The Effect of Credit Risk, Capital Adequacy, Liquidity Risk on Financial Performance and Corporate Value
(Study of Government Conventional Commercial Banks Recorded in Indonesia Stock Exchange)

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Abstract. This study aims to analyze the effect of credit risk, capital adequacy, liquidity risk on financial performance and corporate value in conventional government-owned commercial banks. The research data was obtained from the financial statements of 2012-2017 Bank Rakyat Indonesia (BRI), the State Bank of Indonesia (BNI), Bank Mandiri, and the State Savings Bank (BTN) (Persero) Tbk, with a total sample of 96. The data were analyzed using PLS (Partial Least Square) through software SmartPLS 3.0. The results of this study indicate that credit risk (NPL), Capital adequacy (CAR), liquidity risk (LDR) have a significant effect on financial performance (ROE), meanwhile there has no significant effect to corporate value (PER), liquidity risk (LDR) has a significant effect on corporate (PER), financial performance (ROE) has a significant effect on corporate value (PER).

Keywords: credit risk (NPL), capital adequacy (CAR), liquidity risk (LDR), financial performance (ROE), corporate value (PER).

1 INTRODUCTION

Banks are a major part of the financial sector in each economy and the strength of the system is important to ensure stability and profitable economic growth in a system of financial institutions functioning as collectors, channeling funds to the public. Banks as financial intermediaries are required to always maintain their health level, the public generally sees the bank's health level from its financial performance. Profitability is one indicator that reflects the bank's competitive position in the banking market through quality management.

Several factors can affect the level of profitability of a bank such as factors that can determine bank profitability, namely bank-specific factors, industry-specific factors, and macroeconomic factors (Mawardi, Arindi, 2016), to assess a company's financial performance in one way by studying and measuring the financial situation of companies with financial ratio analysis (Prastowo, 2005). The level of bank profitability is demonstrated through efforts to achieve net income. Various policies taken by management in an effort to increase the net profit of the fund while increasing the value of the company in order to increase the prosperity of the owners and shareholders reflected in the stock price (Bringham & Houston, 2006).

2 LITERATURE REVIEW

Credit risk
Banks in providing credit to customers are based on trust, the interpretation of credit risk becomes more specific when faced with the form of business being run such as: banking and non-banking institutions. Credit risk is defined as the risk associated with the possibility of client failure in paying its obligations or risks where the debtor cannot pay off his debt (Hasibuan, 2011).

The results of empirical studies show that NPL (Non Performing Loans) have no effect and are not significant on the profitability of Return On Assets (ROA) whereas (Arif & Nauman Anees, 2012) Non Performing Loans (NPL) negatively affect profitability. Both of these studies show different influences between Non Performing Loans (NPL) and Profitability (Wayan & Capriani, 2016).
Non Performing Loans show the ability of bank management in managing non-performing loans provided by banks, the higher the NPL ratio, the worse is the quality of bank loans which causes the number of problem loans to increase. So that the likelihood of a bank in high-troubled conditions and the possibility of achieving profit is lower. Credit in this case is credit given to third parties excluding credit to other banks (Dahlan Siamat, 2004). Non-Performing Loan NPL is calculated based on the comparison between the number of troubled loans compared to total credit. This ratio can be formulated as follows (Bank Indonesia Regulation No. 15 / PBI / 2013). NPL = Non-performing loans: Total credit x 100%.

**Hypothesis 1:** Credit risk (NPL) has a significant effect on financial performance (ROE)

**Hypothesis 2:** Credit risk (NPL) has a significant effect on company value (PER)

**Capital adequacy**

Capital adequacy describes the ability of banking companies to operate all activities that have been established and also become the basis for determining activities. If the CAR value is high then the bank is able to finance operational activities and make a significant contribution to profitability (Kusumo, 2008). This capital ratio serves to measure the ability of the Bank to absorb losses that can no longer be avoided and can also be used to measure the size of the bank's wealth or the assets held by shareholders.

