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Lampiran 1 Submission

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Submission

Authors	Endang Tri Widyarti, Adhi Widyakto, Yohanes Suhardjo
Title	Analysis of the Effect of Non-Performing Loan, Return on Assets, Return on
	Equity and Size on Banking Liquidity Risk (Case Study on Conventional
	Banks Registered in IDX period 2016 – 2020)

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ANALYSIS OF THE EFFECT OF NON PERFORMING LOANS (NPL), RETURN ON ASSETS (ROA), RETURN ON EQUITY (ROE) AND SIZE (BANK SIZE) ON BANKING LIQUIDITY RISK

(Case Study on Conventional Banks Registered in IDX period 2016 – 2020)

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Article	Abstract			
Information	Abstract			
	In the economy of a country, banking has a big part to do. Banking plays an important role			
	lending in public and private areas. The function of banking as an intermediary, which the bank is			
	useful as an intermediary between the parties who are sufficient to those in need. This research is			
History of article:	focused on areas that have an effect on liquidity risk in banks. The purpose of this research is nothing			
Accepted	but to analyze the securities of NPL, ROA, ROE and Size to liquidity risk in banks listing in IDX for the			
Approved	period 2016-2020.			
Published	The samples used in the research of all banks, both state-owned (SOE) and National Private			
	Banks in Indonesia are recognized in BI from 2016 to 2020. From the criteria obtained by 40 banks,			
Kevwords:	the method used is purposive sampling. The method of analysis used in this research is linear			
Non-Performing Credit	regression, which is tested through classical assumptions with normality, multicollinearity,			
(NPL), ROA, ROE, Size	autocorrelation and heteroscedasticity.			
(Bank Size), liquidity	The results showed that roa and ROE variables have a good and significant effect on liquidity			
rick	risk. Medium variable NPL and Size have an adverse and insignificant effect on liquidity risk.			

Indonesian Title (Capitalize Each Words)

	Abstrak
History of article:	
Accepted	Dalam perekonomian suatu negara, perbankan punya andil yang besar. Perbankan
Approved	memainkan peran penting. Fungsi perbankan sebagai intermediary, dimana bank berfungsi
Published	sebagai perantara antara pihak berkecukupan dengan membutuhkan. Penelitian ini difokuskan
	pada area yang berpengaruh terhadap risiko likuiditas pada bank. Tujuan dari penelitian ini
	tidak lain untuk menganalisis efek NPL, ROA, ROE dan Size terhadap risiko likuiditas pada bank-
	bank yang listing di BEI periode 2016-2020.
Kata Kunci:	Sampel yang digunakan dalam penelitian adalah seluruh bank, baik Bank BUMN maupun
NPL, ROA, ROE, Size, risiko likuiditas.	Swasta Nasional di Indonesia yang diakui di BI dari tahun 2016 hingga 2020. Dari kriteria yang
	diperoleh 40 bank, metode yang digunakan adalah purposive sampling. Metode analisis yang
	digunakan dalam penelitian ini adalah regresi linier yang diuji melalui asumsi klasik dengan
	normalitas, multikolinearitas, autokorelasi dan heteroskedastisitas.
	Hasil penelitian menunjukkan bahwa variabel roa dan ROE berpengaruh baik dan
	signifikan terhadap risiko likuiditas. Variabel sedang NPL dan Size berpengaruh negatif dan tidak
	signifikan terhadap risiko likuiditas.
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INTRODUCTION

Banks have a meaningful role and position in the economy of a country. Roman and sargu, 2016, said that the banking zone has a significant position in financing public or private zones. For Budisantoso and Nuritomo, the bank as a financial intermediary has universally been the main use of raising funds from citizens and channeling them back to citizens for various purposes. They say that more specifically the bank can play the role of trust agent, development agent, and service agent.

Universal liquidity is the bank's expertise to fund the increase in legacy and fulfill liabilities at maturity without incuring losses that can not be anticipated by the bank. Banking activities are collecting, disbursing funds and other banking services that are very vulnerable to various risks. Effendi and Disman said that of the many risks experienced by banks, liquidity risk is a very significant risk. Because when a bank is entwined with lack of liquidity, the bank cannot carry out its business activities and if this is always established, the bank will face bankruptcy.

Previous research related to variables that influence liquidity risk has been tried by some researchers, but there is still a comparison of the results of the research. Research attempted by Effendi and Disman in 2017 has resulted in npls having a positive and significant influence on liquidity risk. But unlike the research tried by Azhary and Muharam in 2017, the results of npl negatively affect. Research attempted by Sukmana and Suryaningtyas in 2016 created a positive and significant bond between ROA and liquidity risk. But unlike the research tried by Bani and Yaya in 2016, it creates a negative and significant bond between ROA and liquidity risk. Previous research on the effect of ROE on liquidity risk was tried by Iqbal in 2012, which showed a positive bond between ROE and liquidity risk. But research attempted by Muharam and Kurnia in 2012 reported that ROE negatively affects liquidity levels in conventional banking In research attempted by Iqbal in 2012, it creates a significant and positive bond between size and liquidity risk. In contrast, the research tried by Bani and Yaya in 2016 created that there is no bond between liquidity risk and size.

The purpose of this research is to recognize how npl, ROA, ROE, and Size influence on liquidity risk in conventional banks listed on the Indonesia Impact Exchange for the period 2016 to 2019.

LITERATURE REVIEW

Based on Law No. 10 of 1998 concerning banking, the Bank is "a business entity that collects funds from citizens in the form of deposits and distributes its funds to citizens in the form of credit and other forms in order to improve the standard of living of the people". For Budisantoso and Nuritomo, according to the Bank's function, "collecting public money and then lending it to citizens for various purposes or as intermediaries in the field of finance".

Universal liquidity is the bank's expertise in meeting short-term needs that have matured A bank is said to have the ability to meet withdrawals from savings, current accounts, time deposits, bank debt maturities, meet loans without any delays. Activities in the world of banking is a business transaction that is tried every day and makes it vulnerable to various risks. Sourced from Bank Indonesia regulation No. 5/8/PB / 2003, the risk is the ability to form a company that wants to cause losses on the part of the bank. Pandia (2012) said that liquidity risk is a risk caused by the lack of immediate fulfillment by the bank to not be able to fulfill its responsibilities either to fulfill the request for withdrawal by the saver or distribute debt to prospective debtors.

Liquidity risk can be measured using the Ratio of Liquid Asset to Total Asset (LTA). Sukmana and Suryaningtyas (2016) pointed out that LTA is the ratio used to calculate the number of liquid relics from the total relics owned by banks where the relics can be converted. Bank Indonesia Regulation No. 13/ 24/ DPNP/ 2011 concerning evaluation of universal bank health levels is a guideline in determining LTA. Which in the regulation evaluation of the health level of universal banks consists of 2 aspects are sourced on the legacy of primary liquid and secondary liquid relics. Legacy of primary liquid, generally used to meet the liquidity needs of banks in the form of Third Party Funds (DPK) as well as obligations to banks that have matured. Sukmana and Suryaningtyas, 2016, said that the large LTA Ratio showed assets converted into cash were also large and showed good liquidity of banks.

Effect of Non Performing Loan (NPL) on Liquidity Risk

NPL or non-performing loans are ratios calculated using the method of equalizing all nonperforming loans compared to all loans distributed by banks. Based on Bank Indonesia Circular Number.13/ 30/ DPNP on December 16, 2011, NPL can be searched using the following methods:

NPL = <u>Non performance Loan</u> x 100% Total Credit

Based on the anticipated revenue theory, banks allocate credit to sectors that benefit banks with longer maturity installment methods. The risk of long-term crediting arises if the borrower does not pay the installment on time then the credit has not been paid off or bad credit. If the bad credit is large until the payment of credit installments to be received by the bank is sourced on the agenda that has been set to be late. Orderly credit installments are expected to be a source of liquidity of banks but because of problem of borrowers not paying the installments in a timely manner, they want to raise liquidity risk to the bank. Previous research that Azhary and Muharam tried in 2017 that produced results that NPL negatively influenced both research models. Not only that, the research tried by Ghenimi and Omri in 2015 also created a negative and significant influence of NPL on the risk of liquidity. Iqbal, 2012, said that NPL had a negative influence and was concerned about liquidity risk. So for them continue to be low NPL something banks to continue to be a big liquidity risk of the bank.

H1: Non Performing Loans (NPL) negatively affect liquidity risk.

Effect of Return On Asset (ROA) on Liquidity Risk

ROA is a marker that illustrates the power of banks to earn a return on some of the assets owned by banks. Bank Indonesia Circular Letter Number 6/23/DPNP 31 May 2004, ROA can be calculated using the formula as below:

ROA =<u>Profit before tax</u> x 100% Total Asset

Arthesa, in 2006, said that if it comes to "theory trade off between liquidity and profitability," if a bank wants to strengthen its liquidity position it is trying to strengthen cash reserves by imposing assets owned by the bank to raise some of the idle funds, thus lowering profitability at the bank. Conversely, if the bank wants to strengthen its profitability until the bank has to risk liquidity, because cash reserves derived from the consumption of bank assets are used for liquidity needs to be used by banks for other interests that can increase profitability in the bank so as to increase liquidity in the bank to decrease and cause cases of liquidity effects. Previous studies have been attempted by Azhary and Muharam, Effendi and Disman, Rahman and Banna, Roman and Sargu, 2014, Muharam and Kurnia, Anam et al. in 2012, Igbal, and Akhtar, Ali, and Sadaqat, who produced results if ROA had a good and significant impact on liquidity effects. H2: ROA positively affects liquidity risk.

Effect of Return On Equity (ROE) on Liquidity Risk

ROE is a marker of banking expertise in managing existing capital to obtain a net profit. Sourced in Bank Indonesia Circular Message No. 6/ 23/ DPNP on May 31, 2004, ROE can be calculated using the following formula:

ROE =<u>Profit after tax</u> x 100% Total Capital

Based on the theory of trading between liquidity and profitability, Arthesa said that on the one hand the bank must protect its liquidity level, but on the other hand banks must also seek profit and profitability not only to keep the business at the bank profitability also means for investors in obtaining dividends related to their investments. To protect its liquidity the bank charges its capital to protect liquidity reserves to reduce the occurrence of liquidity effects. A previous study of the effect of ROE on liquidity effects was attempted by Iqbal in 2012, which showed a positive relationship between ROE and the liquidity effect. The study was supported by studies that Bani and Yaya tried in 2016, Roman and Sargu, as well as Akhtar, Ali and Sadaqat in 2011.

H3: ROE positively affects liquidity risk

Effect of Size on Liquidity Risk

The size of the banking is a scale, which can be classified as small in size yes the banking for total assets, log size, and stock market value. For Bani and Yaya, the bank's 2016 calculation of the size of the bank's total assets, which is due to the comparison of each bank's assets that have such a large difference, so as to cause such an extreme difference in value. Sourced on The Subject until size can be calculated by using the following formula:

Bank Size= Ln (Total Assets)

Based on the theory of economies of scale, which is a relative increase in output resulting from the accumulation of commensurately from all inputs. Something banks reach economies of scale when they are able to create more output with a relatively smaller proportion of pay increases. Kusuma (2005) towered if the industry with large assets tends to be more profitable than with small industries, so that the bank will tend to wear its assets to obtain a large profit, so as to make the need to fulfill its liquidity by wearing liquid assets to be low that gives rise to the effect of liquidity on the bank continues to be large. Previous studies by Azhary and Muharam, Effendi and Disman, Bani and Yaya, Rahman and Banna, Abdullah and Khan, and Anam et al, resulted in a negative relationship between Size and the liquidity effect. because if a bank has a size that continues to be large, until the bank has a lot of assets, so that banks do not have to worry about the burden that is about to mature.

H4: Size(dimension of the bank) negatively affects liquidity risk

Based on the relationship of NPL, ROA, ROE and Size variables and theories related to variables, the theoretical frame of thought can be drawn as follows:



Source : Effendi and Disman (2017), Azhary and Muharam (2017), Bani and Yaya (2016), Sukmana and Suryaningtyas (2016), Ghenimi and Omri (2015), Rahman and Banna (2015), Roman and Sargu (2014), Muharam and Kurnia (2013), Abdullah and Khan (2012), Anam et all (2012), Iqbal (2016), Akhtar, Ali, and Sadaqat (2011)

RESEARCH METHODS Research Variables

This study put on 2 types of variables, namely dependent variables and independent variables. The dependent variable used is the liquidity effect as measured by wearing the LTA ratio. In contrast, the independent variables used in the study consisted of NPL, ROA, ROE and Firm Size.

Population

The population in this study consists of all banking industries, both state-owned banks and national private public banks in Indonesia registered with Bank Indonesia from 2016 to 2020.

