyva et al., 2021), which found a correlation between *non-performing loans* and bank bankruptcies in Indonesia.

4. The Effect of Return on Assets on Bank Bankruptcy

Based on a literature review and relevant prior research, it is known that return on assets influences bank bankruptcy in Indonesia.

To prevent or minimize bank bankruptcies in the Indonesian banking sector, stakeholders and banking executives must pay attention to or implement the following four indicators of return on assets: 1) Effectiveness of asset utilization: Management must ensure that assets—such as extended loans, securities, interbank deposits, investments, and digital assets—are utilized optimally in accordance with acceptable risk levels; 2) Profit-generating

capacity: Banks need to increase interest income by extending high-quality loans to productive sectors, expanding their customer base, and developing innovative financing products tailored to market needs; 3) Efficiency in managing productive assets: Banks must ensure that the majority of productive assets consist of loans with good collectibility, high-quality securities, and investments that provide optimal returns; 4) Management performance: Management performance must be continuously improved through the implementation of *good corporate governance*, strengthening of risk management systems, and enhancement of the quality of strategic decision-making. The Board of Directors and management need to set realistic profitability targets, develop measurable *Key Performance Indicators (KPIs)*, and conduct periodic performance evaluations based on the achievement of business objectives.

If banking stakeholders or executives are able to monitor or apply the four indicators of return on assets, this will have a negative impact on bank bankruptcies in Indonesia, including: 1) Inability to meet obligations: An increase in ROA will reduce the risk of insolvency. Higher profits generate stronger cash flow, thereby enhancing the bank's ability to meet its obligations to customers, investors, creditors, and regulators; 2) Deterioration in asset quality: Productive and risk-based asset management will improve the quality of the loan portfolio and reduce the accumulation of non-performing assets. Consequently, the value of the bank's assets is preserved, and its ability to generate revenue is maintained; 3) Decline in profitability: An increase in ROA will directly prevent a decline in profitability. Optimizing productive assets, increasing operating revenue, and improving cost efficiency will result in stable and sustainable profits. High profitability enhances the bank's ability to absorb losses, strengthens its capital structure, and expands its capacity for business growth without unduly increasing financial risk; 4) Liquidity difficulties: An increase in ROA will alleviate liquidity difficulties. Adequate profits generate stronger operating cash flow, ensuring the bank has sufficient funds to meet customer deposit withdrawals, finance new loans, pay short-term obligations, and maintain operational stability.

The results of this study are consistent with previous research conducted by (Humaira et al., 2021), (Rayhansurya et al., 2026), which indicates a relationship between return on assets and bank bankruptcies in Indonesia.

Conceptual Framework

The conceptual framework is determined based on the research questions, research objectives, and previous studies relevant to the subject matter of this literature review:

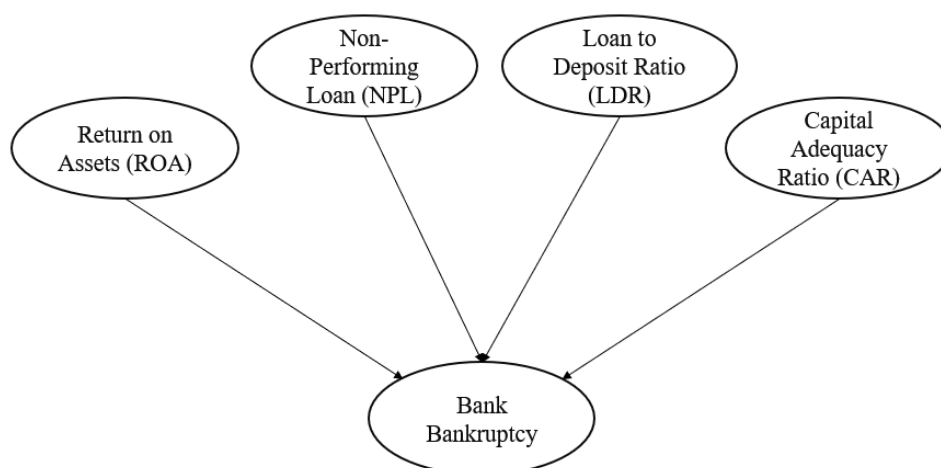


Figure 2. Conceptual Framework

Source: Author, 2026

Based on Figure 2 above, the capital adequacy ratio, loan-to-deposit ratio, non-performing loans, and return on assets influence bank bankruptcies in Indonesia. However, in

addition to the capital adequacy ratio, loan-to-deposit ratio, non-performing loans, and return on assets, which influence bank bankruptcies in Indonesia, there are other influencing variables, including: a) Bank Size: (Al-Ibbini & Shaban, 2023), (Haddad et al., 2022), (Damayanti & Mawardi, 2022), (Murdianto & Kusuma, 2022), (Rahayu & Wahyudi, 2020). b) Net Interest Margin: (Purwanti, 2021), (Budhathoki & Rai, 2020), (Susilawati & Nurulrahmatiah, 2021), (Manurung et al., 2020). c) Bank Liquidity: (Ningsih & Ilhami, 2023), (Koyyimah et al., 2023), (Adi & Rifa'i, 2023), (Rufaidah et al., 2021), (Tahu et al., 2023). "

CONCLUSION

Conclusion

Based on the research questions, results, and discussion above, the conclusions of this literature review focusing on the banking sector in Indonesia are as follows: 1) The Capital Adequacy Ratio has a negative effect on bank insolvency, as strong capitalization reduces the risk of insolvency for companies in the Indonesian banking subsector; 2) The Loan-to-Deposit Ratio affects bank bankruptcy, where sound and balanced credit management in relation to third-party funds reduces the risk of bankruptcy; 3) Non-Performing Loans have a positive effect on bank bankruptcy, where an increase in non-performing loans increases the risk of bankruptcy; 4) Return on Assets has a negative effect on bank bankruptcy, where increased profitability reduces the risk of bankruptcy; and 5) These four variables can be synthesized into a single conceptual framework indicating that bank failures in the Indonesian banking subsector are influenced by the interaction between capital adequacy, liquidity, credit quality, and profitability, independent of other variables such as bank size, net interest margin, and overall bank liquidity.

Limitations

This study has the following limitations: 1) This study is a literature review and therefore does not use primary data or statistical tests on the actual financial statements of companies in the banking subsector listed on the IDX; 2) The literature sources are limited to fifty articles accessed through Springer, Wiley, ProQuest, Emerald, Taylor and Francis, Sage, Sinta, Copernicus, and Google Scholar, so they may not cover all relevant publications available; 3) The variables examined are limited to the Capital Adequacy Ratio, Loan-to-Deposit Ratio, Non-Performing Loans, and Return on Assets, while other variables such as bank size, Net Interest Margin, and bank liquidity have not been discussed in depth; and 4) The time frame of the synthesized literature (2021–2026) does not fully reflect the current state of the banking sector following the ongoing consolidation of BPRs and BPRSs.

Recommendations

Based on the conclusions and limitations above, this study recommends: 1) For future researchers, to conduct empirical (quantitative) testing using actual financial statement data from companies in the banking subsector listed on the Indonesia Stock Exchange (BEI) to verify the conceptual framework developed in this study; 2) For banking management and stakeholders, to consistently monitor and maintain the four key indicators CAR, LDR, NPL, and ROA as part of an early warning system to prevent the risk of bankruptcy; and 3) For regulators namely the OJK and LPS to continue strengthening risk-based supervision of small-scale banks such as BPRs and BPRSs, given the ongoing trend of bank closures that is projected to continue through 2026.

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