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# The Effect Analysis Risk of Credit, Liquidity and Capital on Banking Profitability

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*GJMBR-D Classification: JEL Code: M41*




*Strictly as per the compliance and regulations of:*

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# The Effect Analysis Risk of Credit, Liquidity and Capital on Banking Profitability

Didik Riyanto [α] & Dwi Asih Surjandari [σ]

*Abstract-* This study aims to examine the effect of credit risk, liquidity and capital on the profitability of commercial banks. Type of causal research (causal study) with sampling using the method of Purposive Sampling. Sampling is conducted at commercial banks (private, corporate, foreign and non-foreign exchange) listed on the Jakarta Stock Exchange for the period 2012-2016. The research method used is panel data regression analysis with Eviews version 9.0 as a statistical test tool. The test results show credit risk, liquidity risk and capital effect on profitability collectively (simultaneously). Partially, credit risk and capital have an effect on profitability, while liquidity risk has no effect to profitability.

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## I. Introduction

Current banking conditions are much healthier because they can be anticipated quickly. Business players in the banking sector are optimistic that Indonesia can avoid the threat of a crisis, such as the severe banking crisis in 1998. "Our economy will not be in a crisis like 1998, because it requires a capital adequacy ratio of 9 percent, but more national bank reserves. We have a lot of capital. a lot of profit is okay, the important thing is safe liquidity, "said the Independent Commissioner of PT Bank Mandiri. Co, when discussing Media Training: Understanding the Banking Industry (www.liputan6. com, 2015).

The Financial Services Authority (OJK) said the profitability ratio of assets or Return on Assets (ROA) in the banking industry during 2016 decreased slightly because banks needed to inflate reserve costs due to the increase in the ratio of non-performing loans (NPL) (www.republika.co.id, 2017). Profitability in the banking world is very important both for owners, storage, government and society (Audhya, 2014). Therefore banks need to maintain profitability to remain stable or even increase. Return on Assets (ROA) is used as a proxy in measuring the profitability of a bank.

For the world of credit banking is the main element to gain profit (Kasmir, 2015: 125). This means that the profitability of a bank is strongly influenced by the amount of credit disbursed in a period. The more credit disbursed, the greater the profit from this field. Management must also pay attention to the quality of credit. This is important because credit quality is related to the risk of congestion (problem) of a loan that is channeled. This means that the higher the quality of credit provided, it will reduce the risk of the possibility of credit is stuck or problematic. As is known that the more bad loans will result in bank profits falling (Kasmir, 2015: 126).

Credit risk is the possibility that a borrower will fail a loan. In this context, failure is broadly defined when the borrower does not meet the terms of his contractual obligations with the lender (John Charnes, 2012: 221). Another understanding of credit risk is the risk of loss due to failure of the counterparty to fulfill its obligations. Credit risk includes risks due to debtor failure, credit risk due to counterparty credit risk and credit risk due to failure of settlement risk (Banker Association for Risk Management, 2013: I-4).

In Bank Indonesia Regulation Number 17/11 / PBI / 2015, Credit Risk is a risk due to failure of debtors and / or other parties to fulfill obligations to the Bank. Credit risk ratio is peroxided by NPL (Non-Performing Loan). The Total Loan Non-Performing Loan Ratio, hereinafter referred to as the NPL Ratio, Total Credit is the ratio between the total amount of loans with substandard, doubtful and loss quality, to total loans (Bank Indonesia Regulation Number 19/6 / PBI / 2017).

The bank's ability to manage its liquidity will have an impact on the public's trust in the bank itself so that it will assist the operational continuity and the existence of the bank. Liquidity management is very important for every organization to fulfill its short-term (debt) obligations in its operations (Saleem & Rehman, 2011). Liquidity risk is a ratio to measure a bank's ability to meet its short-term obligations when billed. In other words, it can repay the depositor funds disbursement when billed and can meet the credit requests that have been submitted. The greater the ratio, the more liquid (Kasmir, 2016: 315).

Based on Bank Indonesia Circular No. 13 / 24DPNP On October 25, 2011 defining liquidity risk is a risk due to the inability of the Bank to meet maturing obligations from cash flow funding sources, and / or from high quality liquid assets that can be pledged as collateral, without disrupting the Bank's activities and financial conditions. This risk is also called funding liquidity risk. Liquidity risk can also be caused by the

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inability of the Bank to liquidate assets without being subjected to material discounts due to the absence of an active market or severe market disruption.

