

# The Effects of Capital and Liquidity on Profitability with Credit Problem as a Moderating Variable Among Conventional Commercial Banks

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## ABSTRACT

This study aimed to obtain empirical evidence about the effects of capital and liquidity on profitability with credit problem as a moderating variable among conventional commercial banks listed in IDX during 2014-2018. In this study, the data was obtained from the annual financial reports of conventional commercial banks. The banking companies in this study consisted of 40 companies for each period during 2014-2018. The statistical method used to test the research hypothesis was a moderated regression model with EViews version 9 for Windows program. The results show that capital and liquidity partially have a significant effect on profitability, while credit problem does not. In addition, credit problem can moderate the effect of capital on profitability, but on the other hand, it cannot moderate the effect of liquidity on profitability.

**Keywords:** *Capital, Liquidity, Credit Problem, Profitability, Conventional Commercial Bank*

## 1. INTRODUCTION

According to [1], one of the roles of bank is to become an intermediary for financing the real sector, both to improve the investment and business climate, as well as to create jobs. Banking is tasked with channelling funds to borrowers with productive investment opportunities. This kind of financial activity is necessary to be performed to ensure that the financial and economic system work smoothly and efficiently, so that in the end, it can increase the people's welfare. However, according to [2], the Financial Services Authority (FSA or OJK) stated that the profit of national banking industry in the fourth quarter of 2015 decreased compared to that in the same period in 2014. Deputy Commissioner for Banking Supervision III of the Financial Services Authority (OJK), Irwan Lubis, said that this profit is reflected in the Return-on-Asset (ROA) indicator of banking industry, which is lower than the value at the end of 2014. Thus, the banking industry's profit is reflected in the ROA indicator. Furthermore, the banks' profitability which decreased in 2015-2016, and increased, which was less soaring until 2019, affected the results of the bank-condition assessment conducted on the bank risk and performance [3] [4] [5] [6]. In carrying-out its activities, a bank needs to assess the soundness of its own by using the method recently issued by the government in [7], article 2 paragraph 3, which stated that banks are required to assess the level of bank soundness using a risk approach (Risk-Based Bank Rating - RBBR) either individually or in consolidation. According to [7], article 1 paragraph 4, the

soundness of a bank is the result of an assessment of the bank condition conducted on the risks and performance of the Bank. The assessment of bank soundness uses risk approach (RBBR), consisting of a risk profile, Good Corporate Governance (GCG), earnings, and capital. The RBBR method used in this study includes the risk profile, earnings, and capital factors. In previous study, according to [8], Capital-Adequacy Ratio (CAR) negatively affects ROA, as well as the study conducted by [9], which stated that CAR has a significant and positive effect on ROA, unlike the case in the study by [10], which stated that CAR has no significant effect on ROA. The results of this study are supported by the study by [11]. In the study by [8], Loan-to-Deposit Ratio (LDR) has a positive effect on ROA, and is supported by [10] and [12]. Meanwhile, the study conducted by [13] stated that LDR has no significant effect on ROA. These results are supported by [14]. According to the study conducted by [15], CAR and Financing-Deposit Ratio (FDR) are moderated by Non-Performing Financing (NPF). As a note, because Islamic banks do not recognize the credit system, the distribution of funds, namely the LDR, is called financing. Thus, in Islamic banks, it is known as FDR, as well as the moderating variable of credit problem, in general banking-terms, is named Non-Performing Loans (NPL). In this study, NPL / NPF could not moderate the effects of CAR and FDR on ROA, while in [16], NPL could moderate the effects of CAR and LDR on ROA. Due to the differences between this research results and those of previous research, further research is needed to be performed. This study re-examined whether capital and liquidity have significant effects on profitability.

The difference between this study and the previous one, is about the use of NPL as a moderating variable. The population, time, and samples used in this study, are Conventional Commercial Banks. Meanwhile, in previous studies, the moderating variable used a sample of Regency Rural Banks and Islamic Commercial Banks, which are few in number, whereas the lack of samples becomes one of its limitations. Thus, in this study, a sample of 40 conventional commercial banks listed in Indonesia Stock Exchange (IDX) was used during the period between 2014 and 2018. Hence, this study aimed to obtain empirical evidence of the effects of capital and liquidity on profitability, with non-performing loans as a moderating variable, using a sample of 40 conventional commercial banks listed in IDX during 2014-2018.

