

Effect of Liquidity on Firm Value with Profitability as Intervening Variable (Case Study of Registered Banking on the Indonesia Stock Exchange)

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Abstract: *This study aims to examine whether there is an influence of liquidity risk to the firm value using profitability as an intervening variable of banks in Indonesia. The sample used was a conventional commercial bank listed on the Indonesia Stock Exchange (IDX) in 2018. The number of samples in this study was 42 companies that have been selected in accordance with the purpose sampling method. This study uses path analysis with $\alpha = 5\%$ is used to test the research variables that deposits (DEPO), cash reserves (CASH), gap liquidity (GAPLIQ), and non-performing loan (NPL) on Firm Value (PER) with profitability (ROA) of the bank. The results from this research that there is a positive influence of deposits and the cash reserves have a positive effect but not significant, liquidity gap has a negative but not significant effect, and non-performing loan have a significant negative effect, and profitability has a significant positive effect on firm value of banks.*

Keywords: Deposits, cash reserves, liquidity gap, non-performing loans, price earning ratio, profitability

1. Introduction

Banks play an important role in the financial sector in a country's economy. This happens because the bank facilitates the flow of funds from and to customers through various transactions such as cash withdrawals, deposits, remittances, currency exchange, deposits, and lending money. The banking industry has a significant role in supporting economic growth and creating state equity, all sectors that require banks to support their economic activities can be said that without a bank the economic activities of a country cannot run well.

The basic function of a bank is primarily to receive funds from the owner of the funds who want to save the excess money they have and then distribute the funds to business owners who need additional funds for their business turnover in return for interest. To the creditors of the fund's banks provide guarantees of the liquidity of the disbursement of the funds they place, in carrying out this function bank must have the ability to fund all of the matured bond contracts including credit loans given to creditors, investments, disbursement of deposits and the loans overdue interest.

The capability of the bank to generate profit is measured by its ability to manage the amount of credit given by the bonds obtained and take advantage of the gap difference between loan interest and deposits. Growing industrial activity will make the level of funds turnover in the banking sector also increase, the number of funds placed by customers, and the application requests for new loan funds or credit applications to finance the development of business activities of existing business actors also increased.

The performance of individual banks and the whole banking system is largely determined by the behavior of banks in managing their assets (placement of funds) and liabilities (raising funds). Asset and liability management aims to obtain profits and increase the value of the company within

certain limits. These limits include an adequate level of liquidity, low risk, and sufficient capital. Thus, asset and liability management has a close relationship with bank liquidity (Wuryandani, Ginting, Iskandar, Sitompul, 2014).

As a result, the Indonesian banking industry has also experienced an increase in liquidity risk, as it is known that the role of banks is as a recipient and distributor of capital and to take advantage of the difference between the interest on loans and deposits they provide, increased liquidity risk will cause the bank's role to be limited and the ability of banks to generate its profit/profitability is feared to be disrupted.

Liquidity is vulnerable and can be suddenly drained out from a bank and if that happens there can be a bank liquidity crisis that will cause bank defaults on most of its obligations, therefore the bank needs to maintain its liquidity in order to meet all of its obligations but not too excessive because excess liquidity can also be interpreted that the bank has poor liquidity management so that it is not optimal in managing its portfolio and makes the level of company's profitability is becamenot optimal.

This condition should make the price of banking shares that listed and traded on the Indonesia Stock Exchange also experience the impact of company liquidity and profitability which will have a significant impact on the overall stock trading activities on the Indonesia Stock Exchange because the banking sector controls a large majority of market capitalization on the exchange.

However, after surveying the financial condition of banking companies whose shares are listed and actively traded on the Indonesia Stock Exchange (IDX) in the period 2014 to 2018, different results were found from previous studies. The results shown from the data in the field shows that bank's Price Earnings Ratio (PER) has an upward trend from the previous period even though bank's Return On Assets (ROA) has fluctuated and tends to decrease, besides that although

bank's Non Performing Loans (NPL) conditions tend to increase but in 2017 - 2018 bank's ROA also shows an increase. This is contrary to the results of previous studies found that ROA has a significant positive effect on PER, and NPL as one of the parameters of liquidity risk has a negative effect on corporate ROA.

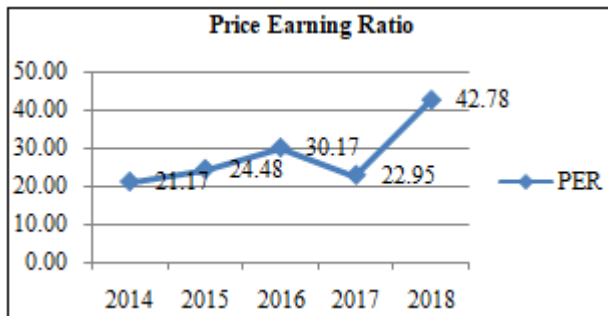


Figure 1 The average of PER Banking Industry in IDX 2014 – 2018

Based on the chart in Figure 1 we can see the changes in Price Earning Ratio above that the average banking company listed on the IDX has experienced an increase in Price Earning Ratio when compared to the previous year.