Sample

The samples used in this research were selected using purposive sampling procedures. Illustration retrieval method with purposive sampling procedure is an illustration retrieval method that is tried because it is sourced on the criteria that have been determined by researchers. After trying to select illustrations sourced on the criteria, 40 conventional banks that were listed on IDX from 2016 to 2020 passed the criteria.

Analysis Methods

The data in this study comes from secondary data sourced from Bloomberg as well as the annual report of each banking illustration in question obtained from the IDX website.

The analysis method used in this study is multiple linear regression, which is tested to pass classical assumptions with tests of normality, multicolonierity, autocorrelation and heteroskedastisity. In this study, multiple regression equations are used as follows:

Y =
$$\alpha$$
 + β 1X1 + β 2X2 + β 3X3 + β 4X4 + β 5X5
+ e

Where, Y = dependent variable (liquidity risk), = constant, = multiple linear regression coefficient, = Non Performing Loan (NPL), = Return On Asset (ROA), =Return On Equity (ROE), = Firm Size (Bank Size), Error

RESULTS OF RESEARCH AND DISCUSSION Descriptive Statistical Analysis

Descriptive statistical analysis can be used as a basis in describing and describing a data from illustrations sourced on mean values, standard deviations, variants, maximum values, minimum values. Based on data obtained from Bloomberg and the annual report of each banking illustration in question obtained from the IDX website from 2016 to 2019. Until the results of the analysis for each variable LTA, NPL, ROA, ROE and size in conventional banks registered in IDX in 2016 to 2020 are as follows:

Table 1
Descriptive Statistical Analysis
Descriptive Statistics

	Ν	Minimum	Maximum	Mean	Std. Deviation
LTA (%)	160	6,35	37,50	15,4557	5,76066
NPL (%)	160	,03	14,76	3,6875	3,54667
ROA (%)	160	-9,72	16,10	1,2434	2,49750
ROE (%)	160	-75,66	22,45	4,6557	15,42339
SIZE (Rupiah)	160	2.365.227.887	2.235.335.548.18 9	247.665.468.32 9	245.482.675.67 5
Valid N (listwise)	160				

Source: Secondary data processed by SPSS 24

Sourced in table 1 shows the number of observations on conventional banks registered with IDX in this study as many as 160 data illustrations. Not only that, the table also showed variables analyzed in the study consisting of LTA, NPL, ROA, ROE and size. In table 1 dependent variable in this research is LTA has an average value of 15. 4557% with a standard deviation value of 5.76066. LTA has a minimum value of 6.35% from the Central Java Regional Development Bank in 2017. On the contrary, the maximum value is 37.50% at Bank Central Asia Tbk in 2016.

Table 2
Determination Coefficient Test Results
Model Summaryb
Descriptive Statistics

	Ν	Minimum	Maximum	Mean	Std. Deviation
LTA (%)	160	6,35	37,50	15,4557	5,76066
NPL (%)	160	,03	14,76	3,6875	3,54667
ROA (%)	160	-9,72	16,10	1,2434	2,49750
ROE (%)	160	-75,66	22,45	4,6557	15,42339
SIZE (Rupiah)	160	2.365.227.887	2.235.335.548.18 9	247.665.468.32 9	245.482.675.67 5
Valid N (listwise)	160				

Source: Secondary data processed by SPSS 24

Sourced in table 1 shows the number of observations on conventional banks registered with IDX in this study as many as 160 data illustrations. Not only that, the table also showed variables analyzed in the study consisting of LTA, NPL, ROA, ROE and size. In table 1 dependent variable in this research is LTA has an average

value of 15. 4557% with a standard deviation value of 5.76066. LTA has a minimum value of 6.35% from the Central Java Regional Development Bank in 2017. On the contrary, the maximum value is 37.50% at Bank Central Asia Tbk in 2016.

Table 3 **Determination Coefficient Test Results Model Summaryb** Model Summary^b Model R R Square Adjusted R Std. Error of Square the Estimate .346^a ,24335 ,187 ,236

a. Predictors: (Constant), SIZE, ROE, NPL, ROA

b. Dependent Variable: LTA

Based on the results of the determination coefficient test (R²) in table 2 indicates if the value of the adjusted coefficient of determination (Adjusted R Square) is 0.236. The subject indicates that

1

the ability of LTA dependent variables can be presented by independent variables NPL, ROA, ROE and SIZE of 23.6% and the remaining 76.4% influenced by other aspects.

Table 4
F Statistical Test Results
ANOVAa
ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	,376	4	,087	6,254	,003 ^b
1	Residual	2,645	169	,018		
	Total	3,113	174			

a. Dependent Variable: LTA

b. Predictors: (Constant), SIZE, ROE, NPL, ROA

Source : Secondary data processed by SPSS 24

Based on the results of Statistical Test F (Test of overall significance of illustration regression) in table 3 obtained a calculated value of F of 6, 254 with a significance value of 0.003. The significance value smaller than 0.05 indicates if the model used in this study is feasible for use,

and that LTA dependent variables can be displayed by independent VARIABLES NPL, ROA, ROE, and SIZE. Based on the comparison of the calculated F and F values of the table, the table F value is 3.76. The calculated F is greater than the table F, so it can be inferred if simultaneously all

independent variables affect dependent variables

Table 5 Statistical Test Result t (Individual parameter significance test) Coefficientsa Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		В	Std. Error	Beta		
	(Constant)	1,222	,206		5,547	,000
	NPL	-,085	,061	-,180	-1,265	,337
1	ROA	,047	,016	,369	3,482	,022
	ROE	,006	,001	,360	5,536	,001
	SIZE	-3,122	4,659	-,067	-,657	,366

a. Dependent Variable: LTA

Source: Secondary data processed by SPSS 24

Based on the test results of statistical test results t(individual parameter significance test) in table 4. 7, until you can get multiple linear regression equations as follows:

LTA (t-1) = 1.222- 0.085 NPL + 0.047 ROA + 0.006 ROE - 3.122 SIZE

Discussion of Research Results

The results of the study on early hypothesis testing obtained results if NPL negatively influenced not signfikan to the effect of liquidity projected with the ratio of LTA. The result is based on the coefficient direction of the NEGATIVE VALUE NPL with values t- 1, 265 and significance values of 0.337. Because the value of significance is greater than 0.05 until the early hypothesis (H1) which tells if NPL negatively affects the effect of liquidity is rejected. In 2016, the npls were negatively linked to liquidity. The large NPL ratio shows the magnitude of bad loans and eventually causes losses on the part of banks. Iqbal also said that the large NPL ratio of conventional banks was due to careless lending applications and that it was a factor in liquidity cases. Bank Indonesia has set the maximum npl ratio through Bank Indonesia Regulation (PBI) of 5%. The average value of NPL (Non Performing Loan) in the illustration of the bank used is 2.7867%. The results showed banks could reduce the NPL ratio below 5% to cause substantial profitability, as banks look to save money to form non-performing loans and PPAP.

The results of the study on the second hypothesis, obtained results if ROA positively influenced and signfikan to the effect of liquidity projected with the ratio of LTA. The result is based on the direction of positive regression coefficient with values t 3, 482 and significance values of 0.022. Because the significance value is smaller than 0.05 until the second hypothesis (H2) which tells if ROA positively affects the effect of liquidity is accepted. Sourced on theory trade of between liquidity and profitability, if a bank wants to Strengthen its liquidity position is tried by means of increasing reserves in cash by imposing assets owned by your bank to raise some of the idle funds, thus lowering the profitability of the bank. Conversely, if the bank wants to strengthen its profitability until the bank has to risk liquidity, because cash reserves derived from the consumption of bank assets are used for liquidity needs to be used by banks for other interests that can increase profitability in the bank so as to increase liquidity in the bank to decrease and cause cases of liquidity effects. The results of the study were unchanged, compared with studies tried by Azhary and Muharam in 2017, Effendi and Disman, Rahman and Banna, Muharam and Kurnia, Anam et al. in 2016, Iqbal, and 2016.

The results of the study on the third hypothesis, obtained results if ROE influenced positive and signfikan to the effect of liquidity projected with the ratio of LTA. The results are based on the results of multiple regression analysis showing if the coefficient of positive regression with values t 5, 536 and significance values of 0.01. Because the value of significance is smaller than 0.05 to the third hypothesis (H3) which tells if ROE positively affects the effect of liquidity is accepted. Referring to theory trade of between liquidity and profitability, Arthesa said that on the one hand the bank must protect its liquidity level, but on the other hand banks must also seek profit and profitability not only to keep the business at the bank profitability also means for investors in obtaining dividends related to their investments. To protect its liquidity the bank charges its capital to protect liquidity reserves to reduce the occurrence of liquidity effects. The results of the study were unchanged, compared with studies tried by Ghenimi and Omri in 2015, Rahman and Banna, Roman and Sargu, and Seta Iqbal in 2016. Iqbal, who has a strong roe ratio, said the large ROE ratio shows that the return on investment from shareholders is more lightning. when banks have a larger ROE they have a large income that can be used to support short-term liabilities and banks want to have fewer cases or risky conditions.

The results of the research on the fifth hypothesis, obtained results if the size of the bank affects negatively and does not signfikan against the effect of liquidity projected with the ratio of LTA. The results are based on the direction of the firm size, which is negative with a value of t- 0, 657 and a significance value of 0.366. Because the value of significance is greater than 0.05 to the 5th hypothesis, which reports that the size of the bank affects negatively against liquidity risk is rejected. The size does not affect liquidity risk due to conventional banks, competition in the banking market continues to be strong, because the rise of sharia banking is therefore a race to acquire customers. Bani and Yaya, 2016, said the issue led to conventional banks increasing their assets and improving their business so that customers were comfortable with the services provided. And the small amount of total assets owned by a bank so as not to cause liquidity effects on the bank. The study was in line with studies attempted by Azhary and Muharam, Effendi and Disman, Bani and Yaya, Rahman and Banna in 2015, Ghenimi and Omri, as well as Akhtar, Ali and Sadaqat, who said the size of the bank had no effect on liquidity effects. The results showed that the minimum value of size measured by total assets was 2. 365. 227. 887 and the maximum value is 2. 235. 335. 548. 189. The comparison between the minimum value and the maximum is quite large showing that the small amount of total relics owned by a bank does not want to cause the formation of liquidity risk in the bank.

Conclusion

The results of this research show that there are some aspects that influence liquidity as measured by using LTA variables. Of the 5 aspects studied consisting of NPL, ROA, ROE and Firm Size. From the results of the study it was proven that roa and ROE variables have a positive and significant influence on the effect of liquidity. In contrast, other variables consisting of NPL and Firm Size do not affect the liquidity effect. On the contrary, other variables consisting of NPL and Firm Size do not affect liquidity risk.

This research has limitations that the beginning is the results of the determination coefficient test shows the value of Adjusted R Square only 0.236. This means that if only 23.6% of dependent variables can be displayed by independent variables. The opposite of the remaining 76.4% was exposed by other variables

beyond the variables used in this study. Not only that this study also has limitations The study is only focused on conventional banks, so it has not been able to compare the liquidity effect with variables used in sharia banks and banks that conduct mergers.

Based on the results of this research, there are some initial recommendations for banks that banks must be more selective in sharing credit periods and keeping a close eye on the condition of prospective credit recipients. Not only that, it is expected that the bank is able to manage productive assets that can increase the source of liquidity in the bank. And banks are also obliged to manage their income such as accumulated capital from investors so that more liquid relics are available, so as to minimize liquidity risk. Not only recommendations for banks, there are some recommendations that can be considered for future research.

For the next research can classify the illustration of the banking to be used, a kind of sourced at the small dimension of the bank, so that better results can be obtained. Not only that, the next research can equate 2 types of banks more specifically to recognize how liquidity risk comparison in banks, for example the comparison between conventional bank liquidity risk with sharia banks such as research tried by Efendi and Disman (2017), Sukmana and Suryaningtyas (2016), and Muharam and Kurnia (2013). And the next research could raise independent variables that support liquidity effects, such as NIM, NWC, GDP growth, and inflation levels as tried by Ghenimi and Omri, Rahman and Banna, as well as Anam et al. in 2012.

