

The Effect of Credit Risk Management on the Financial Performance of Banks Listed on the IDX

Graficka Dea Evoney

Universitas Trisakti, Jakarta Barat, Indonesia

E-Mail: grafickadea@gmail.com

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Farah Margaretha

Universitas Trisakti, Jakarta Barat, Indonesia

E-Mail: farahmargaretha@trisakti.ac.id

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ABSTRACT

This study aims to analyze the influence of credit risks such as non-performing loans (NPL), expected credit loss provision (ECL), and loan-to-deposit ratio (LDR) on the bank's financial performance as measured by the return on assets (ROA). This study uses purposive sampling as a sampling method. The sample taken is a conventional commercial bank company listed on the Indonesia Stock Exchange (IDX) for a five-year period from 2018 – 2022. Data were collected from 44 banks and analyzed using descriptive statistics and fixed-effect models for hypothesis testing. Data testing was carried out by panel data regression analysis method using E-views 9.0. The results of this study show that (1) NPL has a negative effect on ROA. An increase in NPLs will lower ROA, and vice versa. (2) ECL has a negative effect on ROA. An increase in ECL will lower ROA, and vice versa. (3) LDR has no effect on ROA. Banks need to maintain low NPLs and ECLs to maximize the bank's financial performance. Based on this research, banks are advised to conduct a careful credit evaluation before a loan application is approved. The researcher recommends that further research can add other independent variables that affect the financial performance of banks in order to get more accurate and general results.

Keywords: Credit Risk; Expected Credit Loss Provision; Loan to Deposit Ratio; Non-Performing Loans; Return on Assets.

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh risiko kredit seperti pinjaman bermasalah (NPL), provisi kerugian kredit yang diharapkan (ECL), dan rasio pinjaman terhadap simpanan (LDR) terhadap kinerja keuangan bank yang diukur dengan pengembalian atas aset (ROA). Penelitian ini menggunakan purposive sampling sebagai metode pengambilan sampel. Sampel yang diambil adalah perusahaan bank umum konvensional yang terdaftar di Bursa Efek Indonesia (BEI) periode lima tahun dari 2018 – 2022. Data dikumpulkan dari 44 bank dan dianalisis menggunakan statistik deskriptif dan model efek tetap untuk pengujian hipotesis. Pengujian data dilakukan dengan metode analisis regresi data panel menggunakan E-views 9.0. Hasil dari penelitian ini menunjukkan bahwa (1) NPL berpengaruh negatif terhadap ROA. Meningkatnya NPL akan menurunkan ROA, begitupun sebaliknya. (2) ECL berpengaruh negatif terhadap ROA. Meningkatnya ECL akan menurunkan ROA, begitupun sebaliknya. (3) LDR tidak berpengaruh terhadap ROA. Bank perlu mempertahankan NPL dan ECL yang rendah guna memaksimalkan kinerja keuangan bank. Berdasarkan penelitian ini, bank disarankan untuk melakukan evaluasi kredit dengan cermat sebelum permohonan pinjaman disetujui. Peneliti merekomendasikan agar penelitian selanjutnya dapat menambah variabel independen lain yang berpengaruh terhadap kinerja keuangan perbankan agar mendapatkan hasil yang lebih akurat dan umum.

Kata kunci: Pengembalian Atas Aset; Pinjaman Bermasalah; Provisi Kerugian Kredit Yang Diharapkan; Rasio Pinjaman Terhadap Simpanan; Risiko Kredit.

INTRODUCTION

Banks provide financial services to channel funds from depositors to investors to obtain profits (Fadun & Silwimba, 2023). Banks not only accept deposits, but also provide loans. As a result, these activities are vulnerable to credit risk (Ghosh & Mondal, 2022). Credit facilities provided by banks are considered to be one of the most important banking activities carried out by banks in general. In other words, one of the main risks encountered by banking institutions when providing

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loans to their customers is credit risk, because credit is considered the main source of income for banks (Saleh & Paz, 2023). Banks with high credit risk have the potential to have a large risk of bankruptcy, which indirectly also puts depositors at risk (Bhatt et al., 2023). According to Saleh & Paz (2023), credit risk can hamper bank performance and affect companies' ability to achieve their goals. Credit risk management plays an important role in maintaining and maintaining the continuity of financial institutions.