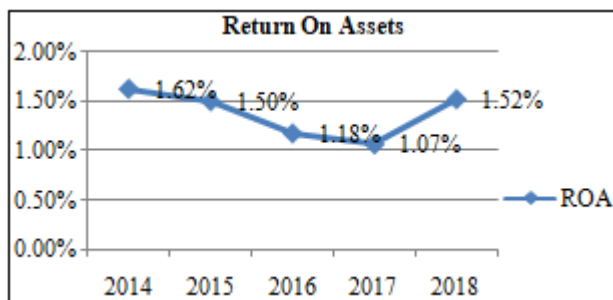


Figure 2 The average ROA of Banking Industry in IDX 2014 – 2018

In Figure 2, it can be seen that the profitability trend of banks listed on the IDX has fluctuated and tends to decrease when compared to the previous period.

Another thing that underlies this research is the results of several previous studies conducted on the relationship between liquidity risk and its effect on bank's Return On Assets and the effect of liquidity risk and bank's Return On Assets on Price Earning Ratio.

The effect of Deposits on bank's Return On Assets was examined by Arif and Anees (2012) who found that deposits had a positive effect on ROA while Pratomo and Komalasari (2014) found that deposits had a negative effect on ROA. The effect of Cash on ROA studied by Olagunju et al (2011) and Yi-Kai et al (2018) found that cash had a significant positive effect on ROA while Arif and Anees (2012) found similar results with Pratomo and Komalasari (2014) that found Cash only had an effect positive but not significant to ROA.

The effect of the Liquidity Gap on ROA researched by Dezfouli, Hasanzeh, Shahthera (2014) found that the liquidity gap had a significant negative effect on ROA, and Arif and Anees (2012) research and research conducted by

Pratomo and Komalasari (2014) found the same thing, namely The Liquidity Gap has a negative effect on ROA. The effect of NPL on ROA, based on previous NPL studies, is known to always have a significant negative effect on ROA, this was found in research by Arif and Anees (2012), Zawadi (2014), Dezfouli et al. (2014) and Ozurumba (2016).

The effect of ROA on PER, previous research conducted by Dzikevicius & Saranda (2011) and Rahmawati & Prasetiono (2016) found that ROA had a positive effect on Firm Value, while Wahyuni, Arza, and Amaluis (2014) found that ROA had no significant positive effect. Ika and Firdaus (2019) found that ROA had a significant negative effect on PER. Research conducted by Kristiyani (2013) then Sijabat and Suarjaya (2018) found that ROA has no influence on PER.

The effect of Deposits on PER, for Deposits variable, is a specific ratio used in the banking industry only, but in regular companies Deposits ratio is similar to Debt Ratio in a study conducted by Afza and Tahir (2016) found that the increase in Leverage / Debt negatively affects the Price Earning Ratio.

The effect of Cash on PER, for the variable Cash in regular companies other than banks, are usually known by the same designation. Previous research conducted by Septiana, Rumanti, and Fatahurazak (2019) found that Cash had a positive effect on Price Earning Ratio.

The effect of Gap Liquidity on PER, calculation of the variable Liquidity Gap is a specific ratio used in the banking industry alone but in regular companies, the Liquidity Gap ratio is similar to Current Ratio and research conducted by Kristiyani (2013) found that Current Ratio has a negative but not significant effect on Price Earning Ratio while Kusumadewi and Sudiarta (2016) found that the current ratio has a positive but not significant effect on PER.

The effect of NPL on PER, previous research conducted by Susanto and Wiksuana (2014) as well as Nusantara, Banani, and Sulistyandari (2018) found that NPL had a negative influence on company ROA.

The existence of a phenomenon gap from the results of previous studies makes researchers interested in conducting research to find out whether there is also the same effect on the banking industry that is listed and actively traded on the Indonesia Stock Exchange during 2018.

This study aims to find empirical evidence of the influence of deposits, cash reserves, liquidity gaps, and non-performing loans on the company's price earnings ratio and the role of profitability as a mediating variable.

2. Literature Review

Signaling Theory

According to Brigham & Ehrhardt (2005), The signal is an action taken by company management that provides instructions for investors about how the future management of the company's prospects. Information released by the company is important because it affects the investment decisions of parties outside the company. This information is

important for investors and business people. According to Connelly et al (2011), signaling theory provides a unique, practical, and perspective that can be empirically tested on the issue of social selection under conditions of imperfect information. Because the information essentially presents information updates, notes, or figures, both for past, present, and future circumstances for the survival of the company and how it affects the company.

Signaling theory is closely related to the availability of information. Financial statements can be used to make decisions for investors; financial statements are the most important part of the company's fundamental analysis. The ranking of companies that have gone public is usually based on this financial ratio analysis. This analysis is carried out to facilitate the interpretation of financial statements that have been presented by management.