According to (Dendawijaya, 2005) CAR is a ratio that shows how far all bank assets that contain risk (credit, participation, securities, bills on other banks) are also financed from the bank's own capital funds in addition to obtaining funds from outside sources banks, such as funds from the public, loans, and others. CAR is an indicator of a bank's ability to cover a decrease in its assets as a result of bank losses caused by risky assets. (Prasetyo, Darmayanti, 2015), examined the effect of capital adequacy, and this researcher found that capital adequacy had no effect and was negative on profitability, whereas (Okoye, Ikechukwu, Leonard, et.al. 2017) said that capital adequacy had a positive and significant effect towards ROA, and capital adequacy has a positive and significant effect on ROE.

The results of the two findings of this study are different, so researchers want to re-examine the effect of capital adequacy on financial performance. The indicator in this study is to measure capital adequacy by using the Capital Adequacy Ratio ratio with the formula:

\[
\text{CAR} = \frac{\text{Capital}}{\text{Weighted assets according to Risk of 100%}}
\]

**Hypothesis 3:** Capital adequacy (CAR) has a significant effect on financial performance (ROE)

**Hypothesis 4:** Capital adequacy (CAR) has a significant effect on company value (PER)

**Liquidity risk**

Liquidity risk is a risk which among others is caused by the bank being unable to fulfill its obligations that are due. (Ibid, Ferry N indroes). The risks faced by banks to meet their liquidity needs in order to meet credit demand and all withdrawals of funds by savers at a time. Meanwhile BI through PBI No. 13/23 / PBI / 2011 defines liquidity risk as a risk due to the inability of banks to meet maturing liabilities from cash flows and high-quality liquid sources that can be used without disrupting activities and finance. (Ibid, Wahyu). The problem that arises here is that the bank cannot know exactly when and how much funds will be needed or withdrawn by debtor customers or depositors.

Mawardi, Arindi (2016) in his research found that Liquidity Gap had a negative effect but not significant to Return On Equity (ROE). Whereas (Edem, 2017) in his research found the results of the liquidity ratio had an effect on Return On Equity (ROE).

Loan To Deposit Ratio (LDR) is a ratio that measures the ability of banks to meet financial obligations that must be met or often called liquidity ratios. The liquidity is in the form of call money which must be fulfilled when there is a clearing obligation, where the fulfillment is carried out from current assets owned by the company. Liquidity is often interpreted as debt (Taswan, 2010). In a banking institution, the problem of liquidity is the issue of two sides of the bank's balance sheet. As an institution of trust, banks must be able to carry out their functions as intermediary institutions. This study uses the Loan to deposit ratio indicator with the formula LDR = Total credit: third party funds x 100%.

**Hypothesis 5:** Liquidity risk (LDR) has a significant effect on financial performance (ROE)

**Hypothesis 6:** Liquidity risk (LDR) has a significant effect on firm value (PER)

**Financial performance**

According to financial performance (Indra Bastian, 2006) is a description of achievement / program / policy in realizing the goals, objectives, mission and vision of an organization. The concept of financial performance is a series of financial activities in a given period reported in financial statements including income statement and balance sheet according to (Indriyo Gitosudarmo and Basri, 2002). to assess the financial performance of a company size is needed. One way to learn from measuring a company's
financial condition is by financial ratio analysis, namely using periodic financial statements issued by the company, financial statements, balance sheets, income statements, or alira kas reports (Prastowo 2005). Return on equity (ROE) was observed by many bank shareholders and investors in the capital market who wanted to buy the shares of the bank concerned. The increase in this ratio occurs an increase in net income and the bank in which the bank is concerned, then the increase will cause an increase in stock prices.

The indicator used in this study is ROE return on equity using the formula: ROE = After-Tax Profit: Average X Capital Core 100%.

The results of the study (Ardimas, Ekonomi, & Gunadarma, 2014) through an empirical study of the relationship between ROE (return on equity) and company value, and the results show that the variable Return On Equity (ROE) has a significant effect on firm value (PER).