The financial performance of banks in Indonesia is monitored and recorded by the Financial Services Authority (*Otoritas Jasa Keuangan/OJK*). Financial Services Authority noted that from 2017 to 2019 the banking industry's financial performance increased by 0.02% from 2.45% to 2.47%, however, the banking industry's financial performance fell in 2021 to 1.85%, resulting in a drastic decline of 0.62%, supported by an increase in loans at risk from 2019 to 2021 of 9.95% from 9.93% to 19.48%. Since the Covid-19 pandemic, the Indonesian economy has experienced difficulties which have had an impact on reducing the profitability of every company, making it difficult for companies or debtors to pay their credit obligations to banks, even causing several companies to experience bankruptcy or the company's inability to pay its credit obligations to banks. Therefore, banks need to implement credit risk management practices in order to reduce the risk of default on the part of debtors because credit is the main activity in the banking industry in generating profits (Zaidanin & Al Zaidanin, 2021; Sunaryo, 2022; Azura et al., 2023).

Financial Services Authority also recorded fluctuations in changes in non-performing loans in Indonesia during the period 2018 to 2022. In 2018, the NPL level was recorded at 2.37%, then increased by 0.16% in 2019, namely to 2.53%. However, the impact of the Covid-19 pandemic in 2020 caused NPL to experience another higher increase compared to the previous year, namely 0.53% with the NPL level recorded in 2020 at 3.06%. In 2021, there was a slight decrease of 0.06% with a change in the NPL level recorded at 3.00%. Then in 2022, OJK noted that the NPL level had again decreased by 0.56%, namely with the NPL ratio being 2.44%. The decrease in the NPL level was partly due to the improvement in the quality of loans restructured due to the impact of Covid-19. Based on the research results of Fadun & Silwimba (2023), Non-Performing Loans (NPL) have a negative influence on bank financial performance, while Expected Credit Loss (ECL) has a positive influence on bank financial performance. According to research by Syafrizal et al. (2023), those NPLs have a positive impact on banking financial performance. Meanwhile, research from Khalaf et al. (2024), revealed that ECL has a negative impact on bank financial performance. Apart from that, according to Umar et al. (2022), credit risk management does not have a big influence on banking financial performance.

This research emphasizes the importance of paying attention to effective credit risk management for decision makers in the banking industry. The motivation behind this research is the important role of commercial banks in allocating financial resources for investment by providing credit facilities such as loans to business actors and investors. Due to the problems faced by the financial and banking industry, risk management has become the main focus of financial and banking institutions because of its important role in maintaining banking stability. Therefore, this research adds a new variable, namely Loan to Deposit Ratio (LDR) to identify more factors that influence credit risk management which can have an impact on banking financial performance (Radovanov et al., 2023).

LITERATURE REVIEW

Financial performance is often measured using profitability. Variables that influence banking sector profitability measured by ratios such as Return On Assets (ROA), Return On Equity (ROE), and Net Interest Margin (NIM) have been examined in depth since the 1990s (Sobol et al., 2023). This research uses ROA as the dependent variable. This ratio indicates the return on total bank assets as an indicator of operational efficiency (Karadayi, 2023). ROA is the ratio of net profit to total assets (Fadun & Silwimba, 2023). According to Isenberg et al. (2022), the unit of measurement applied in calculating ROA is net income divided by total assets. In research by Fadun & Silwimba (2023), it was found that non-performing loans had a negative effect and expected credit loss provisions had a positive effect on bank financial performance.

Non-Performing Loans (NPL) are loans that have passed their due date or cannot be repaid in full by the borrower (Singh et al., 2021). Credit provided by a bank will be categorized as a non-performing loan if the payment of principal and/or interest is late or there is a high probability that it will not be repaid by the debtor (Sochib et al., 2023). Research conducted by Fadun & Silwimba (2023), shows that NPL has a negative effect on ROA. Meanwhile, research conducted by Isenberg et al. (2022), explains that NPL has a positive effect on ROA. According to Antony & Suresh (2023), to measure the level of NPL, the formula used is non-performing loans or non-performing

loans divided by total loans. Based on the research above, the first hypothesis can be formulated, namely.