## 2. THEORETICAL REVIEW

The grand theory that underlies this study is the Signaling Theory [17]. This theory states how the signals can affect the market through company information so that the market can judge the signal with personal assumptions. As an outsider, investors do not know as much information about the company as the management does. Therefore, the company's management as the party with better information gives a sign or signal to investors about the company's prospects in the future [17]. Banks, that have a lot of better information, will be encouraged to convey positive information to investors. Banks can also show progress on the value of their business through annual financial reports, which are the signals.

There is a belief that the increase in banking concentration is motivated by the benefits of greater market power. There are two different approaches to the market-power theory: the Structure–Conduct Performance (SCP) hypothesis, and the Relative Market-Power (RMP) hypothesis. Market power theory in the SCP hypothesis asserts that concentration power can lead to imperfect competition in the market due to the absence of effective supervision, causing the banks to increase net margin through their various products and services [18] [19]. Meanwhile, [20] [21] found that the SCP hypothesis occurs in developing countries. In the RMP hypothesis, the relationship occurs not through the ability to utilize its market power, but through the ability to create product differentiation. Thus, the ability to take advantage of market share causes banks to get better performance. Therefore, bank profitability is also related to the industrial market-structure.

The CAR standard in Bank Indonesia (BI) regulations is at least 8%. The greater the CAR ratio is, the better the bank's ability to face the possible risk of loss [22] [23]. Banks that have a higher CAR are very good, because they are able to bear the risks that arise. Higher CAR means that the bank has greater ability to bear the risk of any risky-earning assets. High CAR value means that the bank can finance its operational activities and result a significant contribution to profitability. This is in line with the research by [9] [15] [24] that CAR has a significant effect on ROA. In the research

of [25], it was also stated that CAR has an effect on ROA. According to the explanation, the research hypothesis could be developed as follow.

H<sub>1</sub>: Capital positively affects Profitability.

The higher the LDR is, the higher the credit given will be. The greater the level of credit granted is, the greater the potential credit risk (default) will be, and if the LDR is too high, the bank can actually experience problems in the form of liquidity difficulties [15] [24]. The ability of banks to pay-off their obligations to customers who have invested, can be seen through this ratio, by relying on the loans that have been given as a liquidity source. The higher the ratio is, the lower the liquidity capacity of the bank will occur [26]. Thus, the amount of credit provided will determine the profits to be obtained by the bank. This is in accordance with the research of [8], as well as [12], which stated that LDR significantly affects ROA. Thus, according to the explanation, the research hypothesis could be developed as follow:

H<sub>2</sub>: Liquidity positively affects Profitability.

Based on [27], the non-performing loans / financing ratio on a net basis is higher than five percent of the total loan or financing. After a credit has been granted, the bank is required to monitor its usage, along with the ability and compliance of debtors in fulfilling their obligations. The lower the NPL is, the lower the credit risk beard by the bank will be. By this way, the bank can increase the profits and minimize the losses [15] [24]. This is in line with the research conducted by [28], stating that NPL significantly and negatively affects ROA. According to the explanation, the research hypothesis could be developed as follow:

H<sub>3</sub>: Credit Problem negatively affects Profitability.

CAR is a ratio used to measure the capital adequacy, which is useful to cover the possibility of failure in providing credit / financing [22]. Thus, the capability of banks to cover a decrease in their assets as a result of the losses caused by risky assets, such as credit, can be seen from the CAR indicator. The number of non-performing loans will cause the bank's capital to decrease. Therefore, it affects the bank's profitability, whereas CAR affects the bank's ability to finance its operational activities which provides a sizeable contribution to profitability. This is in line with the research from [16], which stated that the ratio of NPL has a positive effect in the relationship between CAR and profitability, and this is also stated in the research of [29], that NPL can moderate the effect of CAR on profitability. According to the explanation, the research hypothesis could be developed as follow:

H<sub>4</sub>: Credit Problem can moderate the relationship between Capital and Profitability.