In addition to credit risk and liquidity risk. Capital is an important factor as a source of bank operational funds. Without sufficient capital the bank's operational activities will be disrupted. According to Yuanjuan (2012) CAR in addition to reflecting bank risks also becomes a benchmark for asset-liability management with other banks. This opinion is supported by Wibowo (2013) which states that CAR reflects the company's own capital to generate profits. The greater the CAR, the greater the opportunity for banks to generate profits because with large capital, bank management is very free to place funds into profitable investment activities.

Like other companies, banks also have capital that can be used for various things. It's just that in various ways (such as supplementary capital), the capital owned by banks is slightly different from that of other companies. In practice, capital consists of two types, namely core capital and supplementary capital. Core capital is its own capital stated in the equity position, while supplementary capital is loan capital and asset revaluation reserves and allowance for possible losses on earning assets / allowance for impairment losses.

Credit risk and capital have a significant effect and are positively correlated with bank profitability (Alindra Yanuardi, et al. 2014). In another study, it was found that credit risk had a significant negative effect on profitability, liquidity had a significant positive effect on profitability, capital adequacy had no significant negative effect on profitability (Dwi Agung Prasetyo, et al. 2015). The results of other studies say, credit risk variables affect profitability, while liquidity and capital variables have no effect on profitability (Pramitha Kusuma Dewi, et al. 2015). The research gap in this study is that there are still inconsistencies in the results of previous studies. So that this research needs to be repeated and developed to re-examine the role of fundamental internal variables of banking profitability with different conditions, times and places of research. This study will examine the factors that are thought to affect Profitability, some of these factors include Credit Risk, Liquidity Risk, and Capital.

## II. Methods

Sampling in this study is based on certain considerations (judgment sampling), where the criteria of the bank sampled in this study are:

a. National public and private bank companies.
b. Banking companies listed on the Indonesia Stock Exchange (IDX).
c. Banking companies that have complete financial data regarding the research variables during the 2012-2016 period.
d. Banking companies that do not merge or go bankrupt during the 2012-2016 period.

*Table I:* Sample Selection

| No. | Sample Qualification | Number of Companies |
|---|---|---|
| 1 | Commercial Bank Company | 69 |
| 2 | Banking companies listed on the Indonesia Stock Exchange | 42 |
| 3 | Companies that have complete financial data regarding the research variables during the period 2012 - 2016 | 23 |
| 4 | The company did not merge or bankrupt during the period 2012-2016 | 23 |

*Source: Indonesia Capital Market Directory*

The number of general banking companies is 69 companies, and those listed on the Indonesia Stock Exchange are 42 companies. Companies that have complete financial data related to research variables during the period 2012-2016, and the company did not merge or bankrupt during the 2012-2016 period totaling 23 companies. So the number of companies that are the object of research is 23 companies, as shown in the following table:

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*Table II:* Object of Research

| No. | Stock Code | Bank |
|---|---|---|
| 1 | INPC | Bank Artha Graha International |
| 2 | BBKP | Bank Bukopin |
| 3 | BNBA | Bank Bumi Arta |
| 4 | BACA | Bank Capital Indonesia |
| 5 | BBCA | Bank Central Asia |
| 6 | BNGA | Bank Cimb Niaga |
| 7 | BDMN | Bank Danamon |
| 8 | BJBR | Bank Jabar Banten |
| 9 | BMRI | Bank Mandiri |
| 10 | MAYA | Bank Mayapada International |
| 11 | MEGA | Bank Mega |
| 12 | BBNI | Bank Negara Indonesia |
| 13 | BBNP | Bank Nusantara Parahyangan |
| 14 | NISP | Bank Ocbc Nisp |
| 15 | BSWD | Bank of India Indonesia |
| 16 | PNBN | Bank Pan Indonesia |
| 17 | BNLI | Bank Permata |
| 18 | BBRI | Bank Rakyat Indonesia |
| 19 | BSIM | Bank Sinar Mas |
| 20 | BBTN | Bank Tabungan Negara |
| 21 | BTPN | Bank Tabungan Pensiunan Nasional |
| 22 | BVIC | Bank Victoria |
| 23 | AGRO | Bri Agro Niaga |

The data used are financial reports of banking companies listed on the Indonesia Stock Exchange in 2012-2016 which are publicly published and listed in the Indonesian Banking Directory issued by Bank Indonesia, Indonesian Capital Market Directory (ICMD), Indonesia Stock Exchange (www.idx.co.id), and the website of each company.