H₁: There is an influence of non-performing loans on bank financial performance.

Expected Credit Loss Provision (ECL) is a non-cash expenditure that must be made by banks to account for losses that may occur in the future due to loan default (Fadun & Silwimba, 2023). According to Natufe & Evbayiro-Osagie (2023), banks use one of their anticipatory strategies, namely Allowance for Impairment Losses (CKPN) to reduce risk and uncertainty in the savings and loan system. Banks that provide loans with low risk will have lower loan loss provisions compared to banks that take higher risks (Malik & Shafie, 2021; Rahayu et al., 2021). Loan loss provisions play an important role in the financial performance of the banking industry. Research conducted by Fadun & Silwimba (2023), shows that ECL has a positive effect on ROA. This is different from research conducted by Khalaf et al. (2024), which show that ECL as a proxy for credit risk has a negative impact on ROA. According to Antony & Suresh (2023), ECL can be calculated by dividing the loan loss provision by total loans. Based on the research above, a second hypothesis can be proposed, which states.

H₂: There is an influence of expected credit loss on bank financial performance.

Loan to Deposit Ratio (LDR) is a financial indicator that measures the comparison between a bank's total loans to its total savings (Saleh & Paz, 2023). To find out the LDR value of a company under study, it can be measured by calculating the total amount of capital that can be accepted by the bank to be allocated in the form of credit (Saleh & Winarso, 2021). Research by Radovanov et al. (2023) and Ningsih & Ilhami (2023), say that LDR has a negative effect on ROA. Meanwhile, research by Davis et al. (2022) and Mirzaei & Samet (2022), found that LDR has a positive effect on ROA. According to Radovanov et al. (2023), loan to deposit ratio is the ratio between bank loans and total deposits. Research conducted by Saleh & Winarso (2021), states that the measurement used to calculate the LDR level can be done by comparing total credit or total loans with third party funds. Based on the research above, the third hypothesis can be stated as follows.

H₃: There is an influence of the loan to deposit ratio on bank financial performance.

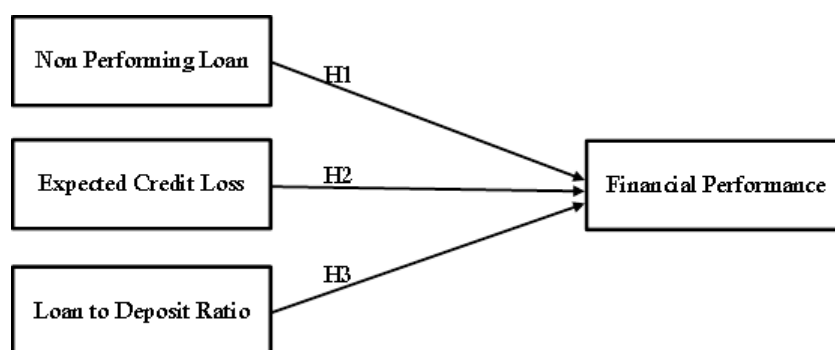


Figure 1. Conceptual Framework

METHOD

This research focuses on analyzing quantitative secondary data collected over a five-year period from 2018 to 2022 (Martono, 2010). The data comes from the annual financial reports of banks listed on the Indonesian Stock Exchange and the Financial Services Authority. The purposive sampling method was used to select the sample, with the main criteria including bank publication status on the IDX, type of conventional bank (not sharia), provision of normal and open financial reports, and use of the rupiah currency. The total sample population covers 44 banks over five years, which corresponds to the established sampling criteria.