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Peer Review

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JURNAL DINAMIKA MANAJEMEN

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ARTICLE REVIEW FORM JURNAL DINAMIKA MANAJEMEN Management Department Faculty of Economics Universitas Negeri Semarang

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PLANNING REVIEW ARTICLES

Tittle	ANALYSIS OF THE EFFECT OF NON PERFORMING LOANS (NPL), RETURN ON ASSETS (ROA), RETURN
	ON EQUITY (ROE) AND SIZE (BANK SIZE) ON
	BANKING LIQUIDITY RISK

REVIEW ARTICLES

Please give examination on each of the section on table below

General Comments	Still need more elaboration on several aspect (as mentioned in comments)
Abstract	Good
Introduction	 Give more reasons why the author decides more than one variables in hypotheses examination Strengthen the argument within hypotheses development section
Method	Good
Result & Discussion	Sufficient but will be better if the result not in the raw form of SPSS

Conclusion &	Good
Recommendation	
References	

ASSESTMENT SUMMARY (please check the boxes)

ASSESSMENT INDICATORS	Very Good	Good	Fair	Poor
Originality		\boxtimes		
Scholarly		\boxtimes		
Technical Quality			\boxtimes	
Appearance		\boxtimes		
Depth of the Research			\boxtimes	

ASSESTMENT SUMMARY

Reviewer Recommendation

- □ Accepted with minor revisions
- \boxtimes Accepted with major revisions
- □ Suggested to sent it to other journals such as:
- □ Rejected with the reason:

4



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ANALYSIS OF THE EFFECT OF NON PERFORMING LOANS (NPL), RETURN ON ASSETS (ROA), RETURN ON EQUITY (ROE) AND SIZE (BANK SIZE) ON BANKING LIQUIDITY RISK

(Case Study on Conventional Banks Registered in IDX period 2016 - 2020)

Article	Abstract				
Information	Abstract				
	In the economy of a country, banking has a big part to do. Banking plays an important role in lending in public and private areas. The function of banking as an intermediary, which the bank is useful as an intermediary between the parties who are sufficient to those in need. This research is				
History of article:	focused on areas that have an effect on liquidity risk in banks. The purpose of this research is nothing				
Accepted	but to analyze the securities of NPL, ROA, ROE and Size to liquidity risk in banks listing in IDX for the				
Approved	period 2016-2020.				
Published	The samples used in the research of all banks, both state-owned (SOE) and National Private Banks in Indonesia are recognized in BI from 2016 to 2020. From the criteria obtained by 40 banks,				
Keywords:	the method used is purposive sampling. The method of analysis used in this research is linear				
Non-Performing Credit	regression, which is tested through classical assumptions with normality, multicollinearity,				
(NPL), ROA, ROE, Size	autocorrelation and heteroscedasticity.				
(Bank Size), liquidity	The results showed that roa and ROE variables have a good and significant effect on liquidity				
risk.	risk. Medium variable NPL and Size have an adverse and insignificant effect on liquidity risk.				

Indonesian Title (Capitalize Each Words)

	Abstrak
History of article:	
Accepted	Dalam perekonomian suatu negara, perbankan punya andil yang besar. Perbankan
Approved	memainkan peran penting. Fungsi perbankan sebagai intermediary, dimana bank berfungsi
Published	sebagai perantara antara pihak berkecukupan dengan membutuhkan. Penelitian ini difokuskan
	pada area yang berpengaruh terhadap risiko likuiditas pada bank. Tujuan dari penelitian ini
	tidak lain untuk menganalisis efek NPL, ROA, ROE dan Size terhadap risiko likuiditas pada bank-
	bank yang listing di BEI periode 2016-2020.
Kata Kunci:	Sampel yang digunakan dalam penelitian adalah seluruh bank, baik Bank BUMN maupun
NPL, ROA, ROE, Size,	Swasta Nasional di Indonesia yang diakui di BI dari tahun 2016 hingga 2020. Dari kriteria yang
risiko likuiditas.	diperoleh 40 bank, metode yang digunakan adalah purposive sampling. Metode analisis yang
	digunakan dalam penelitian ini adalah regresi linier yang diuji melalui asumsi klasik dengan
	normalitas, multikolinearitas, autokorelasi dan heteroskedastisitas.

Hasil penelitian menunjukkan bahwa variabel roa dan ROE berpengaruh baik dan signifikan terhadap risiko likuiditas. Variabel sedang NPL dan Size berpengaruh negatif dan tidak signifikan terhadap risiko likuiditas.

INTRODUCTION

Banks have a meaningful role and position in the economy of a country. Roman and sargu, 2016, said that the banking zone has a significant position in financing public or private zones. For Budisantoso and Nuritomo, the bank as a financial intermediary has universally been the main use of raising funds from citizens and channeling them back to citizens for various purposes. They say that more specifically the bank can play the role of trust agent, development agent, and service agent.

Universal liquidity is the bank's expertise to fund the increase in legacy and fulfill liabilities at maturity without incuring losses that can not be anticipated by the bank. Banking activities are collecting, disbursing funds and other banking services that are very vulnerable to various risks. Effendi and Disman said that of the many risks experienced by banks, liquidity risk is a very significant risk. Because when a bank is entwined with lack of liquidity, the bank cannot carry out its business activities and if this is always established, the bank will face bankruptcy.

Previous research related to variables that influence liquidity risk has been tried by some researchers, but there is still a comparison of the results of the research. Research attempted by Effendi and Disman in 2017 has resulted in npls having a positive and significant influence on liquidity risk. But unlike the research tried by Azhary and Muharam in 2017, the results of npl negatively affect. Research attempted by Sukmana and Suryaningtyas in 2016 created a positive and significant bond between ROA and liquidity risk. But unlike the research tried by Bani and Yaya in 2016, it creates a negative and significant bond between ROA and liquidity risk. Previous research on the effect of ROE on liquidity risk was tried by Iqbal in 2012, which showed a positive bond between ROE and liquidity risk. But research attempted by Muharam and Kurnia in 2012 reported that ROE negatively affects liquidity levels in conventional banking In research attempted by Iqbal in 2012, it creates a significant and positive bond between size and liquidity risk. In contrast, the research tried by Bani and Yaya in 2016 created that there is no bond between liquidity risk and size.

The purpose of this research is to recognize how npl, ROA, ROE, and Size influence on liquidity risk in conventional banks listed on the Indonesia Impact Exchange for the period 2016 to 2019.

LITERATURE REVIEW

Based on Law No. 10 of 1998 concerning banking, the Bank is "a business entity that collects funds from citizens in the form of deposits and distributes its funds to citizens in the form of credit and other forms in order to improve the standard of living of the people". For Budisantoso and Nuritomo, according to the Bank's function, "collecting public money and then lending it to citizens for various purposes or as intermediaries in the field of finance".

Universal liquidity is the bank's expertise in meeting short-term needs that have matured A bank is said to have the ability to meet withdrawals from savings, current accounts, time deposits, bank debt maturities, meet loans without any delays. Activities in the world of banking is a business transaction that is tried every day and makes it vulnerable to various risks. Sourced from Bank Indonesia regulation No. 5/8/PB / 2003, the risk is the ability to form a company that wants to cause losses on the part of the bank. Pandia (2012) said that liquidity risk is a risk caused by the lack of immediate fulfillment by the bank to not be able to fulfill its responsibilities either to fulfill the request for withdrawal by the saver or distribute debt to prospective debtors.

Liquidity risk can be measured using the Ratio of Liquid Asset to Total Asset (LTA). Sukmana and Suryaningtyas (2016) pointed out that LTA is the ratio used to calculate the number of liquid relics from the total relics owned by banks where the relics can be converted. Bank Indonesia Regulation No. 13/ 24/ DPNP/ 2011 concerning evaluation of universal bank health levels is a guideline in determining LTA. Which in the regulation evaluation of the health level of universal banks consists of 2 aspects are sourced **Comment [A1]:** Change the literature review to hypotheses development

on the legacy of primary liquid and secondary liquid relics. Legacy of primary liquid, generally used to meet the liquidity needs of banks in the form of Third Party Funds (DPK) as well as obligations to banks that have matured. Sukmana and Suryaningtyas, 2016, said that the large LTA Ratio showed assets converted into cash were also large and showed good liquidity of banks.

Effect of Non Performing Loan (NPL) on Liquidity Risk

NPL or non-performing loans are ratios calculated using the method of equalizing all nonperforming loans compared to all loans distributed by banks. Based on Bank Indonesia Circular Number.13/ 30/ DPNP on December 16, 2011, NPL can be searched using the following methods:

NPL = <u>Non performance Loan</u> x 100% Total Credit

Based on the anticipated revenue theory, banks allocate credit to sectors that benefit banks with longer maturity installment methods. The risk of long-term crediting arises if the borrower does not pay the installment on time then the credit has not been paid off or bad credit. If the bad credit is large until the payment of credit installments to be received by the bank is sourced on the agenda that has been set to be late. Orderly credit installments are expected to be a source of liquidity of banks but because of the problem of borrowers not paying installments in a timely manner, they want to raise liquidity risk to the bank. Previous research that Azhary and Muharam tried in 2017 that produced results that NPL negatively influenced both research models. Not only that, the research tried by Ghenimi and Omri in 2015 also created a negative and significant influence of NPL on the risk of liquidity. Iqbal, 2012, said that NPL had a negative influence and was concerned about liquidity risk. So for them continue to be low NPL something banks to continue to be a big liquidity risk of the bank.

H1: Non Performing Loans (NPL) negatively affect liquidity risk.

Effect of Return On Asset (ROA) on Liquidity Risk

ROA is a marker that illustrates the power of banks to earn a return on some of the assets owned by banks. Bank Indonesia Circular Letter Number 6/23/DPNP 31 May 2004, ROA can be calculated using the formula as below:

ROA =<u>Profit before tax</u> x 100% Total Asset

Arthesa, in 2006, said that if it comes to "theory trade off between liquidity and profitability," if a bank wants to strengthen its liquidity position it is trying to strengthen cash reserves by imposing assets owned by the bank to raise some of the idle funds, thus lowering profitability at the bank. Conversely, if the bank wants to strengthen its profitability until the bank has to risk liquidity, because cash reserves derived from the consumption of bank assets are used for liquidity needs to be used by banks for other interests that can increase profitability in the bank so as to increase liquidity in the bank to decrease and cause cases of liquidity effects. Previous studies have been attempted by Azhary and Muharam, Effendi and Disman, Rahman and Banna, Roman and Sargu, 2014, Muharam and Kurnia, Anam et al. in 2012, Iqbal, and Akhtar, Ali, and Sadaqat, who produced results if ROA had a good and significant impact on liquidity effects. H2: ROA positively affects liquidity risk.

Effect of Return On Equity (ROE) on Liquidity Risk

ROE is a marker of banking expertise in managing existing capital to obtain a net profit. Sourced in Bank Indonesia Circular Message No. 6/ 23/ DPNP on May 31, 2004, ROE can be calculated using the following formula:

Based on the theory of trading between liquidity and profitability, Arthesa said that on the one hand the bank must protect its liquidity **Comment [A2]:** There are several hypotheses testing in this research, please elaborate the reason of using those variables in hypotheses testing (give example from previous researchers)

Comment [A3]: How come NPL and liquidity risk correlate? As we all know NPL represent risk in long term while liquidity will affect firm in short term, please give more explanation on this matter level, but on the other hand banks must also seek profit and profitability not only to keep the business at the bank profitability also means for investors in obtaining dividends related to their investments. To protect its liquidity the bank charges its capital to protect liquidity reserves to reduce the occurrence of liquidity effects. A previous study of the effect of ROE on liquidity effects was attempted by Iqbal in 2012, which showed a positive relationship between ROE and the liquidity effect. The study was supported by studies that Bani and Yaya tried in 2016, Roman and Sargu, as well as Akhtar, Ali and Sadaqat in 2011.

H3: ROE positively affects liquidity risk

Effect of Size on Liquidity Risk

The size of the banking is a scale, which can be classified as small in size yes the banking for total assets, log size, and stock market value. For Bani and Yaya, the bank's 2016 calculation of the size of the bank's total assets, which is due to the comparison of each bank's assets that have such a large difference, so as to cause such an extreme difference in value. Sourced on The Subject until size can be calculated by using the following formula:

Bank Size= Ln (Total Assets)

Based on the theory of economies of scale, which is a relative increase in output resulting from the accumulation of commensurately from all inputs. Something banks reach economies of scale when they are able to create more output with a relatively smaller proportion of pay increases. Kusuma (2005) towered if the industry with large assets tends to be more profitable than with small industries, so that the bank will tend to wear its assets to obtain a large profit, so as to make the need to fulfill its liquidity by wearing liquid assets to be low that gives rise to the effect of liquidity on the bank continues to be large. Previous studies by Azhary and Muharam, Effendi and Disman, Bani and Yaya, Rahman and Banna, Abdullah and Khan, and Anam et al, resulted in a negative relationship between Size and the liquidity effect. because if a bank has a size that continues to be large, until the bank has a lot of assets, so that banks do not have to worry about the burden that is about to mature.