**Hypothesis 7**: Financial performance (ROE) has a significant effect on company value (PER)

**Company value**
Defined as market value because the value of a company can provide shareholder prosperity to the maximum if the company's stock price increases. Various policies taken by management in an effort to increase the value of the company through increasing the prosperity of owners and shareholders reflected in the stock price. (Bringham & Houston, 2006). Company value is calculated using the PER ratio (Price earnings ratio) indicating how much amount of money investors are willing to spend to pay every reported dollar profit (Mahpudin & Suparno, 2016). The indicator in this study is PER price erring ratio by using Formula PER = Stock Price: earning per share X 100%.

Maximizing the value of the company becomes very important, because maximizing the value of the company also means maximizing prosperity for shareholders which is the company's main goal. Company value is an investor's perception of the level of success of the company that is often associated with stock prices. Stock market prices formed Between buyers and sellers, there is a transaction called the market value of the company. Stock market prices are considered a reflection of the true value of company assets. High stock prices make the market believe in the company's current performance and also the company's prospects in the future.

**3 CONCEPTUAL FRAMEWORK**

Based on the background and literature of the review and the hypothesis above, the conceptual framework of this research is described as follows:

**Figure 1. Framework for research concept**

```
NPL  ROE  PER
    ^     |
     |     v
    CAR  LDR
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Figure 1. Framework for research concept
4 METHODOLOGY

This study uses a quantitative approach, since it used numbers, starting from data collection, interpretation of the data, and the appearance of the results. The variables of this study consisted of free variables including credit risk, capital adequacy, and liquidity risk; intervening variables including financial performance and corporate value as dependent variable. This study uses a population of financial statements for 2012-2017 of Bank Rakyat Indonesia, State Bank of Indonesia, Bank Mandiri, Bank Tabungan Negara (Persero) Tbk. Data collection was obtained through the financial services authority (OJK) page, the samples collected were 96. Data analysis techniques used partial leats square (PLS).

5 RESULTS AND DISCUSSION

Table 1. Description of the Bank data.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPL</td>
<td>96</td>
<td>.18</td>
<td>1.66</td>
<td>.6835</td>
</tr>
<tr>
<td>CAR</td>
<td>96</td>
<td>14.33</td>
<td>21.96</td>
<td>18.0933</td>
</tr>
<tr>
<td>LDR</td>
<td>96</td>
<td>73.61</td>
<td>111.49</td>
<td>91.0833</td>
</tr>
<tr>
<td>ROE</td>
<td>96</td>
<td>10.19</td>
<td>38.66</td>
<td>21.4397</td>
</tr>
<tr>
<td>PER</td>
<td>96</td>
<td>10.30</td>
<td>38.11</td>
<td>26.3238</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Output Result of SPSS

Based on table 1, it can be seen that:

Net Performing Loan (NPL). Variable has minimum value of 0.18% and maximum value of 1.66% with an averaged 0.68% which means that credit collectability at BRI, BNI, Mandiri, BTN in healthy category based on the Bank Indonesia Circular Letter Number 13/1 / PBI / 2011 with the healthy criteria in a ratio of <2%.

Capital Adequacy Ratio (CAR). Variable, based on the Bank Indonesia Circular Letter Number 13/1 / PBI / 2011 with the healthy criteria in a ratio of >15%. While the condition of the capital adequacy ratio at BRI, BNI, Mandiri, BTN averaged 18.09% which means that the CAR ratio of BRI, BNI, Mandiri, BTN are very healthy, with a minimum value of 14.33% and a maximum value of 21.96%.

Loan to deposit (LDR). Variable based on the Bank Indonesia Circular Letter Number 13/1 / PBI / 2011 with the healthy criteria in a ratio of 70% - <85%. which minimum value 73.61% and maximum value 111.49% with an averaged 91.08% which means that liquidity risk at BRI, BNI, Mandiri, BTN in healthy category.

Return On Equity. Variable has minimum value of 10.19% and maximum value of 38.66% with an averaged 21.43% which means that liquidity risk at BRI, BNI, Mandiri, BTN in healthy category based on the Bank Indonesia Circular Letter Number 6/23/DPNP/2004 with the healthy category in a ratio of >15%.

Price Earning Ratio. Variable has minimum value of 10.30% and maximum value of 38.11% with an averaged 26.32% which means that corporate value at BRI, BNI, Mandiri, BTN in healthy category.
Direct Effect

Table 2. Path Coefficient

|                                | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics ([|O/STDEV|]) | P Values |