Bank

The definition of the banks as business entities that collect funds from the public in the form of deposits and distribute them to the public in the form of credit and or other forms in order to improve the lives of many people. (*Undang-Undang Republik Indonesia Nomor 10, 1998*). Bank definition according to Taswan (2006) A bank is a financial institution that is a place for the public to save funds and channel them back to businesses that need funds in the form of credit loans.

Liquidity

Liquidity is how easily and quickly a company's assets can be sold and remain close to their fair value (Bodie, Kane, & Marcus. 2011). A bank is said to be liquid if the bank is able to pay all of its debts including savings deposits, current accounts, and deposits when billed and can also fulfill all credit requests that are feasible to be financed. According to the Ikatan Bankir Indonesia (2014) liquidity in the banking industry is how the bank's ability to meet the demand for funding obligations, both from depositors/owners of funds, as well as debtors/users of funds. Banks must be able to fulfill all their obligations by having cash, selling assets, or borrowing from other parties. According to Lartey et al (2013), when banks hold adequate liquid assets, their profitability would improve. Adequate liquidity helps the bank minimize liquidity risk and financial crises. The bank can absorb any possible unforeseen shock caused by an unexpected need for a decrease in liabilities or an increase in the assets side of the Statement of Financial Position. However, if liquid assets are held excessively, profitability could diminish.

Liquidity Risk

Liquidity risk is the risk that arises if a party cannot pay its obligations due in cash. Although the party has assets that are of sufficient value to repay their obligations, when these assets cannot be converted immediately into cash, those parties are said to be illiquid. According to Armstrong and Cardwell (2008) Unlike other financial risks, liquidity risk can arise on both sides of the balance sheet and can be triggered by internal or external factors, for example, operational risk problems or damage to the bank's reputation due to a case (internal), or market liquidity problems macroeconomics (external). According to Faluk et al (2019)

Liquidity risk is another important type of risk for banks because when the banks face liquidity problems they need to borrow extra money immediately with extra cost to meet their cash needs for day to day operations. Liquidity risk could not only hurt reputation but can also lead to the insolvency of banks.

Deposits

Funds entrusted by the public to banks based on fund storage agreements in the form of demand deposits, deposits, savings, and or other equivalent forms. Deposits are funds that entrusted by the public to banks based on fund storage agreements in the form of demand deposits, deposits, savings, and or other forms equivalent to it. (*Undang-Undang Republik Indonesia Nomor 10, 1998*).

Cash Reserves

According to Bank Indonesia (2013) the cash reserve is a sum of cash (rupiah and foreign exchange) that is reserved and kept in the treasury and is taken into account in fulfilling the minimum liquidity obligations of the bank (cash reserve). Cash reserves are one of the elements of work that has the highest level of liquidity. The greater amount of cash in the company, the higher level of its liquidity. This means, that the company has a smaller risk for not being able to fulfill its financial obligations. But this does not mean that companies have to maintain a very large cash reserve, because the greater amount of cash means more money is unproductive so that it will reduce the company's profitability.

If the company's average cash reserves ratio is higher than the industry's average, the company's condition is better from the other companies. However, if the cash reserves ratio is too high it could have a negative impact too because there are idle cash that is not nor have not been used optimally. Vice versa if the company's cash reserves ratio is below the industry average, the condition is not good in terms because it still requires more time to sell a portion of other current assets, to pay its obligations (Prabaningrum, & Yuhasril, 2017).

Liquidity Gap

According to Bank Indonesia (2009) concerning the Implementation of Risk Management for Liquidity Risk explains that there is a liquidity gap. The liquidity gap is the sum of the difference between asset and liability items in the balance sheet, bills, and liability items in the bank's administrative account. As for the items referred to be items with the characteristics of having inflows and or outflows, some assets owned by banks are not included in the calculation of liquidity gaps, namely: fixed assets, foreclosed assets, abandoned properties, equity participation.

Non-Performing Loan

Non-performing loans are loans that have difficulty in repayment, both because of inaccurate analysis of credit extension and inadequate performance of debtors. This ratio is an indicator of loan quality. According to Gup and Kolari (2005). Loan quality continues to decline, in other words increasing non-performing loans can have a negative effect on bank profitability. If non-performing loans increase, it means the debtor's ability to meet his obligations gets worse

so that it will reduce interest income which in turn will reduce the net interest margin. On the other hand, bank management is not expected to eliminate total non-performing loans. This will actually be able to reduce the level of profitability because the total elimination of problematic loans means the bank rejects the risk (Koch and McDonald, 2006).

Return On Assets

Fauzia and Herawati (2018) stated ROA is a ratio that can show how effectively the company operates so that it can generate profit/loss for the company. In addition to being a measure of profitability, return on assets its also an indicator of bank managerial efficiency which indicates management's ability to manage its assets for profit. ROA according to Van Horne and Wachowics (2005) is the ratio of profit after tax to the total assets. It reflects the efficiency with which banks deploy their assets. The higher the ROA, the most profitable is the bank.