To achieve the objectives in this study used descriptive statistical analysis and panel data regression analysis. Panel data regression analysis is used to examine the effect of credit risk (NPL), liquidity (LDR), and capital structure (CAR) on profitability (ROA) of banking companies listed on the Stock Exchange in 2012-2016.

Credit risk or often referred to as default risk is a risk due to the failure or inability of the customer to return the amount of the loan obtained from the bank and its interest in accordance with a predetermined time period or scheduled (Siamat, 2004: 280). Credit risk is calculated using the formula (Bank Indonesia Circular Letter No.6 / 23 / DPNP dated May 31, 2004), as follows:

$$\text{NPL} = \frac{\text{Bad Debts}}{\text{Total Loans}} \text{ x } 100\% \qquad (1)$$

Aspects of bank liquidity are measured by the Loan to Deposit Ratio (LDR). LDR is the ratio between the total amount of credit given by the bank and the funds received by the bank. In accordance with Bank Indonesia Circular Letter No.6 / 23 / DPNP dated May 31, 2004, the calculation of the liquidity ratio is as follows:

$$\text{LDR} = \frac{\text{Total Loans}}{\text{Total Deposits}} \text{ x } 100\% \qquad (2)$$

Capital adequacy is a measure that determines if a bank has sufficient capital that offers protection against risks associated with offering bank credit and other financial businesses. Capital adequacy is also known as capital for the risk of weighted asset ratios. In this study capital adequacy uses the Capital Adequacy Ratio (CAR). Calculation of CAR in accordance with Attachment 1a Bank Indonesia Circular No. 6/23 / DPNP May 31, 2004 are as follows:

$$\text{CAR} = \frac{\text{Equity}}{\text{ATMR}} \text{ x } 100\% \qquad (3)$$
$$\text{(Risk Weighted Assets )}$$

Profitability is measured using Return on Assets (ROA). ROA is the ratio used to measure the ability of a bank's management to gain profit (profit) as a whole. In Attachment 1d Circular Letter of Bank Indonesia No.6 / 23. / DPNP dated May 31, 2004 the calculation of ROA is as follows:

$$\text{ROA} = \frac{\text{Net Income Available to Common Stockholders}}{\text{Total Assets}} \text{ x } 100\% \qquad (4)$$

In carrying out the analysis, the tools used are using the EViews version 9.0 application. Before panel data regression analysis, panel data regression estimation method was carried out. According to Widarjono (2007: 251), to estimate the model parameters with panel data, there are three techniques



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(models) that are often offered, namely: with Chow Test (Fixed Effect Test), Hausman Test (Random Test Effect) and the Lagrange Multiplier Test. From the test results, it can be determined which Data Panel Regression Model will be used, and then Hypothesis testing is carried out.

## III. Results and Discussion

Descriptive data, showing minimum, maximum, mean (mean) values, median and standard deviations (δ) of each research variable can be seen in the following table:

*Table III:* Descriptive Analysis

| Sample: 2012 2016 | | | | |
|---|---|---|---|---|
| | Y | X1 | X2 | X3 |
| Mean | 1.914261 | 1.336522 | 84.43330 | 17.99835 |
| Median | 1.790000 | 1.090000 | 86.34000 | 17.31000 |
| Maximum | 5.150000 | 4.960000 | 108.8600 | 34.50000 |
| Minimum | -11.15000 | 0.000000 | 52.39000 | 10.44000 |
| Std. Dev. | 1.787059 | 1.068872 | 11.23586 | 3.521906 |
| Skewness | -3.667851 | 1.118663 | -0.764781 | 1.184686 |
| Kurtosis | 27.71823 | 3.943440 | 3.831911 | 6.189018 |
| | | | | |
| Jarque-Bera | 3185.516 | 28.25024 | 14.52660 | 75.63050 |
| Probability | 0.000000 | 0.000001 | 0.000701 | 0.000000 |
| | | | | |
| Sum | 220.1400 | 153.7000 | 9709.830 | 2069.810 |
| Sum Sq. Dev. | 364.0680 | 130.2436 | 14391.87 | 1414.036 |
| | | | | |
| Observations | 115 | 115 | 115 | 115 |

*Source: Output Eviews Verse 9.0*

The results of the descriptive analysis above the average credit risk (NPL) value is 1.336522%, then based on the average credit risk (X1) if correlated with regulations (Indonesian Bank regulations) that banks in the study population fall into bank criteria by level of risk rating 2 or "Healthy" (1%≤ NPL <2%). In addition, the difference between the minimum value and the maximum value of credit risk, shows that each bank has different capabilities in managing credit risk. In table 3, it can be seen that the standard deviation is below the mean (mean). This shows that data variations or data deviations are small.