H4: Size(dimension of the bank) negatively affects liquidity risk

Based on the relationship of NPL, ROA, ROE and Size variables and theories related to variables, the theoretical frame of thought can be drawn as follows:



8

Source : Effendi and Disman (2017), Azhary and Muharam (2017), Bani and Yaya (2016), Sukmana and Suryaningtyas (2016), Ghenimi and Omri (2015), Rahman and Banna (2015), Roman and Sargu (2014), Muharam and Kurnia (2013), Abdullah and Khan (2012), Anam et all (2012), Iqbal (2016), Akhtar, Ali, and Sadaqat (2011)

RESEARCH METHODS Research Variables

This study put on 2 types of variables, namely dependent variables and independent variables. The dependent variable used is the liquidity effect as measured by wearing the LTA ratio. In contrast, the independent variables used in the study consisted of NPL, ROA, ROE and Firm Size.

Population

The population in this study consists of all banking industries, both state-owned banks and national private public banks in Indonesia registered with Bank Indonesia from 2016 to 2020.

Sample

The samples used in this research were selected using purposive sampling procedures. Illustration retrieval method with purposive sampling procedure is an illustration retrieval method that is tried because it is sourced on the criteria that have been determined by researchers. After trying to select illustrations sourced on the criteria, 40 conventional banks that were listed on IDX from 2016 to 2020 passed the criteria.

Analysis Methods

The data in this study comes from secondary data sourced from Bloomberg as well as the annual report of each banking illustration in question obtained from the IDX website.

The analysis method used in this study is multiple linear regression, which is tested to pass classical assumptions with tests of normality, multicolonierity, autocorrelation and heteroskedastisity. In this study, multiple regression equations are used as follows:

 $Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5$ + e

Where, Y = dependent variable (liquidity risk), = constant, = multiple linear regression coefficient, = Non Performing Loan (NPL), = Return On Asset (ROA), =Return On Equity (ROE), = Firm Size (Bank Size), Error

RESULTS OF RESEARCH AND DISCUSSION Descriptive Statistical Analysis

Descriptive statistical analysis can be used as a basis in describing and describing a data from illustrations sourced on mean values, standard deviations, variants, maximum values, minimum values. Based on data obtained from Bloomberg and the annual report of each banking illustration in question obtained from the IDX website from 2016 to 2019. Until the results of the analysis for each variable LTA, NPL, ROA, ROE and size in conventional banks registered in IDX in 2016 to 2020 are as follows:

Table 1 Descriptive Statistical Analysis Descriptive Statistics

	Ν	Minimum	Maximum	Mean	Std. Deviation
LTA (%)	160	6,35	37,50	15,4557	5,76066
NPL (%)	160	,03	14,76	3,6875	3,54667
ROA (%)	160	-9,72	16,10	1,2434	2,49750
ROE (%)	160	-75,66	22,45	4,6557	15,42339
SIZE (Rupiah)	160	2.365.227.887	2.235.335.548.18 9	247.665.468.32 9	245.482.675.67 5
Valid N (listwise)	160				

Source: Secondary data processed by SPSS 24

Sourced in table 1 shows the number of observations on conventional banks registered with IDX in this study as many as 160 data illustrations. Not only that, the table also showed variables analyzed in the study consisting of LTA, NPL, ROA, ROE and size. In table 1 dependent variable in this research is LTA has an average value of 15. 4557% with a standard deviation value of 5.76066. LTA has a minimum value of 6.35% from the Central Java Regional Development Bank in 2017. On the contrary, the maximum value is 37.50% at Bank Central Asia Tbk in 2016.

Table 2 Determination Coefficient Test Results Model Summaryb Descriptive Statistics

	Ν	Minimum	Maximum	Mean	Std. Deviation
LTA (%)	160	6,35	37,50	15,4557	5,76066
NPL (%)	160	,03	14,76	3,6875	3,54667
ROA (%)	160	-9,72	16,10	1,2434	2,49750
ROE (%)	160	-75,66	22,45	4,6557	15,42339
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Valid N (listwise)	160				

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Table 3
Determination Coefficient Test Results
Model Summaryb
Model Summary ^b

			5	
Model	R	R Square	e Adjusted R Std. Erro	
			Square	the Estimate
1	,346ª	,187	,236	,24335

a. Predictors: (Constant), SIZE, ROE, NPL, ROA

b. Dependent Variable: LTA

Based on the results of the determination coefficient test (R^2) in table 2 indicates if the value of the adjusted coefficient of determination (Adjusted R Square) is 0.236. The subject indicates that

the ability of LTA dependent variables can be presented by independent variables NPL, ROA, ROE and SIZE of 23.6% and the remaining 76.4% influenced by other aspects.

Table 4
F Statistical Test Results
ANOVAa
ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	,376	4	,087	6,254	,003 ^b
1	Residual	2,645	169	,018		
	Total	3,113	174			

a. Dependent Variable: LTA

b. Predictors: (Constant), SIZE, ROE, NPL, ROA

Source : Secondary data processed by SPSS 24

Based on the results of Statistical Test F (Test of overall significance of illustration regression) in table 3 obtained a calculated value of F of 6, 254 with a significance value of 0.003. The significance value smaller than 0.05 indicates if the model used in this study is feasible for use,

and that LTA dependent variables can be displayed by independent VARIABLES NPL, ROA, ROE, and SIZE. Based on the comparison of the calculated F and F values of the table, the table F value is 3.76. The calculated F is greater than the

table F, so it can be inferred if simultaneously all independent variables affect dependent variables

Table 5

Statistical Test Result t (Individual parameter significance test) Coefficientsa							
Model		Unstandardize	coefficients ^a	Standardized Coefficients	t	Sig.	
		В	Std. Error	Beta			
	(Constant)	1,222	,206		5,547	,000	
	NPL	-,085	,061	-,180	-1,265	,337	
1	ROA	,047	,016	,369	3,482	,022	
	ROE	,006	,001	,360	5,536	,001	
	SIZE	-3,122	4,659	-,067	-,657	,366	

a. Dependent Variable: LTA

Source: Secondary data processed by SPSS 24

Based on the test results of statistical test results t(individual parameter significance test) in table 4. 7, until you can get multiple linear regression equations as follows:

LTA (t-1) = 1.222- 0.085 NPL + 0.047 ROA + 0.006 ROE - 3.122 SIZE

Discussion of Research Results

The results of the study on early hypothesis testing obtained results if NPL negatively influenced not signfikan to the effect of liquidity projected with the ratio of LTA. The result is based on the coefficient direction of the NEGATIVE VALUE NPL with values t- 1, 265 and significance values of 0.337. Because the value of significance is greater than 0.05 until the early hypothesis (H1) which tells if NPL negatively affects the effect of liquidity is rejected. In 2016, the npls were negatively linked to liquidity. The large NPL ratio shows the magnitude of bad loans and eventually causes losses on the part of banks. Iqbal also said that the large NPL ratio of conventional banks was due to careless lending applications and that it was a factor in liquidity cases. Bank Indonesia has set the maximum npl ratio through Bank Indonesia Regulation (PBI) of

5%. The average value of NPL (Non Performing Loan) in the illustration of the bank used is 2.7867%. The results showed banks could reduce the NPL ratio below 5% to cause substantial profitability, as banks look to save money to form non-performing loans and PPAP.

The results of the study on the second hypothesis, obtained results if ROA positively influenced and signfikan to the effect of liquidity projected with the ratio of LTA. The result is based on the direction of positive regression coefficient with values t 3, 482 and significance values of 0.022. Because the significance value is smaller than 0.05 until the second hypothesis (H2) which tells if ROA positively affects the effect of liquidity is accepted. Sourced on theory trade of between liquidity and profitability, if a bank wants to Strengthen its liquidity position is tried by means of increasing reserves in cash by imposing assets owned by your bank to raise some of the idle funds, thus lowering the profitability of the bank. Conversely, if the bank wants to strengthen its profitability until the bank has to risk liquidity, because cash reserves derived from the consumption of bank assets are used for liquidity needs to be used by banks for

other interests that can increase profitability in the bank so as to increase liquidity in the bank to decrease and cause cases of liquidity effects. The results of the study were unchanged, compared with studies tried by Azhary and Muharam in 2017, Effendi and Disman, Rahman and Banna, Muharam and Kurnia, Anam et al. in 2016, Iqbal, and 2016.

The results of the study on the third hypothesis, obtained results if ROE influenced positive and signfikan to the effect of liquidity projected with the ratio of LTA. The results are based on the results of multiple regression analysis showing if the coefficient of positive regression with values t 5, 536 and significance values of 0.01. Because the value of significance is smaller than 0.05 to the third hypothesis (H3) which tells if ROE positively affects the effect of liquidity is accepted. Referring to theory trade of between liquidity and profitability, Arthesa said that on the one hand the bank must protect its liquidity level, but on the other hand banks must also seek profit and profitability not only to keep the business at the bank profitability also means for investors in obtaining dividends related to their investments. To protect its liquidity the bank charges its capital to protect liquidity reserves to reduce the occurrence of liquidity effects. The results of the study were unchanged, compared with studies tried by Ghenimi and Omri in 2015, Rahman and Banna, Roman and Sargu, and Seta Iqbal in 2016. Iqbal, who has a strong roe ratio, said the large ROE ratio shows that the return on investment from shareholders is more lightning. when banks have a larger ROE they have a large income that can be used to support short-term liabilities and banks want to have fewer cases or risky conditions.

The results of the research on the fifth hypothesis, obtained results if the size of the bank affects negatively and does not signfikan against the effect of liquidity projected with the ratio of LTA. The results are based on the direction of the firm size, which is negative with a value of t- 0, 657 and a significance value of 0.366. Because the value of significance is greater

than 0.05 to the 5th hypothesis, which reports that the size of the bank affects negatively against liquidity risk is rejected. The size does not affect liquidity risk due to conventional banks, competition in the banking market continues to be strong, because the rise of sharia banking is therefore a race to acquire customers. Bani and Yaya, 2016, said the issue led to conventional banks increasing their assets and improving their business so that customers were comfortable with the services provided. And the small amount of total assets owned by a bank so as not to cause liquidity effects on the bank. The study was in line with studies attempted by Azhary and Muharam, Effendi and Disman, Bani and Yaya, Rahman and Banna in 2015, Ghenimi and Omri, as well as Akhtar, Ali and Sadaqat, who said the size of the bank had no effect on liquidity effects. The results showed that the minimum value of size measured by total assets was 2. 365. 227. 887 and the maximum value is 2. 235. 335. 548. 189. The comparison between the minimum value and the maximum is quite large showing that the small amount of total relics owned by a bank does not want to cause the formation of liquidity risk in the bank.

Conclusion

The results of this research show that there are some aspects that influence liquidity as measured by using LTA variables. Of the 5 aspects studied consisting of NPL, ROA, ROE and Firm Size. From the results of the study it was proven that roa and ROE variables have a positive and significant influence on the effect of liquidity. In contrast, other variables consisting of NPL and Firm Size do not affect the liquidity effect. On the contrary, other variables consisting of NPL and Firm Size do not affect liquidity risk.

This research has limitations that the beginning is the results of the determination coefficient test shows the value of Adjusted R Square only 0.236. This means that if only 23. 6% of dependent variables can be displayed by independent variables. The opposite of the remaining 76.4% was exposed by other variables

beyond the variables used in this study. Not only that this study also has limitations The study is only focused on conventional banks, so it has not been able to compare the liquidity effect with variables used in sharia banks and banks that conduct mergers.

Based on the results of this research, there are some initial recommendations for banks that banks must be more selective in sharing credit periods and keeping a close eye on the condition of prospective credit recipients. Not only that, it is expected that the bank is able to manage productive assets that can increase the source of liquidity in the bank. And banks are also obliged to manage their income such as accumulated capital from investors so that more liquid relics are available, so as to minimize liquidity risk. Not only recommendations for banks, there are some recommendations that can be considered for future research.

For the next research can classify the illustration of the banking to be used, a kind of sourced at the small dimension of the bank, so that better results can be obtained. Not only that, the next research can equate 2 types of banks more specifically to recognize how liquidity risk comparison in banks, for example the comparison between conventional bank liquidity risk with sharia banks such as research tried by Efendi and Disman (2017), Sukmana and Suryaningtyas (2016), and Muharam and Kurnia (2013). And the next research could raise independent variables that support liquidity effects, such as NIM, NWC, GDP growth, and inflation levels as tried by Ghenimi and Omri, Rahman and Banna, as well as Anam et al. in 2012.