Price Earning Ratio

According to Hayes & Scott (2016), The price-to-earnings ratio (P/E ratio) is the ratio for valuing a company that measures its current share price relative to its per-share earnings (EPS). The price-to-earnings ratio is also sometimes known as the price multiple or the earnings multiple. P/E ratios are used by investors and analysts to determine the relative value of a company's shares in an apples-to-apples comparison. It can also be used to compare a company against its own historical record or to compare aggregate markets against one another or over time. Furthermore according to Shen (2000) Price Earning Ratio is the ratio of stock price to income. P/E ratio is obtained from the comparison of share prices divided by earnings per share.

3. Research Methods

The type of data used in this research is secondary data. The independent and intervening variable is obtained from the company's financial report that already listed on each company website. While for the dependent variable obtained from the price chart from Yahoo Finance dividing with the company's earning per share, the population in this research is the conventional commercial banks listed on the Indonesia Stock Exchange. In 2018 the number is 45 companies.

The sample in this study was selected by purposive sampling with the criteria used as follows: (1) These banks were still operating until the end of the 2018 period, and (2) did not merge with other banks during the study period.

Based on these requirements, there are 42 companies were obtained as research samples. The dependent variable in this study is the price earning ratio. While the independent variables consist of deposits, cash reserves, liquidity gaps, non-performing loans, and the intervening variable on this research is the return on asset.

The variable ratio of deposits in this study according to Bank Indonesia (2001) is proxied by:

$$DEPO = \frac{\text{Savings} + \text{Current accounts} + \text{deposits}}{\text{Total Assets}}$$

The cash reserve ratio variable in this study according to Bank Indonesia (2001) is proxied by:

$$CASH = \frac{\text{Cash} + \text{Deposits in Central Banks} + \text{Deposits in Other Banks}}{\text{Total Liabilities}}$$

The variable liquidity gap ratio in this study According to Bank Indonesia (2009) is proxied by:

$$GAPLIQ = \frac{(\text{asset} - \text{balance sheet liabilities}) + (\text{bills} - \text{administrative liabilities})}{\text{Total Assets}}$$

Non-performing loan ratio variable in this study according to Bank Indonesia (2001) are proxied by:

$$NPL = \frac{\text{non performing loan}}{\text{total loan granted}} \times 100\%$$

The profitability ratio variable in this study according to Bank Indonesia (2001) is proxied by:

$$ROA = \frac{\text{profit before tax}}{\text{total assets}}$$

The price earning ratio variable in this study according Shen (2000) is proxied by:

$$PER = \frac{\text{stock price}}{\text{earning per share}}$$

The analytical model used in this study is path analysis, to determine the effect of liquidity on Return on Assets and the effect of both on the value of bank companies listed on the Indonesia Stock Exchange. This study examines whether in this case liquidity risk affects the company's profitability which then will affect the value of the company projected by the ratio of its stock price. This influence will be seen in 2018.

To test the effect of intervening variables the method is used path analysis. Path analysis is an extension of multiple linear regression analysis, or it can be interpreted that path analysis is an extension of regression analysis to estimate the quality relationship between variables predetermined based on theory.

Path analysis alone cannot determine the causal relationship and also cannot be used as a substitute for researchers to see the quality relationship between variables. The relationship between quality variables has been formed with a model based on the theoretical foundation. What the path analysis can do is determine the pattern of relationships between three or more variables and cannot be used to confirm or reject the hypothesis of imaginary reality. The path coefficient is the standardized coefficient regression. Path coefficient calculated by making two regressions that shows a hypothesized relationship. In this case, the two similarities are:

Structural Equation Model 1

Regression analysis of model 1 (one) is used to determine strength the relationship of the independent variable to the

mediating variable (intervening). In the regression analysis of model 1 (one) the structural equation is:

$$ROA = \beta_1 DEPO + \beta_2 CASH + \beta_3 GAPLIQ + \beta_4 NPL + e_1$$

Structural Equation Model 2

Regression analysis of model 2 (two) is used to determine the strength of the relationship of the independent variable to the dependent variable. In the regression analysis of model 2 the structural equation is:

$$PER = \beta_5 ROA + \beta_6 DEPO + \beta_7 CASH + \beta_8 GAPLIQ + \beta_9 NPL + e_2$$

ROA : Return On Assets

PER : Price Earning Ratio

β_1 : Path coefficient DEPO with ROA

β_2 : Path coefficient CASH with ROA

β_3 : Path coefficient LIQ GAP with ROA

β_4 : Path coefficient NPL with ROA

β_5 : Path coefficient ROA with PER

β_6 : Path coefficient DEPO with PER

β_7 : Path coefficient CASH with PER

β_8 : Path coefficient LIQ GAP with PER

β_9 : Path coefficient NPL with PER

e_1 : Error on ROA

e_2 : Error on PER

The e_1 indicates the number of company performance variables that do not match the firm's value. The value of magnitude $e_1 = \sqrt{(1 - R^2)}$. While the e_2 indicates the number of variables value of the company that is not assessed by company value and company performance. The value of $e_2 = \sqrt{(1 - R^2)}$.