The average value for variable X2, namely Liquidity Risk (LDR) is 84.43330%, this value if categorized as a risk profile according to regulations, is categorized into "Healthy" banking or rating 2 (75% <LDR ≤ 85%). The maximum and minimum value of liquidity has a significant difference, this shows that even though the sample company is conducted in a group of banking companies, each bank has different capabilities in terms of maintaining liquidity. Liquidity risk is measured by comparing funds disbursed (credit) with funds received (third party funds). In addition, in table 3 can also be seen the standard deviation of liquidity risk, has a small value of the average value of the risk of liquidities. This shows that data deviations are small.

Capital variable (X3) obtained an average value of 17,99835%, this value can be categorized into banking criteria "Very Healthy" or rank 1 (CAR> 12%) according to Bank Indonesia regulations. The minimum value is 10.44% and the maximum value of capital risk is 34.5%. From this value, it can be said that banking companies in this research sample have a good risk of capital adequacy. Bank Indonesia asked the banking company to have a minimum capital adequacy ratio of 9%, but the company in this sample had a ratio of above 10.44%.

Variable Y as the dependent variable, has an average value of 1.914261%. This value, if included in the risk profile category according to the Bank Indonesia Regulation shows that the profitability (ROA) of banks in the study is ranked 1 or in the criteria category of "very healthy" banks (ROA> 1.5%). But if we see the minimum and maximum values, there are companies that have a loss of 11.15%.

There are three tests to choose panel data estimation technique, first Chow Test is used to choose between common effect or fixed effect models. Second, Hausman Test is used to choose between the best fixed effect model or random effect in estimating panel data regression. Third, the Lagrange Multiplier Test is used to ascertain which model to use, the basis for this test is if the results of fixed and random tests are not consistent.

Chow test is a test by comparing between Pooled Least Square (Common Effect) and Fixed Effect Models. In this test the hypothesis is as follows:

*H0:* Common Effect Model

*H1:* Fixed Effect Model



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H0 is rejected if P-value is smaller than the value α. Conversely, H0 is accepted if the P-value is greater than the value of α. The value of α used is 5% (0.05). This test uses tools (applications) Eviews version 9.0, the results of the data processing are as follows:

*Table IV:* Fixed Effect Test Results (Chow Test)

| Redundant Fixed Effects Tests | | | | |
|---|---|---|---|---|
| Equation: Untitled | | | | |
| Test Cross-Section Fixed Effects | | | | |
| **Effects Test** | **Statistic** | | **d.f.** | **Prob.** |
| Cross-Section F | 3.949009 | | (22,89) | 0.0000 |
| Cross-Section Chi-Square | 78.332859 | | 22 | 0.0000 |
| Cross-Section Fixed Effects Test Equation: | | | | |
| Dependent Variable: Y | | | | |
| Method: Panel Least Squares | | | | |
| Sample: 2012 2016 | | | | |
| Periods Included: 5 | | | | |
| Cross-Sections Included: 23 | | | | |
| Total Panel (Balanced) Observations: 115 | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| X1 | -0.885266 | 0.131420 | -6.736172 | 0.0000 |
| X2 | -0.001341 | 0.012366 | -0.108453 | 0.9138 |
| X3 | -0.087462 | 0.039740 | -2.200862 | 0.0298 |
| C | 4.784839 | 1.312137 | 3.646600 | 0.0004 |
| R-Squared | 0.338355 | Mean Dependent Var | | 1.914261 |
| Adjusted R-Squared | 0.320472 | S.D. Dependent Var | | 1.787059 |
| S.E. of Regression | 1.473134 | Akaike Info Criterion | | 3.646825 |
| Sum Squared Resid | 240.8839 | Schwarz Criterion | | 3.742301 |
| Log Likelihood | -205.6924 | Hannan-Quinn Criter. | | 3.685578 |
| F-Statistic | 18.92121 | Durbin-Watson Stat | | 0.828139 |
| Prob (F-Statistic) | 0.000000 | | | |

*Source: Output Eviews Version 9.0*

Based on the results of the Chow Test showed the p-value F test was 0.0000 with a significance level of 5% (α = 0.05), then the p-value (0.0000) <α (0.05). Thus H0 (Common Effect Model) is rejected, meaning, the accepted model is Fixed Effect Model.