Tabel 1. Variables and Measurement

Variabel	Proxy	Measurement	Source
Return On Assets	ROA	$\frac{\text{Net income}}{\text{Total assets}}$	Isenberg et al. (2022)
Non-Performing Loans	NPL	$\frac{\text{Non – performing loans}}{\text{Total loans}}$	Antony & Suresh (2023)
Expected Credit Loss Provision	ECL	$\frac{\text{Loan loss provisions}}{\text{Total loans}}$	Antony & Suresh (2023)
Loan-to-Deposit Ratio	LDR	$\frac{\text{Loans Credit}}{\text{Third party – funds}}$	Saleh & Winarso (2021)

Data analysis uses the panel data regression method to test the influence of independent variables such as Non-Performing Loans (NPL), Expected Credit Loss (ECL), and Loan to Deposit Ratio

(LDR) on the dependent variable Return on Assets (ROA) (Jaya & Sunengsih, 2009). The three regression models used are the common effect model, fixed effect model, and random effect model, with a chow test and Hausman test carried out to determine the most appropriate model. This study removed outliers from the data before conducting analysis, resulting in 196 valid samples from an initial total of 220. The data was then analyzed using E-views 9 software to obtain more in-depth and significant results. The panel data regression equation developed for this test is:

$$ROA_{it} = a + \beta_1NPL_{it} + \beta_2ECL_{it} + \beta_3LDR_{it} + e$$

The results of this research are expected to provide insight into the relationship between credit risk management as measured by NPL, ECL and LDR on bank financial performance as represented by ROA. This research not only provides a view of the condition of conventional banking in Indonesia over the last five year period, but also describes a methodology that can be used for similar research in the future, including suggestions for the use of other variables such as non-performing to total deposit ratio (NDR) for deepen understanding of the factors that influence bank financial performance holistically.

RESULTS

Descriptive statistical analysis in this research is a stage that includes discussion or explanation and visualization of data, including data presentation. This analysis includes the decomposition of variations in values, where the test results from descriptive analysis show research data information which contains the least (minimum), greatest (maximum), mean and standard deviation values. The minimum value is the smallest value of the variable, the maximum value is the largest value of the variable, the mean value shows the average value of each variable, and the standard deviation describes the distribution of research data information which helps researchers to assess whether the distribution of research data shows homogeneous or heterogeneous variants that are fluctuating. The results of descriptive statistical analysis testing can be described as follows.

Table 2. Descriptive Statistics Test Results

Variable	Minimum	Maximum	Mean	Std. Deviation
ROA	-0.0577	0.0325	0.009143	0.0103850
NPL	0.0000	1.0000	0.036367	0.0716639
ECL	0.0027	0.2168	0.034386	0.0299022
LDR	0.1232	3.5500	0.900173	0.3553371

Descriptive statistical analysis in Table 2, Return on Assets has an average value of 0.009143 and a standard deviation of 0.010385. The maximum value of 0.032500 is owned by Bank Mestika Dharma Tbk in 2021 and the minimum value is -0.057700 owned by the Banten Regional Development Bank (Perseroda) Tbk in 2020. Non-Performing Loans have an average value of 0.036367 and a standard deviation of 0.071664. The maximum value of 1.000000 is owned by the Banten Regional Development Bank/Regional Limited Liability Company (Regional Company Company/Perseroda) Tbk in 2020 and the minimum value of 0.000000 is owned by Bank Capital Indonesia Tbk in 2020 and 2021. The Expected Credit Loss Provision has an average value of the average is 0.034386 and the standard deviation is 0.029902. The maximum value of 0.216800 is owned by the Banten Regional Development Bank (Perseroda) Tbk in 2020 and the minimum value is 0.002700 owned by Bank Maspion Indonesia Tbk in 2019. The Loan to Deposit Ratio has an average value of 0.900173 and a standard deviation of 0.355337. The maximum value of 3.550000 is owned by Krom Bank Indonesia Tbk in 2022 and the minimum value is 0.123200 owned by Bank Capital Indonesia Tbk in 2021.

The t test is used to test the hypothesis by testing in stages to measure whether the independent variables (non-performing loan, expected credit loss provision, loan to deposit ratio) have an influence on the dependent variable (return on assets). If the probability value is ≤ 0.05 (alpha 5%) then H0 is rejected. This means that there is an influence between the independent variable and the dependent variable. If the probability value is > 0.05 (alpha 5%) then H0 fails to be rejected. This means that there is no influence between the independent variables on the dependent variable.