A variable could be called as an intervening variable if the variable follows the relationship between the independent variable and the dependent variable. Testing mediation hypotheses can be done by a procedure developed by Sobel (1982) and is known as the Sobel test (Sobel test). The Sobel test is done by proving the indirect effect of the independent variable (X) to the dependent variable (Y) through the intervening variable (Y). The indirect effect of X to Z through Y is calculated by multiplying path X → Y (a) with path Y → Z (b) or ab.

Coefficient $ab = (c - c')$, where c is the effect of X on Z without controlling Y, while c' is the coefficient of effect X on Z after controlling Y. The standard error coefficients a and b are written with S_a and S_b , the magnitude of the effect error standard indirect (indirect effect) S_{ab} calculated by the formula below:

$$S_{ab} = \sqrt{b^2 S_a^2 + a^2 S_b^2 + S_a^2 S_b^2}$$

a : raw (unstandardized) regression coefficient for the association between independent variable and mediator.

S_a : standard error of a .

b : raw (unstandardized) regression coefficient for the association between the mediator and the dependent variable (when the independent is also a predictor of the dependent variable).

S_b : standard error of b .

4. Results and Discussion

Table-1 shows the descriptive statistics of each research variable. Based on that table it is known that the minimum value of Deposits is 0.5668 by Woori Brothers Bank, whereas, the maximum value of the 2018 Deposits variable is 0.9673 owned by Artha Graha Bank. The average Deposits of banking companies listed on the Stock Exchange during 2018 is 0.8034, which means the composition of current assets owned by the company is 80.34% of total current assets. the standard deviation value of Deposits shows the number 0.0854 where the standard deviation value that is smaller than the average value indicates that the variation of data for variable Deposits is smaller.

Table 1 Descriptive Statistics Variables 2014-2018

| | DEPO | CASH | GAP LIQ | NPL | ROA | PER |
|---------|--------|--------|---------|--------|---------|----------|
| MEAN | 0,8034 | 0,1701 | 0,0561 | 0,0337 | 0,0085 | 46,5334 |
| STD DEV | 0,0854 | 0,1031 | 0,1395 | 0,0262 | 0,0176 | 81,7225 |
| MIN | 0,5668 | 0,0712 | -0,2135 | 0,0022 | -0,0506 | -40,2027 |
| MAX | 0,9673 | 0,4500 | 0,3058 | 0,1575 | 0,0317 | 331,6832 |

The minimum value of cash reserves is 0.0712 by Bank Bukopin, whereas, the maximum value of the 2018 cash reserves variable is 0.4500 by Mitraniaga Bank. The average cash reserves of banking companies listed on the IDX during 2018 is 0.1701, which means the average amount of cash reserves to fulfill the day-to-day operations of the company is 17.01%. the standard deviation of cash reserves shows a value of 0.1031 where the standard deviation values smaller than the average value indicate that the variation of data for cash reserves variables is smaller.

The minimum value of the liquidity gap is -0.2135 by Bank BCA, whereas, the maximum value of the variable liquidity gap in 2018 is 0.3058 by Bank Agris. The average gap in the liquidity of banking companies listed on the IDX during 2018 is 0.0561, which means that on average there is a surplus difference between financial account inflows compared to outflows of corporate financial balance of 5.61%. the standard deviation of the liquidity gap shows the number 0.1395 where the standard deviation value greater than the average value indicates that the variation of data for the liquidity gap variable is greater.

The minimum value of non-performing loans is 0.0022 by Bank Mitraniaga, whereas, the maximum value of non-performing loans in 2018 is 0.1575 by Yudhabakti Bank. The average non-performing loan of banking companies listed on the Stock Exchange during 2018 is 0.0337, which means that the average non-performing loans owned by the company when compared to the total loans extended to consumers are 3.37%. the standard deviation of non-performing loans shows 0.0262 where the standard deviation values smaller than the average value indicate that the variation of data for non-performing loan variables is greater.

The minimum value of return on assets is -0.0506 by the International Harda Bank, whereas, the maximum value of the variable return on assets in 2018 is 0.0317 by Bank Mandiri. The average return on assets of banking companies listed on the IDX during 2018 is 0.0085, which means the

average company's ability to generate profits from its total current assets is 0.85%. the standard deviation of return on assets shows the number 0.0176 where the standard deviation value greater than the average value indicates that the variation of data for the variable return on assets is greater.