The Hausman test is a statistical test to choose between the Fixed Effect or Random Effect models that are most appropriate to use. Testing of the Hausman test is done with the following hypothesis:

*H0:* Random Effect Model

*H1:* Fixed Effect Model

P value <0.05 then H0 is rejected, the method chosen is fixed effect. If p value> 0.05, the method we choose is random effect. The results of the test can be seen in the table below:



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*Table V:* Random Effect Test Results (Hausman Test)

| Correlated Random Effects - Hausman Test | | | | |
|---|---|---|---|---|
| Equation: Untitled | | | | |
| Test Cross-Section Random Effects | | | | |
| **Test Summary** | **Chi-Sq. Statistic** | | **Chi-Sq. d.f.** | **Prob.** |
| Cross-Section Random | 4.680916 | | 3 | 0.1967 |
| Cross-Section Random Effects Test Comparisons: | | | | |
| **Variable** | **Fixed** | **Random** | **Var(Diff.)** | **Prob.** |
| X1 | -0.713725 | -0.835689 | 0.010181 | 0.2268 |
| X2 | 0.039529 | 0.007405 | 0.000595 | 0.1878 |
| X3 | -0.184707 | -0.138154 | 0.000626 | 0.0628 |
| Cross-Section Random Effects Test Equation: | | | | |
| Dependent Variable: Y | | | | |
| Method: Panel Least Squares | | | | |
| Sample: 2012 2016 | | | | |
| Periods Included: 5 | | | | |
| Cross-Sections Included: 23 | | | | |
| Total Panel (Balanced) Observations: 115 | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| C | 2.854991 | 2.571391 | 1.110290 | 0.2699 |
| X1 | -0.713725 | 0.174525 | -4.089541 | 0.0001 |
| X2 | 0.039529 | 0.029781 | 1.327337 | 0.1878 |
| X3 | -0.184707 | 0.047773 | -3.866390 | 0.0002 |
| Effects Specification | | | | |
| Cross-Section Fixed (Dummy Variables) | | | | |
| R-Squared | 0.665186 | Mean dependent var | | 1.914261 |
| Adjusted R-Squared | 0.571138 | S.D. dependent var | | 1.787059 |
| S.E. of Regression | 1.170302 | Akaike info criterion | | 3.348278 |
| Sum Squared Resid | 121.8950 | Schwarz criterion | | 3.968872 |
| Log Likelihood | -166.5260 | Hannan-Quinn criter. | | 3.600174 |
| F-Statistic | 7.072779 | Durbin-Watson stat | | 1.556068 |
| Prob (F-Statistic) | 0.000000 | | | |

*Source: Output Eviews version 9.0*

Hausman test results, showed a p-value value of random cross-section of 0.1967> 0.05. So it is stated that the Random Effect Model is better than the Fixed Effect Model. Based on the tests that have been conducted (Chow Test and Hausman Test), inconsistent results were found, the correct Chow Test model was Fixed Effect, while the Hausman model used was the Random Effect. Thus, further testing is needed, namely the Lagrange Multiplier Test (LM-Test).

The Lagrange Multiplier Test is an analysis conducted with the aim to determine the best method in panel data regression, using common effects or random effects. The hypothesis used is:

*H0:* Common Effect Model

*H1:* Random Effect Model

H0 is rejected if the Prob. value. Breusch-Pagan (BP-value) is smaller than the value of α. Conversely, H0 is accepted if the Prob. value. Breusch - Pagan (BP-value) is greater than the value of α, the value of α used is 5%.



