The Impact Of Credit Risk On The Financial Performance Of Banks In Indonesia Listed On The Indonesian Stock Exchange For The Period 2018 - 2022

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Abstract
Banking activities collect funds from customers and distribute credit to customers in the form of loans that are added with interest for the bank’s opinion. Lending activities provided by banks have risks that must be mitigated to avoid large losses and adversely affect the bank’s financial performance. This study used panel data regression method with sample of 35 Indonesian Banks listed on the Indonesia Stock Exchange with the period 2018 - 2022. Referring to the main research, bank financial performance is measured by return on assets and net interest margin, while bank risk is measured by the variables non-performing loans, capital adequacy ratio, loan loss provision ratio, and cost per loan ratio, this study also added new control variables, such as bank size and leverage. The results of this study found that there is an impact between NPL with ROA, LLPR with ROA, CAR with NIM, and CPLR with NIM. While there is no impact of CAR with ROA, CPLR with ROA, NPL with NIM, and LLPR with NIM.

Keywords: Bank Size, Capital Adequacy Ratio, Cost Per Loan Ratio, Leverage, Loan Loss Provision Ratio, Net Interest Margin, Return On Assets

INTRODUCTION

The banking sector serves as a crucial indicator of a country’s economic health, which play significant role in the global economy (Ghosh & Mondal, 2022). In Indonesia, banks act as financial intermediaries. Bank collects funds from the public through various means, such as deposits, and redistributing these funds through loans to enhance living standards (Undang-Undang Nomor 10 tahun 1998). Commercial banks have a role to facilitate the flow of savings from depositors to potential investors, aiming for profitability in their operations (Siddique et al., 2022).

Based on Indonesian Financial Services Authority (OJK) in 2021, despite facing significant financial crisis over the past decades, such as the Asian financial crisis in 1997-1998 and the global recession in 2008-2009, Indonesia’s banking industry has adapted its strategies. Today, banks compete by offering appealing loan and deposit terms, effectively managing cash flow (Putri & Gandakusuma, 2021).

Bank performance is evaluated based on profit earnings, which can be impacted by various factors, including external factor such as the Covid-19 pandemic (Rubaiyath & Lalon, 2022). In 2020, Indonesian public banks experienced their lowest profits, amounting to Rp 46.927 billion, due to the Covid-19 pandemic (Octavia N et al., 2022). However, there was an upward trend in profit in the following years after.
Some sources such as Ghosh & Mondal (2022), Yeasin (2022), Echobu & Nkiru Philomena (2019) have stated that one indicator of a bank's success is seen through its financial performance obtained from their business development, which can be observed through measuring Return on Assets (ROA). ROA depicts how effectively a company's management utilizes the company's investments to generate profits (Fadun & Silwimba, 2023). ROA is utilized as a parameter in assessing financial performance because it accurately calculates the return rate from asset management (Primalia Khoirunnisa, 2022). According to Purnamasari et al. (2016), a high ROA reflects a healthy bank performance, as it indicates the bank's ability to generate profits or profitability.

Ghosh & Mondal (2022) and Kirimi et al. (2022) have stated that bank profitability can also be measured by Net Interest Margin (NIM). Banking activities involving deposits and loans make interest crucial in banking operations (Primalia Khoirunnisa, 2022). According to Kirimi et al. (2022), a high NIM means that a bank can effectively allocate third-party funds, thus generating high profits from interest on loans provided to borrowers, but the bank also incurs interest expenses on deposits.

In a study conducted by Korompis Ria et al. (2020), banks have 8 types of risks, namely Credit Risk, Market Risk, Liquidity Risk, Operational Risk, Legal Risk, Reputation Risk, Strategic Risk, and Compliance Risk. However, this study will only focus on Credit Risk. Bank lending activities pose credit risks resulting from borrowers' failures to meet principal and loan interest repayment obligations, directly impacting bank profitability (Ghosh & Mondal, 2022).

Non-Performing Loans (NPL) are a key indicator of troubled loans, with the NPL ratio accurately determining whether a bank is in good condition or experiencing a crisis due to a decline in credit growth, ultimately affecting the financial system losses in the country's economy (Febri Nanda Marchela & Purwanto Widodo, 2023). Every loan provided by a bank to customers increases the potential for an NPL ratio increase (Fanny et al., 2020).