The higher the value of this ratio is, the more it indicates that the bank is not in a healthy condition, because a high NPL / NPF will cause the profit to decrease. The amount of credit disbursed will determine the profits obtained by the bank. If a bank is unable to channel the credits while having a lot of funds, the bank may lose the money. However, in

making credit, a bank must analyse the debtor's ability to pay-off its obligations, after the credit has been given. The number of non-performing loans will cause the bank's capital to decrease. A decrease in capital-adequacy ratio can reduce the bank lending and credit providing, which will reduce the income in the form of interest received. Hence, the bank's ability to generate profits decreases. This phenomenon is in line with the research by [30], which stated that NPL affects the relationship between LDR and profitability. Meanwhile, in the research by [31], NPL can moderate the effect of LDR on profitability. Based on the explanation above, the research hypothesis could be formulated as follow:

H<sub>5</sub>: Credit Problem can moderate the relationship between Liquidity and Profitability.

Based on the theory and discussion about the variables above, a research framework can be developed as follow:

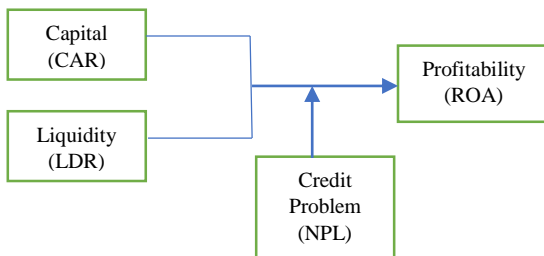


Figure 1 Research Framework

### 3. METHODOLOGY

The subjects in this study are the conventional commercial banks listed in Indonesia Stock Exchange (IDX) in the period between 2014 and 2018. The dependent variable in this study is profitability with Return-on-Assets (ROA) indicators, while the independent variables are capital with Capital Adequacy Ratio (CAR), liquidity with Loan-to-Deposit Ratio (LDR), and the moderating variable is credit problem with Non-Performing Loans (NPL). This study used panel data and the EViews version 9.0 software for data analysis purpose. The population in this study are conventional commercial banks listed in IDX in 2014-2018. The sample selection technique used is the purposive sampling, namely the data collection is based on certain criteria as follows:

- Conventional commercial banks were listed in IDX.
- The conventional commercial bank published annual financial reports for the 2014-2018 period.
- The data needed for this research is available during the period of 2014-2018.

In this study, the independent variables are:

- Capital with Capital-Adequacy Ratio (CAR) indicators. Capital-Adequacy Ratio is a ratio used to measure the capital adequacy of a bank, which is useful to cover the possible failures in providing credit / financing [22].

- Liquidity with Loan-to-Deposit Ratio (LDR) indicator. Loan to Deposit Ratio is a ratio that states how far the bank's ability to repay withdrawals made by depositors by relying on loans as a liquidity source. LDR shows the comparison between total credit and total funds raised.
- Moderating variable can strengthen or weaken the influence of independent variable on the dependent one. In this study, the moderating variable is credit problem with the indicators of Non-Performing Loans (NPL). The assessment of the quality of earning assets is carried-out by determining the level of collectability.
- The dependent variable in this study is profitability. The profitability ratio can measure the level of business efficiency and profitability achieved by the bank concerned [24]. This study used historical secondary data, namely the annual financial statements of conventional commercial banks for the period of 2014-2018.