|--------------------------------|---------------------|-----------------|----------------------------|-----------------------------|----------|
| Credit Risk -> Financial Performance | 0.268               | 0.262           | 0.059                      | 4.516                       | 0.000    |
| Credit Risk -> Company Value    | 0.075               | 0.073           | 0.090                      | 0.827                       | 0.205    |
| Capital Adequacy -> Financial performance | -0.398              | -0.406          | 0.085                      | 4.652                       | 0.000    |
| Capital Adequacy -> Value Corporate | -0.084              | -0.079          | 0.118                      | 0.711                       | 0.239    |
| Liquidity Risk -> Financial performance | -0.239              | -0.231          | 0.081                      | 2.960                       | 0.002    |
| Liquidity Risk -> Value Corporate | -0.347              | -0.345          | 0.129                      | 2.686                       | 0.004    |
| Financial Performance -> Company Value | 0.174               | 0.165           | 0.094                      | 1.858                       | 0.033    |

Source: Processing data by SmartPLS 3.0

Based on table 2 above the results of hypothesis testing can be explained as follows:

H1: Effect of Credit Risk on Financial Performance.
Based on the results of the analysis using smartPLS, it can be concluded that the results of hypothesis testing Credit risk has a significant effect on financial performance. The results of the first hypothesis test prove the p-value of 0.000 with a t value of 4.516. This value is greater than t table (1.667) and p-value below 0.05. This shows that when the amount of credit channeled increases, the income earned from credit will also increase with the ability of banks to generate profits to increase. The overall average value of Bank BRI, BNI, Mandiri, BTN is 0.68% <2%, which means that in general the Bank has fulfilled the requirements for health level for credit distribution. NPL is one indicator that reflects the soundness of the bank, the smaller the credit risk, the higher the financial performance. H1 accepted.

H2: The effect of credit risk on firm value.
Based on the results of the analysis using smartPLS, it can be concluded that the results of hypothesis testing Credit risk does not have a significant effect on firm value. The results of the second hypothesis test prove the p-value of 0.205 with a t value of 0.827. This value is greater than t table (1.667) and p-value below 0.05. The results of this study are in accordance with previous research from (Suri Chairani, 2009) which says that credit risk has a negative and not significant effect on firm value. The smaller the credit risk, the higher interest income (company profits), meaning that the profits to be shared with shareholders as a company value can provide maximum prosperity for shareholders if the company's stock price increases. With the bank's credit risk getting smaller it will signal to investors that the bank can manage the company well, if the credit given by the bank to the debtor is getting bigger, the more interest income the bank will get and this will increase the value of the company. However, the research of each bank has its own obligations. It also shows that the insignificant effect of NPL on company value is caused by the credit risk generated by banking companies is still relatively stable, so it does not interfere with the value of the company's profitability to investors' interest in investing in the banking industry. For investors, the most important thing is the profitability of the banking company, if the bank has a large profit, the dividends received by investors will increase. (Haerani, 2014). H2 is rejected.

Based on the results of the analysis using smartPLS, it can be concluded that the results of testing the capital adequacy hypothesis have a significant effect on financial performance. The results of the third hypothesis test prove the p-value of 0.000 with a t value of 4.652. This value is greater than t table (1.667)
and p-value below 0.05. The results of this study are in accordance with previous studies from (Okoye, Leonard, et al, 2017) which say that capital adequacy has a positive and significant effect on financial performance (ROE). The overall average value of BRI, BNI, Mandiri, BTN banks is 18.09% > 15% which means that if the CAR value is high then the bank is able to finance operational activities and contribute significantly to profitability (Yuwananto Adi kusumo, 2008), with hence the capital factor rating has very healthy criteria, the higher the capital adequacy, the better the bank's ability to bear the risk of each asset. H3 is accepted.

H4: Effect of capital adequacy risk on company value.