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ANALYSIS OF THE EFFECT OF NON PERFORMING LOANS (NPL), RETURN ON ASSETS (ROA), RETURN ON EQUITY (ROE) AND SIZE (BANK SIZE) ON BANKING LIQUIDITY RISK

(Case Study on Conventional Banks Registered in IDX period 2016 - 2020)

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Article	Abstract				
Information	AUSUAL				
	Banks play a major role in the country's economy. Banks play an important role in both public and private lending. The role of the bank as an intermediary. Useful for the bank as an intermediary between the parties to satisfy the parties in need. This study focuses on areas that affect a bank's				
History of article:	liquidity risk. The purpose of this study is to analyze non-performing loans, ROA, ROE, and size				
Accepted	securities for liquidity risk of banks listed on the IDX between 2016 and 2020.				
Approved Published	The sample used in the survey of all banks, both state-owned and national private banks, will be recognized by BI from 2016 to 2020. The targeted sampling method is used from criteria obtained				
Konwords	from 40 banks. The analytical method used in this study is linear regression which was tested with				
Non-Performing Credit	classical assumptions including normality, multicollinearity, autocorrelation, and heteroscedasticity.				
(NPL), ROA, ROE, Size	The results showed that the ROA and ROE variables had a positive and significant effect on				
(Bank Size), liquidity	liquidity risk. The NPL and medium size variables have a negative effect on liquidity risk.				
risk.					

Indonesian Title (Capitalize Each Words)

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Kata Kunci: NPL, ROA, ROE, Size, risiko likuiditas. Abstrak

Dalam perekonomian suatu negara, perbankan punya andil yang besar. Perbankan memainkan peran penting. Fungsi perbankan sebagai intermediary, dimana bank berfungsi sebagai perantara antara pihak berkecukupan dengan membutuhkan. Penelitian ini difokuskan pada area yang berpengaruh terhadap risiko likuiditas pada bank. Tujuan dari penelitian ini tidak lain untuk menganalisis efek NPL, ROA, ROE dan Size terhadap risiko likuiditas pada bank-bank yang listing di BEI periode 2016-2020.

Sampel yang digunakan dalam penelitian adalah seluruh bank, baik Bank BUMN maupun Swasta Nasional di Indonesia yang diakui di BI dari tahun 2016 hingga 2020. Dari kriteria yang diperoleh 40 bank, metode yang digunakan adalah purposive sampling. Metode analisis yang digunakan dalam penelitian ini adalah regresi linier yang diuji melalui asumsi klasik dengan normalitas, multikolinearitas, autokorelasi dan heteroskedastisitas.

Hasil penelitian menunjukkan bahwa variabel roa dan ROE berpengaruh baik dan signifikan terhadap risiko likuiditas. Variabel sedang NPL dan Size berpengaruh negatif dan tidak signifikan terhadap risiko likuiditas.

INTRODUCTION

Banks have an important role and position in the country's economy. Roman and Sargu, 2016, stated that the banking zone occupies an important position in funding public or private zones. For Budi Santoso and Nuritomo, banks, as financial intermediaries, have generally aimed to raise funds from citizens and return them to citizens for a variety of purposes. They say banks can specifically act as trustees, development and service agents.

Universal Liquidity is a bank's expertise in funding legacy surges and handling debt when it expires, without incurring unexpected losses from the bank. Banking is the collection, withdrawal, and other banking of funds that are highly susceptible to various risks. Effendi and Thisman said liquidity risk is one of the most important risks facing banks. This is because if a bank gets caught in a liquidity bottleneck, it cannot do business, and if this is always guaranteed, it threatens bankruptcy.

Previous studies on variables affecting liquidity risk have been attempted by some researchers, but there is still a comparison of the findings. According to a 2017 Effendi and Disman survey, non-performing loans have a significant positive impact on liquidity risk. However, in contrast to the 2017 Azhary and Muharam survey, the npl results are detrimental. A 2016 study by Sukmana and Suryaningtyas created a positive and significant link between ROA and liquidity risk. However, unlike what Bani and Yaya did in 2016, a significant negative link is created between ROA and liquidity risk. A previous study of the impact of ROE on liquidity risk was conducted by Jobal in 2012 and showed a positive link between ROE and liquidity risk. However, according to a 2012 Muharram and Krnia survey, ROE is negatively impacting traditional bank liquidity levels. In a 2012 study by Iqbal, he created a significant and positive link between size and liquidity risk. In contrast, a 2016 study of Bani and Yaya found that there was no relationship between liquidity risk and size. Profitability has conditions that are not much different, some research results such as Nishanthi (2015) and Nugrahaeni (2014) show that a company's liquidity risk will always be related to profitability.

Similarly, the ability of a bank in managing loans provided has a strong correlation to its liquidity performance in accordance with the findings of lqbal (2016), Rahman (2016) and Roman (2014). The research revealed that non-perferming loans (NPLs) have a significant impact on a bank's liquidity performance. Liquidity management capabilities of a bank also has a correlation with the size of the bank itself, as the results of research Sukmana, R., & Suryaningtyas, S. (2016), has confirmed the fact.

The purpose of this study is to identify the impact of npl, ROA, ROE, and size on the liquidity risk of traditional banks listed on the Indonesia Impact Exchange between 2016 and 2019.

LITERATURE REVIEW

According to Law Number 10 of 1998 concerning Banking, a bank is an "organization that collects funds from citizens in the form of savings and distributes funds to residents in the form of loans and in other forms to improve their standard of living". Budi Santoso and Nuritomo. the function of the bank is to "collect public funds and lend them to citizens for various purposes or as intermediaries in the financial sector."

Universal liquidity is a knowledge filled bank. Short-term requirements, banks must be able to complete withdrawals of savings, checking accounts, time deposits, bank obligations and loan maturities without delay. Activities in the banking world are trial-and-error commercial transactions that are exposed to various risks. From Bank Indonesia Regulation No. 5/8/PB/2003, risk is the ability to execute a desired company that causes losses on the bank. Pandia (2012) states that liquidity risk is the fulfillment of requests for withdrawal of savers or distribution of debt to prospective debtors, and the fulfillment is not fast due to the failure of banks to fulfill their obligations.

The risk caused by liquidity risk can be measured using the ratio of funds liquidity to total assets (LTA). Sukmana and Suryaningtyas (2016) stated that LTA is the ratio used to calculate the number of liquid relics from the number of relics owned by banks that can convert the relics. Bank Indonesia Regulation No. 13/24/DPNP/2011 concerning Universal Bank Integrity Assessment is a guideline in determining LTA. Two aspects of the Universal Bank's regulatory assessment of health are based on primary and secondary liquid inheritance. Major liquidity legacy. Usually used to meet bank liquidity needs in the form of third party funds (DPK) and also has a time limit for paying debts to banks. Sukmana and Suryanintias said that in 2016 the high LTA ratio showed that the assets converted into cash were also large and the bank was also liquid.

Effect of Non Performing Loan (NPL) on Liquidity Risk

Non-performing loans, are allocations calculated using a method that offsets all nonperforming loans and all bank loans. Based on Bank Indonesia Circular No. 13/30 / DPNP dated 16 December 2011, non-performing loans can be searched using the following methods.:

NPL = <u>Non performance Loan</u> x 100% Total Credit

Based on the expected return theory, banks lend to sectors where banks profit at longer maturity interest rates. Long-term credit risk arises if the borrower does not pay the installments in time, the loan is not repaid, or the creditworthiness is low. If the loan default is large up to the installment payment of the loan received from the bank, the agenda is placed on the deferred agenda. Ordered loan installments are expected to be a source of bank liquidity, but we want to increase the liquidity risk of banks due to the problem of borrowers not paying installments on time. A previous study attempted by Azhary and Muharam in 2017 found that NPL had a negative impact on both study models. In addition, a 2015 study by Ghenimi and Omri created a negative and significant impact on nonperforming loans on liquidity risk. In 2012, Iqbal said bad debts were having a negative impact and were concerned about liquidity risk. Therefore, for them, low non-performing loans are still what banks continue to pose great liquidity risk to banks.

H1: Non Performing Loans (NPL) negatively affect liquidity risk.

Effect of Return On Asset (ROA) on Liquidity Risk

ROA is a marker that illustrates the power of banks to earn a return on some of the assets owned by banks. Bank Indonesia Circular Letter Number 6/23/DPNP 31 May 2004, ROA can be calculated using the formula as below:

ROA =<u>Profit before tax</u> x 100% Total Asset

Arthesa said in 2006 that when a bank reached a "theoretical trade-off between liquidity and profitability" to strengthen its liquidity position, it would impose some of its assets on idle time. He said he would strengthen cash reserves and thereby reduce them. Bank profitability. Conversely, if a bank wants to increase its profitability until the bank endangers liquidity because the cash reserve from the consumption of bank assets is used for liquidity, the bank in turn increases the profitability of the bank. Must be used for other profits that can be used to get an increase or decrease in the liquidity of a bank and cause a case of liquidity effect. Previous studies were by Azhary and Muharam, Effendi and Disman, Rahman and Banna, Roman and Sargu, 2014, Muharam and Kurnia, Anam et al. 2012 Igbal and Akhtar, Ali and Sadaqat achieved results when ROA had a positive and significant impact on the liquidity effect.

H2: ROA positively affects liquidity risk.

Effect of Return On Equity (ROE) on Liquidity Risk

ROE is a marker of banking expertise in managing existing capital to obtain a net profit. Sourced in Bank Indonesia Circular Message No. 6/ 23/ DPNP on May 31, 2004, ROE can be calculated using the following formula:

ROE =<u>Profit after tax</u> x 100% Total Capital

Based on the liquidity and profitability trading theory, Arthesa states that banks need to protect their liquidity levels while pursuing profitability and profitability as well as maintaining their business. I did. Profitability with banks also means for investors the dividends associated with their investment. Banks charge capital to protect their liquidity reserves, to ensure liquidity and to reduce the occurrence of liquidity effects. An early study of the effects of ROE on liquidity effects was attempted by Iqbal in 2012 and showed a positive relationship between ROE and liquidity effects. This study was supported by studies attempted by Bani and Yaya in 2016, Roman and Sargu, as well as Akhtar, Ali and Sadaqat in 2011. H3: ROE positively affects liquidity risk

Effect of Size on Liquidity Risk

Banking size is a scale that can be categorized as small, yes banking in terms of total assets, log size, and market value. In the case of Bani and Yaya, in 2016 the bank calculated the size of the bank's total assets. This is because the assets of each bank are so different that there is an extreme difference in value. For the subject, until you can calculate the size using the following formula:

Bank Size= Ln (Total Assets)

It is based on the theory of economies of scale. This is a relative increase in output as a result of accumulating all inputs accordingly. What does a bank achieve economies of scale when it can produce more production at a relatively small rate of wage increase? Kusuma (2005) found that banks with large assets tend to be more profitable than industries with small assets, so banks waste illiquid assets to satisfy their liquidity and make great profits. The impact of liquidity on banks remains significant as it tends to rise. Previous studies by Azhary and Muharam, Effendi and Disman, Bani and Yaya, Rahman and Banna, Abdullah and Khan, and Anam et al. There was a negative correlation between size and liquidity effect. Because banks are large and will continue to grow until they have more assets, banks do not have to worry about the burden of maturing soon.

H4: Size(dimension of the bank) negatively affects liquidity risk

Variables Based on NPL, ROA, ROE, and the relationship between size and theory and variables, the theoretical framework can be drawn as follows:



Source : Effendi and Disman (2017), Azhary and Muharam (2017), Bani and Yaya (2016), Sukmana and Suryaningtyas (2016), Ghenimi and Omri (2015), Rahman and Banna (2015), Roman and Sargu (2014), Muharam and Kurnia (2013), Abdullah and Khan (2012), Anam et all (2012), Iqbal (2016), Akhtar, Ali, and Sadaqat (2011)

RESEARCH METHODS Research Variables

In this study, we used two types of variables, the dependent variable and the independent variable. The liquidity effect measured against the LTA rate is used as the dependent variable. In contrast, the independent variables used in this study consisted of nonperforming loans, ROA, ROE, and company size.

Population

The population of this survey includes all banking sectors, both state banks and stateowned private banks, registered with Bank Indonesia from 2016 to 2020.

Sample

The samples used in this study were selected using a targeted sampling method. Illustration retrieval method with purposive sampling procedure is an illustration retrieval method that is tried because it is sourced on the criteria that have been determined by researchers. After trying to select illustrations sourced on the criteria, 40 conventional banks that were listed on IDX from 2016 to 2020 passed the criteria.

Analysis Methods

The data in this study comes from secondary data sourced from Bloomberg as well as the annual report of each banking illustration in question obtained from the IDX website.