Data collection technique were carried-out by performing literature study and documentation. The data analysis method used in this study is panel data analysis whereas according to [32], "panel data is a combination of time series data and cross section data". The data that has been obtained and collected, will be processed and then analyzed. Various kinds of tests to be carried-out are as follows: Descriptive Statistics Test, Data Analysis Assumption Test, whereas according to [33], in the estimation technique of panel data regression model, there are three techniques that can be used, namely the model with Common Effect Model, Fixed Effect Model, Random Effect Model, and then Moderation-Regression Test, Partial-Hypothesis Testing, Model-Feasibility Test, and Coefficient-of-Determination Test. Due to the presence of moderating variables, the Moderated Regression Analysis (MRA) method is the most appropriate method to use in this test. MRA is expressed in the form of following equation:

$$ROA = a + \beta_1 CAR + \beta_2 LDR + \beta_3 NPL + \beta_4 CAR * NPL + \beta_5 LDR * NPL + \varepsilon$$

### 4. RESULTS AND CONCLUSIONS

#### 4.1. Descriptive Statistics Test

In descriptive-statistical test, the results can be seen in forms of average value (mean), standard deviation, maximum value, and minimum value.

Table 1 Descriptive-Statistics Results

	ROA	CAR	LDR	NPL	CAR_NPL	LDR_NPL
Mean	0.966950	20.30390	85.09770	3.150450	61.55790	269.5371
Maximum	5.770000	66.43000	145.2600	15.82000	545.7900	1695.650
Minimum	-11.15000	3.210000	50.61000	0.000000	0.000000	0.000000
Std. Dev.	2.296192	7.409775	12.59162	2.286557	56.04615	202.2348
Observations	200	200	200	200	200	200

Source: EViews 9 Processing Results

Based on Table 1, the observation column shows the amount of data that will be used in this study to be processed and tested. The data was tested to obtain the results. The number of samples selected for this study amounted to 40 samples with a research period lasting for 4 years causing the number of data studied and tested to be as many as 200 data. The standard deviation column is used to measure the spread and variation of data used in this study, whereas the higher the standard deviation is, the more spread the data in the variable is from its average value. The lower the standard deviation of a variable is, the more data is collected in that variable at its average value. The standard deviation column in Table 1 shows the standard deviation of each variable.

#### **4.2. Test of Data Analysis Assumptions - Model Selection**

Based on the results of Chow test with moderation, it shows that this research model used is the fixed effect, because the value of Prob. of cross-section F is 0.0000, which is less than 0.05. Then the Hausman test was conducted to differentiate between the fixed effect and the random effect models. Based on the results of Hausman test with moderation, it shows the value of Prob. Of cross-section F of 0.0064, which is less than 0.05. Thus, this research model used the fixed effect.

#### **4.3. Model-Feasibility Test**

Based on the results of F-test in Table 2, it shows that the Prob (F-statistics) value of 0.0000 (less than 0.05). So, the independent variables simultaneously and significantly affect the dependent variable. Hence, it can be said that the model is feasible.

#### **4.4. Coefficient-of-Determination Test ( $R^2$ )**

Table 2 shows that Adjusted R-squared value is 0.710881. This shows that the independent variables of CAR and LDR can explain the variation of ROA as much as 0.710881 (or 71.09%), and the remaining variation of ROA can be caused by other factors not in the scope of this study, such as interest rates, operational cost, and operating income. From the results in Table 2, it is concluded that there is a value of 71.09% so that the moderating variable of NPL can strengthen the relationship as a moderating variable.

**Table 2** Fixed Effect Model - MRA Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.680943	1.775054	-1.510345	0.1330
CAR	0.077063	0.028283	2.724660	0.0072
LDR	0.040978	0.019025	2.153859	0.0328
NPL	0.061637	0.350484	0.175863	0.8606
CAR*NPL	-0.026162	0.005940	-4.404337	0.0000
LDR*NPL	4.59E-05	0.003717	0.012342	0.9902
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.774807	Mean dependent var		0.966950
Adjusted R-squared	0.710881	S.D. dependent var		2.296192
S.E. of regression	1.234658	Akaike info criterion		3.454572
Sum squared resid	236.2788	Schwarz criterion		4.196694
Log likelihood	-300.4572	Hannan-Quinn criter.		3.754897
F-statistic	12.12040	Durbin-Watson stat		2.257223
Prob(F-statistic)	0.000000			

Source: EViews 9 Processing Results

The results of t-test and Fixed-Effect MRA of the model are as follows:

- CAR has a beta coefficient of 0.077063 and p-value of 0.0072 (less than 0.05). Thus,  $H_1$  was accepted. So, capital has a positive and significant effect on profitability, which means that if the capital increases, then the profitability will increase, and vice versa.
- LDR has a beta coefficient of 0.040978 and a p-value of 0.0328 (less than 0.05). Thus,  $H_2$  was accepted. So, liquidity has a positive and significant effect on profitability, which means that if the liquidity increases, then the profitability will increase, and vice versa.
- NPL have a beta coefficient of 0.061637 and a p-value of 0.8606 (greater than 0.05). Thus,  $H_3$  was rejected. NPL has no significant effect on profitability.
- The effect of CAR on ROA moderated by NPL has a coefficient of -0.026162 and a p-value of 0.0000 (less than 0.05). Thus,  $H_4$  was accepted. So, credit problem can moderate the effect of capital on profitability. Capital, with credit problem as moderating variable, has a negative and significant effect on profitability, which means that if the capital with credit problem as moderating variable increases, then the profitability will experience a decrease, and vice versa.
- The effect of LDR on ROA moderated by NPL has a coefficient of +4.59E-05 and a p-value of 0.9902 (greater than 0.05). Thus,  $H_5$  was rejected. So, credit problem cannot moderate the effect of liquidity on profitability. Liquidity with credit problem as a moderating variable, has a positive but insignificant effect on profitability.

## **5. DISCUSSIONS**

Capital has a positive and significant effect on profitability. CAR is related to ROA, because high CAR means that the

bank is able to finance its operational activities and provide a sizeable contribution to profitability. Higher CAR will indicate that the bank has better capital, whereas the capital can be used for banking activities in developing its business, such as branch office expansion, technology improvement. This will cause the income to increase, as well as CAR, that enables the bank to accommodate the possible risk of loss that has an impact on profitability.

Liquidity has a positive and significant effect on profitability. The Bank's ability to repay its obligations to customers who have invested, can be seen through this ratio, by relying on loans that have been given as a source of liquidity. LDR will increase ROA if the bank can maximize its income with loans given to public. In other words, the bank is able to channel the credit effectively, but with a small number of bad loans.

Credit problem has no significant effect on profitability. NPL has no significant effect on ROA, because the value of non-performing loans that occur is low among the banks. Hence, it does not affect the profitability.

Credit problem can moderate the effect of capital on profitability. The number of non-performing loans will cause the bank's capital to decrease and will affect its profitability. This phenomenon may occur, because the value of CAR affects the bank's ability to finance its operational activities and contributes significantly to its profitability.

Credit problem cannot moderate the effect of liquidity on profitability. This is because the banks are able to manage their non-performing loans, so that credit distribution runs smoothly and thus it does not affect their profitability.

## 6. CONCLUSIONS

The results of data analysis indicate that the variables used in this study have met the requirements in the model test and are suitable to be used. The results of hypothesis testing (t-test) can be concluded as follows:

- a. Capital (CAR) positively and significantly affects Profitability (ROA).
- b. Liquidity ((LDR) positively and significantly affects Profitability (ROA).
- c. Credit Problem (NPL) does not significantly affect Profitability (ROA).
- d. Credit Problem (NPL) can moderate the effect of Capital (CAR) on Profitability (ROA).
- e. Credit Problem (NPL) cannot moderate the effect of Liquidity (LDR) on Profitability (ROA).

In this study, the limitations occur due to several things, namely the research period of 5 years, namely 2014-2018, then the sample used was 40 banks, and this study only used two independent variables, which are CAR and LDR, along with one moderating variable, which is NPL.

The suggestions that can be provided for future research is using an observation period of more than 5 years so that the results can better describe the existing conditions. In order to provide better results, please consider a wider sample, so

that the conclusions can be drawn more effectively by the researcher. This study has a wider scope and looks for the possibility of other related-variables that can explain the dependent variables outside this research model, such as interest rates, operating costs, as well as operating income.