Table 3. T Test Results

Variables	Coefficient	t-Statistic	Prob.	Conclusion
Constanta	0.0097	9.0827	0.0000	-
Non-Performing Loan	-0.0421	-15.614	0.0000	Negative influence
Expected Credit Loss Provision	-0.0216	-2.3678	0.0192	Negative influence
Loan to Deposit Ratio	0.0018	1.4888	0.1386	No effect

From the processing results, an estimated coefficient value of -0.0421 is obtained, which means that increasing NPL will reduce financial performance (ROA) and conversely decreasing NPL will increase financial performance (ROA). The t-statistic value is -15.614, with a p-value of 0.000 ≤ 0.05, which means that H0 is rejected and Ha is accepted, so it is proven that NPL has an effect

on bank financial performance (ROA) with a negative NPL effect on bank performance (ROA). From the processing results, an estimated coefficient of -0.0216 is obtained, which means that increasing ECL will reduce the bank's financial performance (ROA) and conversely decreasing ECL will increase ROA. The t-statistic value of -2.3678 produces a p-value of $0.0192 \leq 0.05$, which means that H_0 is rejected and H_a is accepted, so it can be concluded that expected credit loss has a negative effect on bank financial performance. From the processing results, an estimated coefficient value of 0.0018 is obtained, which means that increasing the LDR will increase the bank's financial performance (ROA) and conversely decreasing the LDR will reduce the bank's financial performance (ROA). The t-statistic value of 1.4888 produces a p-value of 0.1386. With a p-value of $0.1386 > 0.05$, H_0 fails to be rejected, which means it is not proven that the loan to deposit ratio has an effect on bank financial performance (ROA).

The results of the regression test in this research, the results show that non-performing loans have a negative effect on ROA. The results of this research are in line with research by Fadun & Silwimba (2023), that non-performing loans have a negative influence on ROA. This research is also supported by Smolina et al. (2023), who say that NPL has a negative effect on ROA. A high NPL ratio causes bank expenditures to increase for credit management costs and reduces credit quality because debtors do not pay principal debt and loan interest. As a result, bank profitability could decline due to significant losses. Expected credit loss provisions have a negative effect on ROA. The results of this research are not in line with research conducted by Fadun & Silwimba (2023), which shows that ECL has a positive effect on ROA. However, this research is in line with research by Khalaf et al (2024), which states that ECL has a negative influence on ROA. The larger the loss reserve indicates that the bank has a high level of bad loans, this hampers the bank's capability to create profits which leads to a decrease in profitability.

The results of the regression test in this study, the results show that the loan to deposit ratio has no effect on ROA. This research is different from research conducted by Radovanov et al. (2023), which states that LDR has a negative effect on ROA. However, the results of the research that has been carried out are in line with research conducted by Saleh & Paz (2023), which states that the loan to deposit ratio has no effect on ROA. It is possible that this happens because the level of bank loans and the inflow of funds are at a balanced point so that it does not cause any effects. Various factors can influence these outcomes, including credit restrictions experienced by society, the level of reliability of the available credit system, and the capacity of banks to invest in areas other than providing loans to individuals or the public, such as investing through purchasing shares or bonds from other companies.

CONCLUSION

The research results show that non-performing loans (NPL) and expected credit loss provision (ECLP) have a significant negative impact on bank financial performance, while the loan to deposit ratio (LDR) does not have a significant effect. For company managers, this research is an important guide in evaluating the influence of credit risk management on banking profitability, especially for financial institutions listed on the Indonesia Stock Exchange (BEI). Managers need to maintain low levels of NPL and ECLP to increase the bank's profit potential. A low NPL shows the effectiveness of credit risk management in reducing problem loans, while a low ECLP reflects the bank's ability to manage potential losses from bad loans well. The development of selective lending policies is also recommended to reduce the risk of default and prevent an increase in NPLs. For investors, this research provides guidance in choosing profitable investments. Investors are advised to choose banks with low NPL and ECLP, because this reflects high profitability and good financial performance. Good financial performance can demonstrate a solid reputation, attract investor interest, and reduce investment risk. However, this research has limitations by only considering three independent variables. For further research, it is recommended to add variables such as non-performing to total deposit ratio (NDR) to provide a more complete picture of the influence of credit risk management on banking financial performance. This will increase understanding of the factors that influence bank stability and profitability in a more comprehensive manner.

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