The analysis method used in this study is multiple linear regression, which is tested to pass classical assumptions with tests of normality, multicolonierity, autocorrelation and heteroskedastisity. In this study, multiple regression equations are used as follows:

 $Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5$ + e

Where, Y = dependent variable (liquidity risk), = constant, = multiple linear regression coefficient, = Non Performing Loan (NPL), = Return On Asset (ROA), =Return On Equity (ROE), = Firm Size (Bank Size), Error

RESULTS OF RESEARCH AND DISCUSSION Descriptive Statistical Analysis
Descriptive statistical analysis can be used as the basis for describing and describing data from diagrams based on means, standard deviations, variants, maximums, and minimums. Obtained from the IDX website from 2016 to 2019, based on Bloomberg data and an annual report of images of each bank in question. The analysis results for each of the variables LTA, NPL, ROA, ROE and size of traditional banks registered with IDX from 2016 to 2020 are as follows:

Table 1
Descriptive Statistical Analysis
Descriptive Statistics

	Ν	Minimum	Maximum	Mean	Std. Deviation
LTA (%)	160	6,35	37,50	15,4557	5,76066
NPL (%)	160	,03	14,76	3,6875	3,54667
ROA (%)	160	-9,72	16,10	1,2434	2,49750
ROE (%)	160	-75,66	22,45	4,6557	15,42339
SIZE (Rupiah)	160	2.365.227.887	2.235.335.548.18 9	247.665.468.32 9	245.482.675.67 5
Valid N (listwise)	160				

Source: Secondary data processed by SPSS 24

Sourced in table 1 shows the number of observations on conventional banks registered with IDX in this study as many as 160 data illustrations. Not only that, the table also showed variables analyzed in the study consisting of LTA, NPL, ROA, ROE and size. In table 1 dependent variable in this research is LTA has an average value of 15. 4557% with a standard deviation value of 5.76066. LTA has a minimum value of 6.35% from the Central Java Regional Development Bank in 2017. On the contrary, the maximum value is 37.50% at Bank Central Asia Tbk in 2016.

Model Summaryb Descriptive Statistics									
	N Minimum Maximum Mean Std. Deviation								
LTA (%)	160	6,35	37,50	15,4557	5,76066				
NPL (%)	160	,03	14,76	3,6875	3,54667				
ROA (%)	160	-9,72	16,10	1,2434	2,49750				
ROE (%)	160	-75,66	22,45	4,6557	15,42339				
SIZE (Rupiah)	160	2.365.227.887	2.235.335.548.18 9	247.665.468.32 9	245.482.675.67 5				
Valid N (listwise)	160								

Table 2 **Determination Coefficient Test Results**

Source: Secondary data processed by SPSS 24

Sourced in table 1 shows the number of observations on conventional banks registered with IDX in this study as many as 160 data illustrations. Not only that, the table also showed variables analyzed in the study consisting of LTA, NPL, ROA, ROE and size. In table 1 dependent variable in this research is LTA has an average

value of 15. 4557% with a standard deviation value of 5.76066. LTA has a minimum value of 6.35% from the Central Java Regional Development Bank in 2017. On the contrary, the maximum value is 37.50% at Bank Central Asia Tbk in 2016.

Table 3 **Determination Coefficient Test Results Model Summaryb** Model Summary^b

Model	R	R Square	Adjusted R	Std. Error of
			Square	the Estimate
1	,346 ª	,187	,236	,24335

a. Predictors: (Constant), SIZE, ROE, NPL, ROA b. Dependent Variable: LTA

Based on the results of the determination coefficient test (R²) in table 2 indicates if the value of the adjusted coefficient of determination (Adjusted R Square) is 0.236. The subject indicates that the ability of LTA dependent variables can be presented by independent variables NPL, ROA, ROE and SIZE of 23.6% and the remaining 76.4% influenced by other aspects.

Table 4 F Statistical Test Results ANOVAa ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	,376	4	,087	6,254	,003 ^b
1	Residual	2,645	169	,018		
	Total	3,113	174			

a. Dependent Variable: LTA

b. Predictors: (Constant), SIZE, ROE, NPL, ROA

Source : Secondary data processed by SPSS 24

Based on the results of Statistical Test F (Test of overall significance of illustration regression) in table 3 obtained a calculated value of F of 6, 254 with a significance value of 0.003. The significance value smaller than 0.05 indicates if the model used in this study is feasible for use, and that LTA dependent variables can be

displayed by independent VARIABLES NPL, ROA, ROE, and SIZE. Based on the comparison of the calculated F and F values of the table, the table F value is 3.76. The calculated F is greater than the table F, so it can be inferred if simultaneously all independent variables affect dependent variables

Table 5
Statistical Test Result t (Individual parameter significance test)
Coefficientsa
Coefficients ^a

Model		Unstandardize	ed Coefficients	Standardized Coefficients	t	Sig.
		В	Std. Error	Beta		
	(Constant)	1,222	,206		5,547	,000
	NPL	-,085	,061	-,180	-1,265	,337
1	ROA	,047	,016	,369	3,482	,022
	ROE	,006	,001	,360	5,536	,001
	SIZE	-3,122	4,659	-,067	-,657	,366

a. Dependent Variable: LTA

Source: Secondary data processed by SPSS 24

Based on the test results of statistical test results t(individual parameter significance test) in table 4. 7, until you can get multiple linear regression equations as follows:

LTA (t-1) = 1.222- 0.085 NPL + 0.047 ROA + 0.006 ROE - 3.122 SIZE

Discussion of Research Results

The results of the study on early hypothesis testing obtained results if NPL negatively influenced not signifikan to the effect of liquidity projected with the ratio of LTA. The result is based on the coefficient direction of the NEGATIVE VALUE NPL with values t- 1, 265 and significance values of 0.337. Because the value of significance is greater than 0.05 until the early hypothesis (H1) which tells if NPL negatively affects the effect of liquidity is rejected. In 2016, the npls were negatively linked to liquidity. The large NPL ratio shows the magnitude of bad loans and eventually causes losses on the part of banks. Iqbal also said that the large NPL ratio of conventional banks was due to careless lending applications and that it was a factor in liquidity cases. Bank Indonesia has set the maximum npl ratio through Bank Indonesia Regulation (PBI) of 5%. The average value of NPL (Non Performing Loan) in the illustration of the bank used is 2.7867%. The results showed banks could reduce the NPL ratio below 5% to cause substantial profitability, as banks look to save money to form non-performing loans and PPAP.

The results of the study on the second hypothesis, obtained results if ROA positively influenced and signfikan to the effect of liquidity projected with the ratio of LTA. The result is based on the direction of positive regression coefficient with values t 3, 482 and significance values of 0.022. Because the significance value is smaller than 0.05 until the second hypothesis (H2) which tells if ROA positively affects the effect of liquidity is accepted. Sourced on theory trade of between liquidity and profitability, if a bank wants to Strengthen its liquidity position is tried by means of increasing reserves in cash by imposing assets owned by your bank to raise some of the idle funds, thus lowering the profitability of the bank. Conversely, if the bank wants to strengthen its profitability until the bank has to risk liquidity, because cash reserves derived from the consumption of bank assets are used for liquidity needs to be used by banks for other interests that can increase profitability in the bank so as to increase liquidity in the bank to decrease and cause cases of liquidity effects. The results of the study were unchanged, compared with studies tried by Azhary and Muharam in 2017, Effendi and Disman, Rahman and Banna,

Muharam and Kurnia, Anam et al. in 2016, Iqbal, and 2016.

The results of the study on the third hypothesis, obtained results if ROE influenced positive and signfikan to the effect of liquidity projected with the ratio of LTA. The results are based on the results of multiple regression analysis showing if the coefficient of positive regression with values t 5, 536 and significance values of 0.01. Because the value of significance is smaller than 0.05 to the third hypothesis (H3) which tells if ROE positively affects the effect of liquidity is accepted. Referring to theory trade of between liquidity and profitability, Arthesa said that on the one hand the bank must protect its liquidity level, but on the other hand banks must also seek profit and profitability not only to keep the business at the bank profitability also means for investors in obtaining dividends related to their investments. To protect its liquidity the bank charges its capital to protect liquidity reserves to reduce the occurrence of liquidity effects. The results of the study were unchanged, compared with studies tried by Ghenimi and Omri in 2015, Rahman and Banna, Roman and Sargu, and Seta Iqbal in 2016. Iqbal, who has a strong roe ratio, said the large ROE ratio shows that the return on investment from shareholders is more lightning. when banks have a larger ROE they have a large income that can be used to support short-term liabilities and banks want to have fewer cases or risky conditions.

The results of the research on the fifth hypothesis, obtained results if the size of the bank affects negatively and does not signfikan against the effect of liquidity projected with the ratio of LTA. The results are based on the direction of the firm size, which is negative with a value of t- 0, 657 and a significance value of 0.366. Because the value of significance is greater than 0.05 to the 5th hypothesis, which reports that the size of the bank affects negatively against liquidity risk is rejected. The size does not affect liquidity risk due to conventional banks, competition in the banking market continues to be strong, because the rise of sharia banking is therefore a race to acquire customers. Bani and Yaya, 2016, said the issue led to conventional banks increasing their assets and improving their business so that customers were comfortable with the services provided. And the small amount of total assets owned by a bank so as not to cause liquidity effects on the bank. The study was in line with studies attempted by Azhary and Muharam, Effendi and Disman, Bani and Yaya, Rahman and Banna in 2015, Ghenimi and Omri, as well as Akhtar, Ali and Sadaqat, who said the size of the bank had no effect on liquidity effects. The results showed that the minimum value of size measured by total assets was 2, 365, 227. 887 and the maximum value is 2. 235. 335. 548. 189. The comparison between the minimum value and the maximum is quite large showing that the small amount of total relics owned by a bank does not want to cause the formation of liquidity risk in the bank.

Conclusion

The results of this research show that there are some aspects that influence liquidity as measured by using LTA variables. Of the 5 aspects studied consisting of NPL, ROA, ROE and Firm Size. From the results of the study it was proven that roa and ROE variables have a positive and significant influence on the effect of liquidity. In contrast, other variables consisting of NPL and Firm Size do not affect the liquidity effect. On the contrary, other variables consisting of NPL and Firm Size do not affect liquidity risk.

This research has limitations that the beginning is the results of the determination coefficient test shows the value of Adjusted R Square only 0.236. This means that if only 23.6% of dependent variables can be displayed by independent variables. The opposite of the remaining 76.4% was exposed by other variables beyond the variables used in this study. Not only that this study also has limitations The study is only focused on conventional banks, so it has not been able to compare the liquidity effect with variables used in sharia banks and banks that conduct mergers.

Based on the results of this research, there are some initial recommendations for banks that banks must be more selective in sharing credit periods and keeping a close eye on the condition of prospective credit recipients. Not only that, it is expected that the bank is able to manage productive assets that can increase the source of liquidity in the bank. And banks are also obliged to manage their income such as accumulated capital from investors so that more liquid relics are available, so as to minimize liquidity risk. Not only recommendations for banks, there are some recommendations that can be considered for future research.

For the next research can classify the illustration of the banking to be used, a kind of sourced at the small dimension of the bank, so that better results can be obtained. Not only that, the next research can equate 2 types of banks more specifically to recognize how liquidity risk comparison in banks, for example the comparison between conventional bank liquidity risk with sharia banks such as research tried by Efendi and Disman (2017), Sukmana and Suryaningtyas (2016), and Muharam and Kurnia (2013). And the next research could raise independent variables that support liquidity effects, such as NIM, NWC, GDP growth, and inflation levels as tried by Ghenimi and Omri, Rahman and Banna, as well as Anam et al. in 2012.

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PLANNING REVIEW ARTICLES

Tittle	ANALYSIS OF THE EFFECT OF NON PERFORMING
	ON EQUITY (ROE) AND SIZE (BANK SIZE) ON
	BANKING LIQUIDITY RISK

REVIEW ARTICLES

Please give examination on each of the section on table below

General Comments	The author need to elaborate more regarding the novelty of the paper since priors research with same topic already abundant.
Abstract	
Introduction	
Method	
Result & Discussion	Instead of focus on the analysis, the author only re-read the number that already in the table.

Conclusion & Recommendation	
References	The richness of references seems lacking

ASSESTMENT SUMMARY (please check the boxes)

ASSESSMENT INDICATORS	Very Good	Good	Fair	Poor
Originality			\boxtimes	
Scholarly			\boxtimes	
Technical Quality			\boxtimes	
Appearance		\boxtimes		
Depth of the Research			\boxtimes	

ASSESTMENT SUMMARY

Reviewer Recommendation

- □ Accepted with minor revisions
- □ Accepted with major revisions
- □ Suggested to sent it to other journals such as:
- \boxtimes Rejected with the reason: lack of novely

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risiko likuiditas.