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*Table VI:* Lagrange Multiplier Test Results

| Lagrange Multiplier Tests for Random Effects | | | |
|---|---|---|---|
| Null Hypotheses: No Effects | | | |
| Alternative Hypotheses: Two-Sided (Breusch-Pagan) and One-Sided (All Others) Alternatives | | | |
| | Test Hypothesis | | |
| | Cross-Section | Time | Both |
| Breusch-Pagan | 24.88818 | 1.220993 | 26.10918 |
| | (0.0000) | (0.2692) | (0.0000) |
| Honda | 4.988806 | -1.104985 | 2.746276 |
| | (0.0000) | -- | (0.0030) |
| King-Wu | 4.988806 | -1.104985 | 0.940332 |
| | (0.0000) | -- | (0.1735) |
| Standardized Honda | 5.597717 | -0.841443 | -0.631496 |
| | (0.0000) | -- | -- |
| Standardized King-Wu | 5.597717 | -0.841443 | -1.820410 |
| | (0.0000) | -- | -- |
| Gourierioux, et al.* | -- | -- | 24.88818 |
| | | | (< 0.01) |
| *Mixed Chi-Square Asymptotic Critical Values: | | | |
| 1% | 7.289 | | |
| 5% | 4.321 | | |
| 10% | 2.952 | | |

*Source: Output Eviews Version 9.0*

From the test results the Lagrange Multiplier Test shows that the Prob. value is Breusch-Pagan (BP-value) is 0.0000 with a significance level of 5% ($\alpha = 0.05$), Prob. BP - value (0.0000) $<\alpha$ (0.05). Thus H0 (Common Effect Model) is rejected, meaning that the model accepted is the Model Random Effect.

The panel data regression test results using Random Effect Model are presented in the following table:

*Table VII:* Panel Data Regression Test Results

| Dependent Variable: Y | | | | |
|---|---|---|---|---|
| Method: Panel EGLS (Cross-Section Random Effects) | | | | |
| Periods Included: 5 | | | | |
| Cross-Sections Included: 23 | | | | |
| Total Panel (Balanced) Observations: 115 | | | | |
| Swamy and Arora Estimator of Component Variances | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| X1 | -0.835689 | 0.142399 | -5.868628 | 0.0000 |
| X2 | 0.007405 | 0.017090 | 0.433304 | 0.6656 |
| X3 | -0.138154 | 0.040698 | -3.394596 | 0.0010 |
| C | 4.892474 | 1.620008 | 3.020031 | 0.0031 |
| Effects Specification | | | | |
| | | | S.D. | Rho |
| Cross-Section Random | | | 0.915267 | 0.3795 |
| Idiosyncratic Random | | | 1.170302 | 0.6205 |
| | Weighted Statistics | | | |
| R-Squared | 0.386049 | Mean Dependent Var. | | 0.950239 |
| Adjusted R-Squared | 0.369456 | S.D. Dependent Var. | | 1.484923 |
| S.E. of Regression | 1.179130 | Sum Squared Resid. | | 154.3285 |
| F-Statistic | 23.26540 | Durbin-Watson Stat. | | 1.249775 |
| Prob (F-Statistic) | 0.000000 | | | |
| Un-Weighted Statistics | | | | |
| R-Squared | 0.325055 | Mean Dependent Var. | | 1.914261 |
| Sum Squared Resid | 245.7259 | Durbin-Watson Stat | | 0.784923 |

*Source: Output Eviews Version 9.0*



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From the results of the Fixed Effect Model above, it is known the value of the coefficient constant so that the following equation can be formed:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e(1)$$

$$ROA = 4.898474 - 0.835689NPL + 0.007405LDR - 0.138154\ CAR$$

*a) Determination Coefficient and F - Test (Simultaneous)*

Based on the results of the random effect model method, R2 (R-squared) is 0.386049. Thus, it can be seen that the variable NPL, LDR, and CAR ratio can explain the profitability of conventional commercial banks in 2012-2016 which is proxied through ROA of 38.60%, while the remaining 61.40% is influenced by other variables outside the variable.

The results of the random effect model test results showed that the F count value was 23.26540 and the F table value was 2.69, so that F count> F table value and had a prob. (F Statistic) value of 0.000000 <0.05 (α).

*b) Effect of Credit Risk on Profitability*

T test (partial test) basically shows how far the influence of an explanatory / independent variable individually in explaining the variation of the dependent variable. In testing the X1 variable is known t count> t table, namely -5.868628> 1.983 and has a prob value. (p-value) 0.0000 <0.05, then H0 is rejected which means that NPL has a significant negative effect on ROA. Credit Risk Variables (NPL) have an effect on Profitability. The influence value is -5,868628, where the negative value shows a negative influence. This means that if the NPL value increases, then Profitability (ROA) will decrease and vice versa. This study confirms Kasmir's statement, (2015: 126) that the more bad loans will result in bank profits falling. The results of this study also support Anton's research (2016) which states that credit risk negatively affects profitability.