The minimum value of the price earning ratio is -40.2027 Bank Agris, whereas, the maximum value of the variable price earning ratio in 2018 is 331.6832 by Bank Ina Perdana. The average price earning ratio of banking companies listed on the IDX during 2018 is 45.5334, which means that the average share price offered for a banking company is around 45.52 times. the standard deviation of the price earnings ratio shows the number 81.7225 where the standard deviation value greater than the average value indicates that the variation of data for the variable price earning ratio is greater.

The results of data processing show that structural models 1 and 2 are acceptable models.

Table 2: Test Result structural equation model 1 & 2

| Model | Std coeff | t | Sig | R ² | F | F Sig |
|--|-----------|--------|------|----------------|-------|-------|
| structural equation model 1 (X1,X2, X3, X4 to Y) | | | | | | |
| P1 X1Y | 0.007 | 0.036 | .972 | 0.515 | 4.785 | .008 |
| P2 X2Y | 0.262 | 1.520 | .146 | | | |
| P3 X3Y | -0.001 | -0.004 | .997 | | | |
| P3 X4Y | -0.731 | -3.920 | .001 | | | |
| structural equation model 2 (Y, X1,X2,X3, X4 to Z) | | | | | | |
| P5YZ | 0.404 | 2.204 | .045 | 0.716 | 7.062 | .002 |
| P6 X1Z | -0.605 | -3.600 | .003 | | | |
| P7 X2Z | -0.019 | -0.115 | .910 | | | |
| P8X3Z | -0.704 | 0.728 | .002 | | | |
| P9X4Z | 0.143 | 2.204 | .479 | | | |

Structural Equation Model 1

The R² (R Square) value of model 1 (one) shows how much influence the independent variable has on the dependent variable simultaneously, the magnitude of R² is 0.515 or this means that 51.50% of the ROA variants can be explained by changes in DEPO, CASH, GAPLIQ, and NPL variables. These indications indicate that there are still other variables outside the analysis model that can affect bank profitability by 48.50%.The corresponding model is shown from the calculated F value is 4.785and the probability value (F statistic) is 0.008 less than <0.05, which means that overall DEPO, CASH, GAPLIQ, and NPLhave a significant effect on Return On Asset.

Based on the R² test it can be calculated that value of e1 = $\sqrt{1 - R^2} = \sqrt{(1 - 0,515)} = \sqrt{0,485} = 0,696$.Based on the test results above, the regression equations are reflecting the variables in this test are:

$$Y = 0,007 X1 + 0,262 X2 + -0,001 X3 + -0,731 X4 + 0,696 e1$$

Based on the SPSS testing of individual parameter model 1 (one), the results of individual testing of Deposits indicate a value of 0.007 with a significance level of 0.972 or> 0.05, which means that Deposits has a positive but not significant effect on Return On Assets. The Cash Reserve results show

a value of 0.262 with a significance level of 0.146 or> 0.05 which means that the Cash Reserves have a positive but not significant effect on Return On Assets. The result of the Liquidity Gap test shows a value of -0.001 with a significance level of 0.997 or > 0.05, which means that the Liquidity Gap has a negative but not significant effect on Return On Assets.

The results of the Non-Performing Loan showed a value of -0.731 with a significance level of 0.001 or <0.05 which means that the Non-Performing Loan had a significant negative effect on Return on Assets.

Structural Equation Model 2

The R² (R Square) value of model 2 (two) shows how much influence the independent variable has on the dependent variable simultaneously, the magnitude of R² is 0.716 or this means that 71.60% of the PER variants can be explained by changes in DEPO, CASH, GAPLIQ, NPL, and ROA variables. These indications indicate that there are still other variables outside the analysis model that can affect bank profitability by 28.40%.The corresponding model is shown from the calculated F value is 7.602 and the probability value (F statistic) is 0.002 less than <0.05, which means that overall DEPO, CASH, GAPLIQ, NPL, and Return on Assetshave a significant effect on Price Earning Ratio.

Based on the R² test it can be calculated that value of e2 = $\sqrt{1 - R^2} = \sqrt{(1 - 0,716)} = \sqrt{0,284} = 0,532$.Based on the test results above, the regression equations are reflecting the variables in this test are:

$$Z = 0,404 Y + -0,605 X1 + -0,019 X2 + -0,704 X3 + 0,143 X4 + 0,532 e2$$

Based on the SPSS testing of individual parameters model 2 (two), the results of individual testing of deposits indicate a value of -0.605 with a significance level of 0.003 or> 0.05 which means that deposits have a significant negative effect on Price Earning Ratio. The results of the Liquidity Gap show a value of -0.704 with a significance level of 0.002 or> 0.05 which means that the Liquidity Gap has a significant negative effect on Price Earning Ratio. The Return On Asset results shows a value of 0.404 with a significance level of 0.045 or> 0.05, which means Return On Asset has a significant positive effect on the Price Earning Ratio.

The cash reserve results show a value of -0.019 with a significance level of 0.910 or> 0.05, which means that the Cash Reserves have a negative but not significant effect on Price Earning Ratio. The results of the Non-Performing Loan showed a value of 0.143 with a significance level of 0.479 or > 0.05 which means the Non-Performing Loan has a positive but not significant effect on Price Earning Ratio.