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ANALYSIS OF THE EFFECT OF NON PERFORMING LOANS (NPL), RETURN ON ASSETS (ROA), RETURN ON EQUITY (ROE) AND SIZE (BANK SIZE) ON **BANKING LIQUIDITY RISK**

(Case Study on Conventional Banks Registered in IDX period 2016 - 2020)

Article Information	Abstract
History of article:	In the economy of a country, banking has a big part to do. Banking plays an important role in lending in public and private areas. The function of banking as an intermediary, which the bank is useful as an intermediary between the parties who are sufficient to those in need. This research is focused on areas that have an effect on liquidity risk in banks. The purpose of this research is nothing but to analyze
Accepted Approved	the securities of NPL, ROA, ROE and Size to liquidity risk in banks listing in IDX for the period 2016-2020.
Published	The samples used in the research of all banks, both state-owned (SOE) and National Private Banks in Indonesia are recognized in BI from 2016 to 2020. From the criteria obtained by 40 banks, the
Keywords: Non-Performing Credit (NPL), ROA, ROE, Size	method used is purposive sampling. The method of analysis used in this research is linear regression, which is tested through classical assumptions with normality, multicollinearity, autocorrelation and heteroscedasticity.
(Bank Size), liquidity risk.	The results showed that roa and ROE variables have a good and significant effect on liquidity risk. Medium variable NPL and Size have an adverse and insignificant effect on liquidity risk.

Indonesian Title (Capitalize Each Words)

	Abstrak
History of article:	
Accepted	Dalam perekonomian suatu negara, perbankan punya andil yang besar. Perbankan memainkan
Approved	peran penting. Fungsi perbankan sebagai intermediary, dimana bank berfungsi sebagai perantara antara
Published	pihak berkecukupan dengan membutuhkan. Penelitian ini difokuskan pada area yang berpengaruh
	terhadap risiko likuiditas pada bank. Tujuan dari penelitian ini tidak lain untuk menganalisis efek NPL,
	ROA, ROE dan Size terhadap risiko likuiditas pada bank-bank yang listing di BEI periode 2016-2020.
	Sampel yang digunakan dalam penelitian adalah seluruh bank, baik Bank BUMN maupun
Kata Kunci:	Swasta Nasional di Indonesia yang diakui di BI dari tahun 2016 hingga 2020. Dari kriteria yang
NPL, ROA, ROE, Size,	diperoleh 40 hank metode yang digunakan adalah purposiye sampling Metode analisis yang

BUMN maupun Dari kriteria yang diperoleh 40 bank, metode yang digunakan adalah purposive sampling. Metode analisis yang digunakan dalam penelitian ini adalah regresi linier yang diuji melalui asumsi klasik dengan normalitas, multikolinearitas, autokorelasi dan heteroskedastisitas.

Hasil penelitian menunjukkan bahwa variabel roa dan ROE berpengaruh baik dan signifikan terhadap risiko likuiditas. Variabel sedang NPL dan Size berpengaruh negatif dan tidak signifikan terhadap risiko likuiditas.

INTRODUCTION

Banks have a meaningful role and position in the economy of a country. Roman and sargu, 2016, said that the banking zone has a significant position in financing public or private zones. For Budisantoso and Nuritomo, the bank as a financial intermediary has universally been the main use of raising funds from citizens and channeling them back to citizens for various purposes. They say that more specifically the bank can play the role of trust agent, development agent, and service agent.

Universal liquidity is the bank's expertise to fund the increase in legacy and fulfill liabilities at maturity without incuring losses that can not be anticipated by the bank. Banking activities are collecting, disbursing funds and other banking services that are very vulnerable to various risks. Effendi and Disman said that of the many risks experienced by banks, liquidity risk is a very significant risk. Because when a bank is entwined with lack of liquidity, the bank cannot carry out its business activities and if this is always established, the bank will face bankruptcy.

Previous research related to variables that influence liquidity risk has been tried by some researchers, but there is still a comparison of the results of the research. Research attempted by Effendi and Disman in 2017 has resulted in npls having a positive and significant influence on liquidity risk. But unlike the research tried by Azhary and Muharam in 2017, the results of npl negatively affect. Research attempted by Sukmana and Suryaningtyas in 2016 created a positive and significant bond between ROA and liquidity risk. But unlike the research tried by Bani and Yaya in 2016, it creates a negative and significant bond between ROA and liquidity risk. Previous research on the effect of ROE on liquidity risk was tried by Iqbal in 2012, which showed a positive bond between ROE and liquidity risk. But research attempted by Muharam and Kurnia in 2012 reported that ROE negatively affects liquidity levels in conventional banking In research attempted by Iqbal in 2012, it creates a significant and positive bond between size and liquidity risk. In contrast, the research tried by Bani and Yaya in 2016 created that there is no bond between liquidity risk and size.

The purpose of this research is to recognize how npl, ROA, ROE, and Size influence on liquidity risk in conventional banks listed on the Indonesia Impact Exchange for the period 2016 to 2019.

LITERATURE REVIEW

Based on Law No. 10 of 1998 concerning banking, the Bank is "a business entity that collects funds from citizens in the form of deposits and distributes its funds to citizens in the form of credit and other forms in order to improve the standard of living of the people". For Budisantoso and Nuritomo, according to the Bank's function, "collecting public money and then lending it to citizens for various purposes or as intermediaries in the field of finance".

Universal liquidity is the bank's expertise in meeting short-term needs that have matured A bank is said to have the ability to meet withdrawals from savings, current accounts, time deposits, bank debt maturities, meet loans without any delays. Activities in the world of banking is a business transaction that is tried every day and makes it vulnerable to various risks. Sourced from Bank Indonesia regulation No. 5/ 8/ PB / 2003, the risk is the ability to form a company that wants to cause losses on the part of the bank. Pandia (2012) said that liquidity risk is a risk caused by the lack of immediate fulfillment by the bank to not be able to fulfill its responsibilities either to fulfill the request for withdrawal by the saver or distribute debt to prospective debtors.

Liquidity risk can be measured using the Ratio of Liquid Asset to Total Asset (LTA). Sukmana and Suryaningtyas (2016) pointed out that LTA is the ratio used to calculate the number of liquid relics from the total relics owned by banks where the relics can be converted. Bank Indonesia Regulation No. 13/ 24/ DPNP/ 2011 concerning evaluation of universal bank health levels is a guideline in determining LTA. Which in the regulation evaluation of the health level of universal banks consists of 2 aspects are sourced on the legacy of primary liquid and secondary liquid relics. Legacy of primary liquid, generally used to meet the liquidity needs of banks in the form of Third Party Funds (DPK) as well as obligations to banks that have matured. Sukmana and Suryaningtyas, 2016,

Comment [A1]: Nothing new in here. Can you show or mention the novelty of this research? said that the large LTA Ratio showed assets converted into cash were also large and showed good liquidity of banks.

Effect of Non Performing Loan (NPL) on Liquidity Risk

NPL or non-performing loans are ratios calculated using the method of equalizing all nonperforming loans compared to all loans distributed by banks. Based on Bank Indonesia Circular Number.13/ 30/ DPNP on December 16, 2011, NPL can be searched using the following methods:

$NPL = \frac{Non \text{ performance Loan}}{Total Credit} \ge 100\%$

Based on the anticipated revenue theory, banks allocate credit to sectors that benefit ybanks with longer maturity installment methods. The risk of long-term crediting arises if the borrower does not pay the installment on time then the credit has not been paid off or bad credit. If the bad credit is large until the payment of credit installments to be received by the bank is sourced on the agenda that has been set to be late. Orderly credit installments are expected to be a source of liquidity of banks but because of the problem of borrowers not paying installments in a timely manner, they want to raise liquidity risk to the bank. Previous research that Azhary and Muharam tried in 2017 that produced results that NPL negatively influenced both research models. Not only that, the research tried by Ghenimi and Omri in 2015 also created a negative and significant influence of NPL on the risk of liquidity. Iqbal, 2012, said that NPL had a negative influence and was concerned about liquidity risk. So for them continue to be low NPL something banks to continue to be a big liquidity risk of the bank.

H1: Non Performing Loans (NPL) negatively affect liquidity risk.

Effect of Return On Asset (ROA) on Liquidity Risk

ROA is a marker that illustrates the power of banks to earn a return on some of the assets owned by banks. Bank Indonesia Circular Letter Number 6/23/DPNP 31 May 2004, ROA can be calculated using the formula as below:

ROA =<u>Profit before tax</u> x 100% Total Asset

Arthesa, in 2006, said that if it comes to "theory trade off between liquidity and profitability," if a bank wants to strengthen its liquidity position it is trying to strengthen cash reserves by imposing assets owned by the bank to raise some of the idle funds, thus lowering profitability at the bank. Conversely, if the bank wants to strengthen its profitability until the bank has to risk liquidity, because cash reserves derived from the consumption of bank assets are used for liquidity needs to be used by banks for other interests that can increase profitability in the bank so as to increase liquidity in the bank to decrease and cause cases of liquidity effects. Previous studies have been attempted by Azhary and Muharam, Effendi and Disman, Rahman and Banna, Roman and Sargu, 2014, Muharam and Kurnia, Anam et al. in 2012, Iqbal, and Akhtar, Ali, and Sadaqat, who produced results if ROA had a good and significant impact on liquidity effects.

H2: ROA positively affects liquidity risk.

Effect of Return On Equity (ROE) on Liquidity Risk

ROE is a marker of banking expertise in managing existing capital to obtain a net profit. Sourced in Bank Indonesia Circular Message No. 6/23/ DPNP on May 31, 2004, ROE can be calculated using the following formula:

ROE =<u>Profit after tax</u> x 100% Total Capital

Based on the theory of trading between liquidity and profitability, Arthesa said that on the one hand the bank must protect its liquidity level, but on the other hand banks must also seek profit and profitability not only to keep the business at the bank profitability also means for investors in obtaining dividends related to their investments. To protect its liquidity the bank charges its capital to protect liquidity reserves to reduce the occurrence of liquidity effects. A previous study of the effect of ROE on liquidity effects was attempted by Iqbal in 2012, which showed a positive relationship between ROE and the liquidity effect. The study was supported by studies that Bani and Yaya tried in **Comment [A2]:** You cannot mention the variable measurement within hypothesis development section, because methodologically incorrect. You're supposed to focused on building the argument toward your proposed hypothesis.

Comment [A3]: Please elaborate the using of trade off theory that you mention with the statement of hypothesis : ROA possitively affect liqudity?

2016, Roman and Sargu, as well as Akhtar, Ali and Sadaqat in 2011. H3: ROE positively affects liquidity risk

Effect of Size on Liquidity Risk

The size of the banking is a scale, which can be classified as small in size yes the banking for total assets, log size, and stock market value. For Bani and Yaya, the bank's 2016 calculation of the size of the bank's total assets, which is due to the comparison of each bank's assets that have such a large difference, so as to cause such an extreme difference in value. Sourced on The Subject until size can be calculated by using the following formula:

Bank Size= Ln (Total Assets)

Based on the theory of economies of scale, which is a relative increase in output resulting from the accumulation of commensurately from all inputs. Something banks reach economies of scale when

they are able to create more output with a relatively smaller proportion of pay increases. Kusuma (2005) towered if the industry with large assets tends to be more profitable than with small industries, so that the bank will tend to wear its assets to obtain a large profit, so as to make the need to fulfill its liquidity by wearing liquid assets to be low that gives rise to the effect of liquidity on the bank continues to be large. Previous studies by Azhary and Muharam, Effendi and Disman, Bani and Yaya, Rahman and Banna, Abdullah and Khan, and Anam et al, resulted in a negative relationship between Size and the liquidity effect. because if a bank has a size that continues to be large, until the bank has a lot of assets, so that banks do not have to worry about the burden that is about to mature.

H4: Size(dimension of the bank) negatively affects liquidity risk

Based on the relationship of NPL, ROA, ROE and Size variables and theories related to variables, the theoretical frame of thought can be drawn as follows:



Source : Effendi and Disman (2017), Azhary and Muharam (2017), Bani and Yaya (2016), Sukmana and Suryaningtyas (2016), Ghenimi and Omri (2015), Rahman and Banna (2015), Roman and Sargu (2014), Muharam and Kurnia (2013), Abdullah and Khan (2012), Anam et all (2012), Iqbal (2016), Akhtar, Ali, and Sadaqat (2011)

RESEARCH METHODS Research Variables

This study put on 2 types of variables, namely dependent variables and independent

variables. The dependent variable used is the liquidity effect as measured by wearing the LTA ratio. In contrast, the independent variables used in

Comment [A4]: This is not the correct way of citing references

the study consisted of NPL, ROA, ROE and Firm Size.