## REFERENCES

- [1] Undang-Undang Nomor 10 Tahun 1998 tentang Perbankan
- [2] <http://www.ojk.go.id>
- [3] Hariyanti, Dini. 2018. 4 tahun terakhir ROA bank kecil konsisten menyusut. <https://finansial.bisnis.com>. access on May 5, 2020.
- [4] Alaydrus, Hadijah. 2019. Konsumsi rumah tangga topang pertumbuhan ekonomi 2018. <https://ekonomi.bisnis.com>. access on May 5, 2020.
- [5] KPJ.2019. Konsumsi rumah tangga tumbuh 5,05 persen, Kebijakan Populis Dukung Pertumbuhan Ekonomi 2018. <https://rmco.id>. access on May 5, 2020.
- [6] Sitanggang, Laurensius. 2018. Awal tahun, rasio profitabilitas bankan mulai menggemuk. <https://keuangan.kontan.co.id>. Accessed on May 5, 2020.
- [7] Peraturan Otoritas Jasa Keuangan nomor 4/POJK.03/2016.
- [8] Dewi, P. I. T. and Surganawa. I. K., (2018). Pengaruh NP, LDR dan CSR pada ROA perusahaan perbankan yang terdaftar di BEI 2014-2016. *E-Jurnal Akuntansi Universitas Udayana*, Vol. 24, 3, September: 2096-2120. ISSN: 2302-8556.
- [9] Santoso, I, Samosir, P. S. and Suparningsih, B., (2018). Effect of Capital Adequacy Ratio (CAR), Operational Costs (BOPO) on Return on Asset (ROA) Through Operational Income and Loan Deposit Ratio (LDR) in Bank Market City Bogor, Indonesia. *The International Journal of Business & Management*. Vol. 6, Issue 3, March: 47-61. ISSN: 2321-8916. [www.theijbm.com](http://www.theijbm.com).
- [10] Prasanjaya, A. A. Y. and Ramantha, I. W., (2013). Analisis Pengaruh Rasio CAR, BOPO, LDR, dan Ukuran Perusahaan terhadap Profitabilitas Bank yang Terdaftar di BEI. *E-Jurnal Akuntansi Universitas Udayana*, Vol. 4, no. 1: 230-245. ISSN: 2302-8556.
- [11] Amalia, S. R. and Hassan, H. H., (2019). The relationship between Bank's credit risk, Liquidity, and

Capital Adequacy towards its profitability ini Indonesia. *International Journal of Recent Technology and Engineering (IJRTE)*, Vol. 7, Issue-5S, January. ISSN: 2277-3878.

[12] Fatimah, I. N. and Kusumah, W. R., (2018). The impact of ability to channel funds and Non-Performing Loans on Profitability of listed Banks on Indonesia Stock Exchange. *International Journal of Education and Research*. Vol. 6, No. 12, December. ISSN: 2411-5681.

[13] Burchory, H.A., (2015). Banking Intermediation operational efficiency and credit risk in the banking profitability. *Proceeding - Kuala Lumpur International Business. Economics and Law Conference 7*, Vol. 2. August 15 – 16. ISBN 978-967-11350-4-5.

[14] Andika, W. P., Fadah, I. and Sari, N. P., (2018). Profitability determinant of conventional commercial bank using credit risk as a moderator variable. *International Journal of Economics, Commerce and Research (IJEER)*. Vol. 8, Issue 2, April, 23-30. ISSN (P): 2250-0006; ISSN (E): 2319-4472.

[15] Yusuf, M. and Surjaatmadja, S., (2018). Analysis of Financial Performance on Profitability with Non-Performing Financing as Variable Moderation (Study at Sharia Commercial Bank in Indonesia Period 2012-2016). *International Journal of Economics and Financial Issues*. ISSN 2146-4138.

[16] Septriani, N.L.S and Ramantha, I. W., (2014) Pengaruh Rasio Kecukupan Modal dan Rasio Penyaluran Kredit terhadap Profitabilitas dengan Moderasi Rasio Kredit Bermasalah. *E-Jurnal Akuntansi Universitas Udayana*, vol. 7, no. 1: 192-2016. ISSN 2302-8556.

[17] Godfrey, J., Hodgson, A., Tarca, A., Hamilton, J., Holmes, S., (2010). *Accounting Theory* (7th ed.). New York: McGraw Hill. ISBN: 978-0-470-81815-2.