Based on the results of the analysis using smartPLS, it can be concluded that the results of testing the capital adequacy hypothesis do not have a significant effect on firm value. the results of the fourth hypothesis test prove the p-value of 0.239 with a t value of 0.711. This value is greater than t table (1.667) and p-value below 0.05. The results of this study support the previous research according to (Haerani, 2014) which shows that CAR has a negative effect on firm value because the CAR value that is too high can cause unemployment funds to increase so that the bank's performance decreases and the value of the company will decrease. This should be a CAR fund to be channeled in the form of other loans or loans to the community so as to generate income from interest on loans and also be used for liquidity reserves because the bank is afraid that a customer will withdraw funds. Then with a CAR too high profitability will decrease so that the company's value will decrease. Because some capital is prepared to reduce the risk of low-quality bank assets. H4 is rejected.

Based on the results of the analysis using smartPLS, it can be concluded that the results of hypothesis testing Liquidity risk has a significant effect on financial performance. the results of the fifth hypothesis test prove the p-value of 0.002 with a t value of 2.960. This value is greater than t table (1.667) and p-value below 0.05. The results of this study are in accordance with previous studies from (Dwi Prasetyobdan Ni Putu Ayarmarmant, 2015) who said that liquidity risk has a positive and significant effect on financial performance. The average value of Bank BRI, BNI, Mandiri, BTN is said to be healthy with a rating of liquidity risk components of 70% <85% but here the overall average value of banks is 91.08%, this is said to be quite healthy because the criteria are 85% <100%. LDR is one indicator that describes the ability of banks to repay withdrawals made by relying on loans provided as a source of liquidity. The higher the liquidity, the lower the financial performance and the lower the liquidity, the better the financial performance. H5 is accepted.

H6: Effect of liquidity risk on company value.
Based on the results of the analysis using smartPLS, it can be concluded that the results of hypothesis testing Liquidity risk has a significant effect on firm value. the results of the sixth hypothesis test prove the p-value of 0.004 with a t value of 2.686. This value is greater than t table (1.667) and p-value above 0.05. With this, the higher the company's liquidity (one of which is reflected in the cash ratio of current assets), the more funds available to the company to pay bank obligations for third party funds (demand deposits, deposits, savings). H6 is accepted.

H7: The Effect of Financial Performance on Firm Value.
Based on the results of the analysis using smartPLS, it can be concluded that the results of testing the financial performance hypothesis have a significant effect on firm value. the results of the seventh hypothesis test prove the p-value of 0.033 with a t value of 1.858. This value is greater than t table (1.667) and p-value below 0.05. The results of this study are in accordance with previous studies from (Wahyu Ardimas and Wardoyo, 2014) who say that financial performance has a positive and significant effect on firm value (PER). The better financial performance, the better the value of the company, which means that increasing income will be one of the important aspects for investors in assessing the value of the company, especially for investing, if the level of corporate income is higher then the value of bank companies also increases. Stock market prices are considered a reflection of the true value of the company's assets, PER as one indicator makes the market believe in the company's current performance and also the future prospects of the company. H7 is accepted.
**Indirect Effect**

**Table 3. Specific Indirect Effects**

| Indirect Effect | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (|O/STDEV|) | P Values |
|-----------------|---------------------|-----------------|---------------------------|----------------------|----------|
| Credit risk -> Financial performance -> Company value | 0.047 | 0.043 | 0.027 | 1.720 | 0.044 |
| Capital adequacy -> Financial performance -> Company value | -0.069 | -0.068 | 0.043 | 1.614 | 0.055 |
| Liquidity risk -> Financial performance -> Company value | -0.042 | -0.037 | 0.025 | 1.671 | 0.049 |

Source: Processing data by SmartPLS 3.0