According to Financial Services Authority (OJK) on 2022, the NPL value in Indonesia increased during the Covid-19 pandemic due to government-imposed restrictions, causing many debtors to be unable to generate profits, thus being unable to repay principal and loan interest to the bank, consistent with the research conducted by (Putri & Gandakusuma, 2021).

The fluctuating trend of Non-Performing Loans (NPL) at Bank Umum Indonesia in 2021 tended to decrease post the Covid-19 pandemic, staying below the acceptable threshold of 5% as per OJK regulations (OJK, 2022).

Capital Adequacy Ratio (CAR) serves as a key determinant of credit risk. Ghosh & Mondal (2022) highlight CAR's role in protecting depositors and enhancing global bank stability. OJK mandates a minimum CAR of 8% for Indonesian banks. A strong CAR enhances financial

Figure 1: Commercial Bank Profits for the Period 2019 – 2022
Source: Financial Services Authority (OJK), 2023
performance and stability, per Akomeah Jacob et al. (2020). While previous studies suggest CAR influences bank profitability, Kirimi et al. (2022) found no significant effect on Return on Assets (ROA) but noted an impact on Net Interest Margin (NIM).

Loan Loss Provision Ratio (LLPR) safeguards banks from high credit risks, impacting bank income (Ghosh & Mondal, 2022). Banks set aside funds as loan loss provisions to mitigate these risks, with LLPR influenced by national economic growth rates (Huizinga & Laeven, 2019).

The Cost per Loan Ratio (CPLR) affects bank profitability by indicating efficiency in loan distribution (Bhattarai, 2016). High CPLR suggests significant costs for loan purposes, but it also reflects a bank’s ability to provide profitable loans to customers (Ritesh Shresta, 2017).

Based on the background and previous research, this study aims to investigate the impact of credit risk on the financial performance of banks listed on the Indonesia Stock Exchange. It explores how credit risk management affects bank financial performance, using ROA and NIM as dependent variables, and NPL, CAR, LLPR, and CPLR as risk management indicators, building upon the research conducted by Ghosh & Mondal (2022) in India.

**RESEARCH METHODS**

This study aims to analyze the impact of independent variables such as NPL, CAR, LLPR, and CPLR on profitability ratios measured using ROA and NIM. Panel data is utilized in this study, combining time series and cross-sectional data from multiple companies. The sampled data for this research comprises banking companies in Indonesia listed on the Indonesia Stock Exchange during the period from 2018 to 2022. The data is processed using Eviews 9, utilizing correlation and regression analysis along with descriptive statistics.

**RESULT AND DISCUSSION**

This study focused on 35 conventional banking companies listed on the Indonesia Stock Exchange from 2018 to 2022. The sampling method employed purposive sampling, selecting companies based on specific criteria: (1) being Indonesian banking companies listed on the Indonesia Stock Exchange during the 2018-2022 period, (2) operating as conventional banks, (3) having complete financial statements from 2018 to 2022, and (4) having available data for measuring each variable in every company.

![Table 1](https://ijhess.com/index.php/ijhess/)

<table>
<thead>
<tr>
<th>Model</th>
<th>Test</th>
<th>Chow</th>
<th>LM</th>
<th>Hausman</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>Critical Value</td>
<td>90.809430</td>
<td>17.97236</td>
<td>5.381048</td>
</tr>
<tr>
<td></td>
<td>Prob</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.4959</td>
</tr>
<tr>
<td>NIM</td>
<td>Critical Value</td>
<td>269.583591</td>
<td>166.3539</td>
<td>6.116622</td>
</tr>
<tr>
<td></td>
<td>Prob</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.4103</td>
</tr>
</tbody>
</table>

Based on the results of data processing for model selection of ROA and NIM, the Cross-section Chi-Square probability value obtained in the Chow Test is 0.0000 <0.05. That means the
accepted model is the Fixed Effect Model (FEM), which lead the next process into the Hausman Test. The Hausman Test obtained a Cross-section Chi-Square probability value of 0.4959 > 0.05. Based on the result, the accepted model is Random Effect Model (REM). So, the last model selection test required is the Lagrange Multiplier, obtained a Cross-section probability value of Breusch-pagan of 0.0000 < 0.05. The result conclude that the accepted model is the Random Effect Model (REM). Based on the three model selection tests, it can be concluded that the model chosen in this study is the Random Effect Model (REM).