[18] Berger, A.N. (2003) The Economic Effects of Technological Progress: Evidence from the Banking Industry. *Journal of Money, Credit and Banking*, 35, 141-176.  
<https://doi.org/10.1353/mcb.2003.0009>.

[19] U-Din, S., Tripe, D. and Kabir, M. H., (2018). Market Power and Efficiency in Banking: The Case of USA and Canada. *SSRN Electronic Journal*. January. <https://www.researchgate.net/publication/323465657>.

[20] Marrouch, W. and Turk Ariss, R., (2014). Joint Market Power in Banking: Evidence from Developing Countries. *Journal of international financial markets, institutions & money – Amsterdam*. Vol. 31, No. 1.

July: 253-267. Elsevier, ISSN 1042-4431, ZDB-ID 1117317-8. DOI:10.1016/j.intfin.2014.03.013.

[21] Nisa, C., Mukri, C. and Djamil, A. (2019). Struktur Pasar dan Kinerja: Studi Kasus pada Bank Umum di Indonesia. *Jurnal Riset Manajemen dan Bisnis (JRMB) Fakultas Ekonomi UNIAT*. Vol.4, No.3 Oktober: 375 – 384. P-ISSN 2527-7502 E-ISSN 2581-2165.

[22] Jumingan. (2011). *Analisis Laporan Keuangan*. Bumi Aksara, Jakarta.

[23] Suwandi, J. and Oetomo, H. W., (2017) Pengaruh CAR, NPL, BOPO dan LDR terhadap ROA pada BUSN Devisa. *Jurnal Ilmu dan Riset Manajemen*. Vol. 6, no. 7, 1-21.

[24] Kasmir. (2016). *Analisis Laporan Keuangan*. Raja Grafindo Persada, Jakarta.

[25] Ongore, V. O. and Gemechu, B. K., (2013). Determinants of financial performance of commercial Banks in Kenya. *International Journal of Economics and Financial Issues*. Vol.3, No.1, pp. 237-252. ISSN: 2146-4138.

[26] Menicucci, E. and Paolucci, G., (2016). The Determinants of bank profitability: empirical evidence from European banking sector. *Journal of Financial Reporting and Accounting*. Vol.14, No.1, 86-115. Emerald Group Publishing Limited:1985-2517.

[27] Peraturan Otoritas Jasa Keuangan Nomor: 15/POJK.03/2017.

[28] Khan, M. A., Siddique, A. and Sarwar, Z., (2020). Determinants of non-performing loans in the banking sector in developing state. *Asian Journal of Accounting Research*. Vol.5, No.1, pp 135-145. Emerald Publishing Limited 2443-4175.

[29] Sunaryo, D. (2020). The Effect of capital adequacy ratio on return on assets with problem credit ratio moderation. *Ilomata International Journal of Tax & Accounting*. Vol. 1 No. 3 July. pp.145-151. P-ISSN: 2714-9838; E-ISSN: 2714-9846

[30] Utami, I. A. and Putra, I. P., (2016). Non-performing loans (NPL) sebagai pemoderasi pengaruh kredit yang disalurkan pada profitabilitas. *E-Jurnal Akuntansi Universitas Udayana*. Vol.15, no. 3. Juni: 2107-2133. ISSN: 2302-8556.

[31] Widiyari, N. K. Y. and Mimba, N. P. S. H., (2015). Pengaruh *Loan-to-Deposit Ratio* pada Profitabilitas dengan *Non-Performing Loans* sebagai

Pemoderasi. E-Jurnal Akuntansi, Universitas Udayana.  
Vol. 10, no. 2: 588- 601. ISSN: 2302 – 8556.

[32] Basuki, A. T. and Prawoto, N., (2016). Analisis Regresi Dalam Penelitian Ekonomi & Bisnis: Dilengkapi Aplikasi SPSS dan EViews. PT Rajagrafindo Persada, Depok.

[33] Widarjono, A. (2013). Ekonometrika Pengantar dan Aplikasinya. Edisi Keempat. UPP STIM YKPN, Yogyakarta.