1. Credit risk (NPL) -> Financial performance (ROE) -> Corporate value (PER). Based on the results of the analysis using SmartPLS, it can be concluded that the credit risk variable (X1) has a positive and significant effect indirectly on corporate value (Y2) through financial performance (Y1). This can be seen from the p-value of 0.044 less than 0.05 and the t-statistic value of 1.720 which is more than the t-table value of 1.667. It shows that the smaller the credit risk, the financial performance will be higher to get a profit for the corporate value.

2. Capital adequacy (CAR) -> Financial performance (ROE) -> Corporate value (PER). Based on the results of the analysis using SmartPLS, it can be concluded that the capital adequacy variable (X2) has a negative and insignificant effect indirectly on corporate value (Y2) through financial performance (Y1). This can be seen from the p-value of 0.05 more than 0.05 and the t-statistic value of 1.614 which is less than the t-table value of 1.667. It shows that if capital adequacy is too high, it can cause the increasing of unused funds, thus causing the bank's financial performance to decline in the corporate value.

3. Liquidity risk (LDR) -> Financial performance (ROE) -> Corporate value (PER). Based on the results of the analysis conducted using SmartPLS, it can be concluded that the liquidity risk variable (X3) has a positive and significant effect indirectly on corporate value (Y2) through financial performance (Y1). This can be seen from the p-value of 0.049 less than 0.05 and the t-statistic value of 1.671 which is more than the t-table value of 1.667. It shows that the higher the liquidity of the corporate, the more funds available for the corporate to pay for the bank's obligations for third party funds (demand deposits, deposits, savings).
6 CONCLUSION

Based on the results and discussion described in the chapter above, the following conclusions are obtained:

Credit risk variable (NPL), Capital adequacy (CAR), Liquidity risk (LDR) has a significant effect on financial performance (ROE). Credit risk shows the ability of bank management in managing non-performing loans provided by banks, the smaller the NPL ratio, the better the quality of bank credit which causes the number of problem loans to be lower, so the possibility of a bank in a low problem then earning higher profits, capital adequacy has a dominant influence on financial performance. The higher the CAR, the better the bank's ability to bear the risk of each risky credit / productive asset. If the CAR value is high then the bank is able to finance operational activities and contribute significantly to profitability. Loan To Deposit Ratio (LDR) is a ratio that measures the ability of banks to fulfill financial obligations that must be met. As an institution of trust, banks must be able to carry out their functions as intermediary institutions. Liquidity risk is getting lower, the financial performance is increasing, this shows a better relationship with financial performance (ROE).

While credit risk (NPL), and capital adequacy (CAR) do not affect the value of the company. Theoretically low credit risk will be able to increase bank profitability, especially in terms of income from credit interest, which in turn will improve the welfare of investors. However, the results of this study found that there was no effect of credit risk on company value, this could occur bank policies in terms of determining the priority scale of bank profit distribution such as the amount of dividends given to shareholders smaller than distribution to other investments, reserve formation and so on. Capital Adequacy Ratio (CAR) is a capital adequacy ratio that functions to accommodate the risk of losses that might be faced by banks. The higher the CAR, the better the bank's ability to bear the risk of each risky credit / productive asset. The findings of this study indicate that CAR does not affect the value of the company, CAR that is too high can cause unemployment funds to increase so that the company's value will decrease. While the liquidity risk variable (LDR) and financial performance have a significant effect on company value, with this the higher the company's liquidity, the more funds available to the company to pay bank obligations to third party funds, the better financial performance the company value increases.

7 LIMITATIONS

The results of this study have limitations in exploring the independent variables that affect the financial performance and value of banking companies, and the validity of this research finding is not enough to describe the generalization of the impact of independent variables on the dependent variable, which has not represented the entire banking industry. Therefore, further research needs to be re-examined by independent variables other than credit risk, capital adequacy, liquidity risk that affect the financial performance and value of the company, and the involvement of the banking industry as a whole both private and government property.

8 REFERENCES