Analysis of Direct and Indirect Effects

This analysis is needed to determine the effect of independent variables on the dependent variable directly or through the intervening variable. The magnitude of the effect of each independent variable on the dependent variable as a whole is shown in Table 2, then the direct effect and the indirect effect is seen in Table 3 as follows:

Table 3: Direct & Indirect Effect

| Variable | Direct | Indirect |
|----------|---------|------------|
| | $X_n Z$ | $X_n Y YZ$ |
| DEPO | -0.605 | 0.0028 |
| CASH | -0.019 | 0.1058 |
| GAPLIQ | -0.704 | -0.0004 |
| NPL | 0.143 | -0.2953 |
| ROA | 0.404 | - |

In the path model, this study will explain the direct and indirect effects of the independent variables on the dependent variable. Based on the description above it can be seen that deposits have a direct influence of -0.605 greater than the indirect effect of 0.0028. Cash reserves have a direct effect of -0.019 less than the indirect effect of 0.1058. The liquidity gap has a direct effect of -0.704 greater than its indirect effect of -0.0004. NPL has an effect of -0.143 less than its indirect effect of -2,2953. While ROA has a direct effect of 0.404.

Sobel Test

Sobel Test calculation analysis is performed to determine the effect of the intervening variable on the relationship between the independent variable and the dependent variable.

Table 4: Sobel Test Calculation

| Variable | $Sab = \sqrt{b^2 Sa^2 + a^2 Sb^2 + Sa^2 Sb^2}$ |
|----------|--|
| DEPO | 0.97 |
| CASH | 0.21 |
| GAPLIQ | 0.96 |
| NPL | 0.05 |

Based on the Sobel test calculation table above, it can be seen that the variable third party funds to PER through the intervening ROA variable has a not significant effect with the Sobel test calculation value of 0.97 or > 0.05. The variable cash reserves to PER through the intervening variable ROA has a not significant effect with the value of the Sobel test calculation of 0.21 or > 0.05. The variable liquidity gap to PER through the intervening ROA variable has a not significant effect with a Sobel test calculation value of 0.96 or > 0.05. The NPL variable to PER through the intervening ROA variable has a significant effect with the Sobel test calculation value of 0.05 or \leq 0.05.

Based on the explanation above, the conclusions that can be drawn is the influence of Deposits (X1) on Return on Assets is equal to + 0.007 but not significant. the effect of the Cash Reserves (X2) on Return on Assets is + 0.262 but not significant. the effect of the Liquidity Gap (X3) on Return on Assets is -0.001 but not significant. the effect of Non-Performing Loans (X4) on Return on Assets is -0.731 and significant.

The effect of Return on Assets (Y) on Price Earning Ratio is + 0.404 and significant. The effect of Non-Performing Loan (X4) on Price Earning Ratio through intervening ROA variable is -0.2953 and significant.

The effect of Third Party Funds (X1) on Price Earning Ratio through intervening ROA variable is 0.0028 and is not significant. the effect of Cash Reserves (X2) on Price Earning Ratio through intervening ROA variable is 0.1058 and is not significant. the effect of the Liquidity Gap (X3) on

Price Earning Ratio through the intervening variable ROA is -0,0004 and is not significant.

The Effects of Deposits on ROA

The results of this study show the same results from previous studies of Arif & Anees (2012) which showed a significant positive effect of deposits on ROA but different from the results of Pratomo & Komalasari (2015) where deposits showed a negative effect significant effect on ROA. Deposits have a positive effect on ROA, which means that the higher the DEPO, the bank's ROA will increase as well. The difference between the results of the research and the previous research that is used as a reference in this study may occur due to differences in the study period, macroeconomic conditions, and the interest rates on deposits. t-test value that exceeds the predetermined significance value is due to the fact that there are a number of samples that have a high value of third party funds but the value of profitability is low so that it results in insignificant results of the study besides the contribution of third party funds to the bank's profitability as well relatively small.

The Effect of Cash Reserves on ROA

The results of this study are in accordance with previous research belonging to Arif & Anees (2012) and Pratomo & Komalasari (2015) which showed a positive effect of cash reserves (CASH) on bank profitability (ROA). Based on the results of the test, CASH effect on ROA is not significantly positive, whereas in previous studies the results obtained were that CASH had a significant positive effect on ROA, which means that the higher the CASH owned, the bank's ROA will increase. t-test value that exceeds the predetermined significance value is due to the fact that there are a number of samples that have a high cash reserve value, but the profitability value is low, giving rise to insignificant results on the results of the study besides the contribution of cash reserves to bank profitability is also relatively small.