*c) Effect of Liquidity Risk on Profitability*

The result of t count <t table is 0.433304 < 1.983 and has a prob. value. (p-value) 0.6656> 0.05, then H0 is accepted which means that the LDR has no effect on ROA. This study supports what Pramitha did (2015) that the LDR does not affect ROA. Other research that is in line with the results of this study is the research by Sari Ayu (2015) which states that LDR does not affect ROA. Liquidity risk is only to measure the ability of the bank whether the bank is able to pay its debts and pay back to the depositor, and can meet the credit request submitted. But it does not determine the higher credit distribution and the quality of the loans disbursed.

In an effort to achieve optimal profit (by providing loans) must maintain a healthy level of liquidity which is expected to meet withdrawal of deposits by customers, in addition to fulfilling the obligation to maintain the minimum liquidity set by the regulator. So it can be concluded that when the bank expects maximum profit will risk at a low level of liquidity or when high liquidity means the level of profit is not optimal. So there is a conflict of interest between maintaining high liquidity and seeking high profits. Liquidity management is very important for banks, especially to overcome liquidity risk caused by the above. To prevent this liquidity risk from occurring, liquidity management policies that can be implemented include maintaining short-term assets, such as cash.

In this study using the LDR ratio, which only shows the amount of lending to third party funds (savings). The amount of deposit funds owned by the bank does not necessarily contribute to profitability because it still must be managed as well as possible by management. This ratio also depends on the policies and strategies that are used by bank management to utilize the savings funds they have in order to get a profit. Therefore, liquidity risk does not have an influence or impact on bank profitability in Indonesia.

Relatively large financing with the distribution of funds to the public must be balanced by the bank's ability to fulfill its obligations to depositors who wish to withdraw their funds from the bank, and the concerned bank must pay attention to the maximum limit of credit or financing stipulated by Bank Indobesia (BI). Thus, the bank is able to carry out its intermediary function well, namely by paying attention to the balance between activities in channeling funds to the community with its fund raising activities.

*d) Capital Influence on Profitability*

The partial test results of the X3 variable are known, t count> t table which is -3.394596> 1,983 and has a prob. value. (p-value) 0.0010 <0.05, then H0 is rejected which means that CAR has an influence on ROA. The results of this study support the research of Sari Ayu (2015) that partially the CAR variable has a negative effect on profitability (ROA). In addition, the results of this study also concur with the results of Dwi's (2015) study, the results of which state that capital adequacy has no significant negative effect on profitability. Capital risk is a risk that arises due to a decrease in asset quality, due to bad credit. Allowance for impairment losses, hereinafter referred to as CKPN, is an allowance that is provided if the carrying amount of the financial asset after impairment is less than the initial carrying value. This reserve is included in bank capital, which is supplementary capital in the form of CKPN.



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## IV. Conclusion

*a) Conclusion*

Based on the analysis and testing of hypotheses, as well as the discussion that has been raised, it can be concluded that the following:

1. The results of this study, state that credit risk (NPL), liquidity risk (LDR), and capital risk (CAR) together (simultaneously) affect profitability (ROA).
2. The result of testing the variable X1 is that H0 is rejected, thus credit risk (NPL) affects profitability (ROA).
3. The result of testing the variable X2 is that H0 is accepted, then the liquidity risk (LDR) has no effect on profitability (ROA).
4. While the result of X3 testing is H0 is rejected, which means capital risk (CAR) affects profitability (ROA).

*b) Suggestion*

For the next researcher, it can expand the independent variables that are used as factors that can influence the dependent variable outside of the independent variables that the researcher has used so that the results obtained later can largely explain the variation of the dependent variable.

In addition to this for the population and sample, it can also be done on non-bank financing companies, such as multi - finance, leasing, cooperatives, pawnshops and others. So that the results achieved can enrich studies in other financing companies.

The sample selection in this study uses purposive sampling method so that the companies that are sampled are limited to predetermined criteria. This becomes a limitation because it minimizes the sample used so that the results obtained cannot represent the existing company.

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