<table>
<thead>
<tr>
<th>Independent</th>
<th>Model ROA</th>
<th>Model NIM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Prob.</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.115336</td>
<td>0.0112</td>
</tr>
<tr>
<td>NPL</td>
<td>-0.184844</td>
<td>0.0101</td>
</tr>
<tr>
<td>CAR</td>
<td>-0.003009</td>
<td>0.3578</td>
</tr>
<tr>
<td>LLPR</td>
<td>-0.000917</td>
<td>0.0000</td>
</tr>
<tr>
<td>CPLR</td>
<td>-0.030650</td>
<td>0.1745</td>
</tr>
</tbody>
</table>

Based on the results of hypothesis testing that has been carried out using the T test (partial), the effect of the independent variables and control variables on the dependent variable can be explained as follows:

**H1: There is Impact Between Non-Performing Loans on Profitability**

The regression test results in this study found that Non-Performing Loans (NPL) significantly negatively impact Return on Assets (ROA) and do not affect the Net Interest Margin (NIM) in conventional banking in Indonesia from 2018 to 2022. This aligns with the findings of Ghosh & Mondal (2022), indicating a relationship between NPL and ROA but differing on NPL's impact on NIM, which was found to be insignificant in this study.

Similar results were also found in Yeasin’s (2022) research on six Commercial Banks in Bangladesh from 2010 to 2019, stating that NPL ratio impacts the ROA ratio. Fadun & Silwimba’s (2023) study on Nigerian Banks from 2005 to 2019 further supports these findings, indicating a relationship between NPL and ROA. This suggests that troubled loans or defaults on principal and interest payments affect a bank’s profitability, and fluctuations in NPL reflect the bank’s ability to utilize its assets effectively.

There was also similar finding that observed in Nugrahaning et al.’s (2016) study on publicly listed banks in Indonesia from 2011 to 2015, stating that NPL does not significantly impact NIM. This is consistent with Rmp et al.’s (2014) research, indicating no significant impact of NPL on NIM. The lack of NPL impact on NIM may be due to the average NPL value during the study period being 2.98%, below Bank Indonesia’s requirement of 5%, indicating a low level of troubled loans and suggesting good performance without needing to consider NIM. Additionally, other factors such as interest rates, operational costs, and bank risk management policies may have more significant impacts on NIM compared to NPL, which has an impact but not directly.

Based on the Goodness of Fit Test, the model R-square, Adj Rs-square, F-statistic, and Prob F-stat are 0.224109, 0.196399, 8.087546, and 0.000000 respectively.
H2: There is Impact Between Capital Adequacy Ratio on Profitability

The regression analysis in this study found that the Capital Adequacy Ratio (CAR) does not impact Return on Assets (ROA) but does impact Net Interest Margin (NIM) in conventional banking in Indonesia from 2018 to 2022. This aligns with Ghosh & Mondal's (2022) findings, indicating a relationship between CAR and NIM but contradicting results on CAR's impact on ROA in this study.

Contrary findings were observed in Yeasin's (2022) research, stating that CAR impacts ROA. Relevant research by Andriansyah (2019) also suggests that CAR does not affect ROA, implying that bank profitability is not impacted by capital adequacy but rather by effective capital management to generate profits.

Similar results were found by Kirimi et al. (2022) in commercial banks in Kenya, indicating that CAR impacts NIM due to the bank's income from interest received on loans, which are associated with risks requiring preparation. This is consistent with Sinaga et al.'s (2023) findings, stating that CAR affects NIM, with CAR size impacting total interest income.

CAR's impact on NIM stems from its ability to indicate a bank's capacity to generate profit margins from interest or NIM. Banks with higher CARs tend to have higher NIMs, making CAR a factor affecting bank profitability through its impact on NIM.