The Effect of Liquidity Gap on ROA

The results of this study are in accordance with previous studies belonging to Arif & Anees (2012) and Pratomo & Komalasari (2015) which show the negative influence of GAP on ROA which is also not significant. The results of this study indicate that the liquidity gap (LIQGAP) has a negative but not significant effect on profitability (ROA). Based on the results of GAP testing the effect on ROA is insignificant negative, which means that the higher the GAP the bank ROA will decrease. t-test value that exceeds the predetermined significance value can be caused because several banks have negative liquidity gap values, but the negative results are still in the form of bills and liabilities in administrative accounts so that they cannot be recognized as cash flows that can generate profits for banks which results in no significant effect from the existing liquidity gap on ROA.

The Effect of Non Performing Loans on ROA

NPL test results have a significant negative effect on ROA, which means that the higher the NPL, the smaller the ROA of the bank. A high NPL value at a bank indicates poor credit management that can lead to an increased risk of bad loans. This can be caused by a bank providing excessive lending to the debtor and lack of supervision over its use so

that the credit becomes bad and causes a reduction in the bank's productive assets. Banks with high lending rates will lead to the possibility of the risk of bad credit. In other words, a high NPL value in a bank shows poor credit management and supervision that can lead to unfavorable credit risk as well and will cause a reduction in the bank's ability to generate profits from its assets. This is consistent with the results of previous studies belonging to Arif & Anees (2012) and Pratomo & Komalasari (2015) which showed a significant negative effect of NPL on ROA.

The Effect of ROA on PER

The greater ROA shows better company performance because of the greater the return. Return On Assets measures operating performance which shows the extent to which assets are employed. This ratio measures how effective the company's management is in utilizing existing economic resources to generate profits. With an increase in the ROA ratio reflects that the company's management is able to manage its assets well so that it can generate profits that continue to increase, this will increase investor confidence to invest in bank shares where there will be an increase in demand and an increase in share prices which result in the value of the company (PER) is increasing. This is consistent with the results of previous studies belonging to Wulandari & Badjra (2019) and Rahmani (2018) which shows the positive influence of ROA on PER.

The Effect of Deposits on PER by intervening ROA

Deposits have not a significant positive effect on Price Earning Ratio (PER). This insignificant result can also be caused by the composition of third party funds owned by banks tends to be the same from year to year while not offset by a decrease in interest expense costs which will then affect the number of profits obtained by the bank from turning the customer's third party funds other than third party funds is also very liquid, the amount of which can change quickly in a short period so that investors do not consider third party funds as consideration for investment decisions. This is consistent with the initial hypothesis of the study that estimates that DEPO will have a positive influence on PER and can be an initial signal for investors as consideration for investment decision making.

The Effect of Cash Reserves on PER by intervening ROA

The results of this study are not in accordance with the hypothesis compiled in this study where the cash reserves in the bank function to meet the needs of the company in meeting its current liabilities, but too large cash reserves will cause banks to have too many idle funds and lose the potential to increase profits. , the large number of cash reserves will also make banks potentially incur losses due to inflation and a decrease in the value of money. The differences in the results of the present research from previous researchers are likely due to differences in the business sectors of the research object that previously examined the property sector, while this study examines the banking sector. This is the same result with the results of previous studies belonging to Septiana et al. (2019) which showed a positive effect of CASH on PER.

The Effect of Liquidity Gap on PER with ROA intervention

GAPLIQ has a negative but not significant effect on Price Earning Ratio (PER). The results of this study are consistent with the hypothesis compiled in this study because the liquidity gap affects the income generated by the company, if the liquidity gap owned by the bank experiences a positive amount, it shows that the bank has excess unused funds resulting in loss of potential profit if the funds can be used optimally. Thenot optimal profit generated will affect the number of earnings per share of the company which can make investors lose their interest in investing, thereby releasing the ownership of shares which results in a decline in share prices and the effect of decreasing PER. This is consistent with the results of previous studies belonging to Wulandari and Badjra (2019) and Rahmani (2018) which showed a positive influence from GAPLIQ on PER.

The Effect of Non-Performing Loans on PER with intervening ROA

Non-Performing Loan (NPL) has a significant negative effect on Price Earning Ratio (PER). It can be concluded that in the period 2018 Investors consider the NPL ratio in terms of investment decision making in the banking sector. This is because in addition to NPLs investors consider ROA which shows a slight increase in 2018 as a reference for determining investment. This is in inline with the results of Nusantara et al's research (2018) then Susanto and Wiksuana's research (2014) which showed a significant negative effect of NPL on PER.

5. Conclusion

Based on the research results above, it can be concluded that liquidity consisting of Deposits, Cash Reserves, Liquidity Gap, and Non-Performing Loans can influence the company's price earning ratio through profitability as an intervening variable for bank listed in Indonesia Stock Exchange. While ROA positive significant effect on PER, NPL has a negative significant effect on PER using ROA as an intervening variable. The liquidity gap has a negative but not significant effect on PER. By using ROA as an intervening variable, deposits and cash reserves have a positive impact on PER even it's not significant.

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