H3: There is Impact Between Loan Loss Provision Ratio on Profitability

The regression analysis in this study found that Loan Loss Provision Ratio (LLPR) affects Return on Assets (ROA) but does not impact Net Interest Margin (NIM) in conventional banking in Indonesia from 2018 to 2022. This mirrors Ghosh & Mondal's (2022) findings, indicating a relationship between LLPR and ROA but contradicting results regarding LLPR's impact on NIM in this study.


However, Widya & Purwanto's (2019) research found no significant impact of LLPR on NIM, suggesting that credit distribution policies and credit risk management indicated by LLPR do not directly affect net interest margins in the context of 35 banks listed on the Indonesia Stock Exchange from 2018 to 2022.

H4: There is Impact Between Loan Loss Provision Ratio on Profitability

The regression analysis in this study found that Cost per Loan Ratio (CPLR) does not affect Return on Assets (ROA) but affect Net Interest Margin (NIM) in conventional banking in Indonesia from 2018 to 2022. This aligns with Ghosh & Mondal's (2022) research, indicate relationship between CPLR and NIM, but contrary findings regarding CPLR's impact on ROA.

Supporting evidence for CPLR's lack of impact on ROA comes from Hasibuan et al. (2021), suggesting that despite increasing loan asset costs, it does not reduce asset effectiveness in generating profits. Various factors such as operational efficiency, portfolio diversification, and appropriate risk management strategies contribute to these findings, indicating that loan asset costs are not the dominant factor in determining asset return rates. Consequently, companies or financial institutions can focus their efforts on other more impactful factors affecting return on assets.

On the other hand, studies by Shittu & Abdulkadir (2023) and Garba & Kurawa (2014) support CPLR's impact on NIM, indicating that higher CPLR leads to a decrease in NIM. This suggests that loan acquisition costs can affect a bank's net profit margin because higher costs
reduce the profit margin achievable from loan assets. Therefore, managing loan acquisition costs is crucial in influencing financial performance in terms of NIM.

**CONCLUSION**

This study aims to test whether independent variables such as non-performing loans, capital adequacy ratio, loss loan provision ratio, cost per loan ratio affect the dependent variable, namely profitability as measured by return on assets and net interest margin at 35 conventional banks listed on the Indonesia Stock Exchange in the period 2018-2022, Based on the analysis and discussion in the previous section, the following conclusions can be drawn:

1) Non-Performing Loan has a significant effect on Return on Assets but has no effect on Net Interest Margin.
2) Capital Adequacy Ratio has no significant effect on Return on Assets but affects Net Interest Margin.
3) Loan Loss Provision Ratio has a significant effect on Return on Assets but has no effect on Net Interest Margin.
4) Cost Per Loan Ratio does not significantly affect Return on Assets but affects Net Interest Margin.

Based on the analysis and discussion in the preceding sections, it can be concluded that Non-Performing Loans (NPL) and Loan Loss Provision Ratio (LLPR) significantly affect the dependent variable Return on Assets (ROA). Additionally, Capital Adequacy Ratio (CAR) and Cost per Loan Ratio (CPLR) LLPR significantly influence the dependent variable Net Interest Margin (NIM) in 35 conventional banks listed on the Indonesia Stock Exchange during the period 2018-2022. Referring to these findings, the managerial implications of this research are as follows:

1) **For Companies**

Financial managers in banking companies should consider factors influencing profitability to ensure optimal performance. They must pay attention to banking risk management based on this research, aiming to keep NPL, CAR, LLPR, and CPLR values at a minimum. Considering these four risk management variables have a negative relationship with banking profitability. Managers should assess loans given to potential borrowers by evaluating each customer's risk profile, particularly focusing on their ability to repay loans and set interest rates. Additionally, banks should maintain an adequate capital value, as a high CAR may lead to missed profit opportunities.

2) **For Investors**

Investors consider various indicators when making investment decisions, including a company's profitability influenced by risk management factors. They are more inclined to invest in companies with effective risk management practices. Armed with this information, investors can choose banks with effective risk management strategies that enhance their profitability.

https://ijhess.com/index.php/ijhess/
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