Population

The population in this study consists of all banking industries, both state-owned banks and national private public banks in Indonesia registered with Bank Indonesia from 2016 to 2020.

Sample

The samples used in this research were selected using purposive sampling procedures. Illustration retrieval method with purposive sampling procedure is an illustration retrieval method that is tried because it is sourced on the criteria that have been determined by researchers. After trying to select illustrations sourced on the criteria, 40 conventional banks that were listed on IDX from 2016 to 2020 passed the criteria.

Analysis Methods

The data in this study comes from secondary data sourced from Bloomberg as well as the annual report of each banking illustration in question obtained from the IDX website.

The analysis method used in this study is multiple linear regression, which is tested to pass classical assumptions with tests of normality, multicolonierity, autocorrelation and heteroskedastisity. In this study, multiple regression equations are used as follows:

$$\begin{split} Y &= \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \\ \beta 5X5 + e \end{split}$$

Where, Y = dependent variable (liquidity risk), = constant, = multiple linear regression

coefficient, = Non Performing Loan (NPL), = Return On Asset (ROA), =Return On Equity (ROE), = Firm Size (Bank Size), Error

RESULTS OF RESEARCH AND DISCUSSION Descriptive Statistical Analysis

Descriptive statistical analysis can be used as a basis in describing and describing a data from illustrations sourced on mean values, standard deviations, variants, maximum values, minimum values. Based on data obtained from Bloomberg and the annual report of each banking illustration in question obtained from the IDX website from 2016 to 2019. Until the results of the analysis for each variable LTA, NPL, ROA, ROE and size in conventional banks registered in IDX in 2016 to 2020 are as follows:

Table 1

Descriptive Statistical Analysis Descriptive Statistics

	Ν	Minimum	Maximum	Mean	Std. Deviation
LTA (%)	160	6,35	37,50	15,4557	5,76066

NPL (%)	160	,03	14,76	3,6875	3,54667
ROA (%)	160	-9,72	16,10	1,2434	2,49750
ROE (%)	160	-75,66	22,45	4,6557	15,42339
SIZE (Rupiah)	160	2.365.227.887	2.235.335.548.189	247.665.468.329	245.482.675.675
Valid N	160				
(listwise)	100				

Source: Secondary data processed by SPSS 24

Sourced in table 1 shows the number of observations on conventional banks registered with IDX in this study as many as 160 data illustrations. Not only that, the table also showed variables analyzed in the study consisting of LTA, NPL, ROA, ROE and size.

In table 1 dependent variable in this research is LTA has an average value of 15. 4557% with a standard deviation value of 5.76066. LTA has a minimum value of 6.35% from the Central Java Regional Development Bank in 2017. On the contrary, the maximum value is 37.50% at Bank Central Asia Tbk in 2016.

Table 2Determination Coefficient Test ResultsModel SummarybDescriptive Statistics

	Ν	Minimum	Maximum	Mean	Std. Deviation
LTA (%)	160	6,35	37,50	15,4557	5,76066
NPL (%)	160	,03	14,76	3,6875	3,54667
ROA (%)	160	-9,72	16,10	1,2434	2,49750
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Table 3 Determination Coefficient Test Results Model Summaryb Model Summary^b

Model	R	R Square	Adjusted R	Std. Error of
			Square	the Estimate
1	,346 ^a	,187	,236	,24335

a. Predictors: (Constant), SIZE, ROE, NPL, ROA

b. Dependent Variable: LTA

Based on the results of the determination coefficient test (R^2) in table 2 indicates if the value of the adjusted coefficient of determination (Adjusted R Square) is 0.236. The subject indicates that the ability of LTA

dependent variables can be presented by independent variables NPL, ROA, ROE and SIZE of 23.6% and the remaining 76.4% influenced by other aspects.

Table 4
F Statistical Test Results
ANOVAa
ANOVA ^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	,376	4	,087	6,254	,003 ^b
1	Residual	2,645	169	,018		
	Total	3,113	174			

a. Dependent Variable: LTA

b. Predictors: (Constant), SIZE, ROE, NPL, ROA Source : Secondary data processed by SPSS 24

Based on the results of Statistical Test F (Test of overall significance of illustration regression) in table 3 obtained a calculated value of F of 6, 254 with a significance value of 0.003. The significance value smaller than 0.05 indicates if the model used in this study is feasible for use, and that LTA dependent variables can be displayed by

independent VARIABLES NPL, ROA, ROE, and SIZE. Based on the comparison of the calculated F and F values of the table, the table F value is 3.76. The calculated F is greater than the table F, so it can be inferred if simultaneously all independent variables affect dependent variables

 Table 5

 Statistical Test Result t (Individual parameter significance test)

 Coefficientsa

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
				Coefficients		
		В	Std. Error	Beta		
1	(Constant)	1,222	,206		5,547	,000
1	NPL	-,085	,061	-,180	-1,265	,337

ROA	,047	,016	,369	3,482	,022
ROE	,006	,001	,360	5,536	,001
SIZE	-3,122	4,659	-,067	-,657	,366

a. Dependent Variable: LTA

Source: Secondary data processed by SPSS 24

Based on the test results of statistical test results t(individual parameter significance test) in table 4. 7, until you can get multiple linear regression equations as follows:

LTA (t-1) = 1.222-0.085 NPL + 0.047 ROA + 0.006 ROE - 3.122 SIZE

Discussion of Research Results

The results of the study on early hypothesis testing obtained results if NPL negatively influenced not signfikan to the effect of liquidity projected with the ratio of LTA. The result is based on the coefficient direction of the NEGATIVE VALUE NPL with values t-1, 265 and significance values of 0.337. Because the value of significance is greater than 0.05 until the early hypothesis (H1) which tells if NPL negatively affects the effect of liquidity is rejected. In 2016, the npls were negatively linked to liquidity. The large NPL ratio shows the magnitude of bad loans and eventually causes losses on the part of banks. Iqbal also said that the large NPL ratio of conventional banks was due to careless lending applications and that it was a factor in liquidity cases. Bank Indonesia has set the maximum npl ratio through Bank Indonesia Regulation (PBI) of 5%. The average value of NPL (Non Performing Loan) in the illustration of the bank used is 2.7867%. The results showed banks could reduce the NPL ratio below 5% to cause substantial profitability, as banks look to save money to form non-performing loans and PPAP.

The results of the study on the second hypothesis, obtained results if ROA positively influenced and signfikan to the effect of liquidity projected with the ratio of LTA. The result is based on the direction of positive regression coefficient with values t 3, 482 and significance values of 0.022. Because the significance value is smaller than 0.05 until the second hypothesis (H2) which tells if

ROA positively affects the effect of liquidity is accepted. Sourced on theory trade of between liquidity and profitability, if a bank wants to Strengthen its liquidity position is tried by means of increasing reserves in cash by imposing assets owned by your bank to raise some of the idle funds, thus lowering the profitability of the bank. Conversely, if the bank wants to strengthen its profitability until the bank has to risk liquidity, because cash reserves derived from the consumption of bank assets are used for liquidity needs to be used by banks for other interests that can increase profitability in the bank so as to increase liquidity in the bank to decrease and cause cases of liquidity effects. The results of the study were unchanged, compared with studies tried by Azhary and Muharam in 2017, Effendi and Disman, Rahman and Banna, Muharam and Kurnia, Anam et al. in 2016, Iqbal, and 2016.

The results of the study on the third hypothesis, obtained results if ROE influenced positive and signfikan to the effect of liquidity projected with the ratio of LTA. The results are based on the results of multiple regression analysis showing if the coefficient of positive regression with values t 5, 536 and significance values of 0.01. Because the value of significance is smaller than 0.05 to the third hypothesis (H3) which tells if ROE positively affects the effect of liquidity is accepted. Referring to theory trade of between liquidity and profitability, Arthesa said that on the one hand the bank must protect its liquidity level, but on the other hand banks must also seek profit and profitability not only to keep the business at the bank profitability also means for investors in obtaining dividends related to their investments. To protect its liquidity the bank charges its capital to protect liquidity reserves to reduce the occurrence of liquidity effects. The results of the study were unchanged, compared with studies tried by Ghenimi and Omri in 2015, Rahman and Banna, Roman and Sargu, and Seta Iqbal in 2016. Iqbal, who has a strong roe ratio, said the large ROE ratio shows that the return on investment from shareholders is more lightning. when banks have a larger ROE they have a large income that can be used to support short-term liabilities and banks want to have fewer cases or risky conditions.

The results of the research on the fifth hypothesis, obtained results if the size of the bank affects negatively and does not signfikan against the effect of liquidity projected with the ratio of LTA. The results are based on the direction of the firm size, which is negative with a value of t- 0, 657 and a significance value of 0.366. Because the value of significance is greater than 0.05 to the 5th hypothesis, which reports that the size of the bank affects negatively against liquidity risk is rejected. The size does not affect liquidity risk due to conventional banks, competition in the banking market continues to be strong, because the rise of sharia banking is therefore a race to acquire customers. Bani and Yaya, 2016, said the issue led to conventional banks increasing their assets and improving their business so that customers were comfortable with the services provided. And the small amount of total assets owned by a bank so as not to cause liquidity effects on the bank. The study was in line with studies attempted by Azharv and Muharam, Effendi and Disman, Bani and Yaya, Rahman and Banna in 2015, Ghenimi and Omri, as well as Akhtar, Ali and Sadaqat, who said the size of the bank had no effect on liquidity effects. The results showed that the minimum value of size measured by total assets was 2. 365. 227. 887 and the maximum value is 2. 235. 335. 548. 189. The comparison between the minimum value and the maximum is quite large showing that the small amount of total relics owned by a bank does not want to cause the formation of liquidity risk in the bank.

Conclusion

The results of this research show that there are some aspects that influence liquidity as measured by using LTA variables. Of the 5 aspects studied

consisting of NPL, ROA, ROE and Firm Size. From the results of the study it was proven that roa and ROE variables have a positive and significant influence on the effect of liquidity. In contrast, other variables consisting of NPL and Firm Size do not affect the liquidity effect. On the contrary, other variables consisting of NPL and Firm Size do not affect liquidity risk.

This research has limitations that the beginning is the results of the determination coefficient test shows the value of Adjusted R Square only 0.236. This means that if only 23.6% of dependent variables can be displayed by independent variables. The opposite of the remaining 76.4% was exposed by other variables beyond the variables used in this study. Not only that this study also has limitations The study is only focused on conventional banks, so it has not been able to compare the liquidity effect with variables used in sharia banks and banks that conduct mergers.

Based on the results of this research, there are some initial recommendations for banks that banks must be more selective in sharing credit periods and keeping a close eye on the condition of prospective credit recipients. Not only that, it is expected that the bank is able to manage productive assets that can increase the source of liquidity in the bank. And banks are also obliged to manage their income such as accumulated capital from investors so that more liquid relics are available, so as to minimize liquidity risk. Not only recommendations for banks, there are some recommendations that can be considered for future research.

For the next research can classify the illustration of the banking to be used, a kind of sourced at the small dimension of the bank, so that better results can be obtained. Not only that, the next research can equate 2 types of banks more specifically to recognize how liquidity risk comparison in banks, for example the comparison between conventional bank liquidity risk with sharia banks such as research tried by Efendi and Disman (2017), Sukmana and Suryaningtyas (2016), and Muharam and Kurnia (2013). And the next research could raise independent variables that support liquidity effects, such as NIM, NWC, GDP growth,

and inflation levels as tried by Ghenimi and Omri, Rahman and Banna, as well as Anam et al. in 2012.

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ANALYSIS OF THE EFFECT OF NON PERFORMING LOAN (NPL), RETURN ON ASSETS (ROA), RETURN ON EQUITY (ROE) AND SIZE (BANK SIZE) ON BANKING LIQUIDITY RISK

(Case Study on Conventional Banks Registered in IDX period 2016 – 2020)

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Article	Abstract
Information	
History of article:	Banks play a major role in the country's economy. Banks play an important role in both public
Accepted	and private lending. The role of the bank as an intermediary. Useful for the bank as an intermediary
Approved	between the parties to satisfy the parties in need. This study focuses on areas that affect a bank's
Published	liquidity risk. The purpose of this study is to analyze non-performing loans, ROA, ROE, and size securities for liquidity risk of banks listed on the IDX between 2016 and 2020.
	The sample used in the survey of all banks, both state-owned and national private banks, will
Keywords:	be recognized by BI from 2016 to 2020. The targeted sampling method is used from criteria obtained
Non-Performing Credit	from 40 banks. The analytical method used in this study is linear regression which was tested with
(NPL), ROA, ROE, Size	classical assumptions including normality, multicollinearity, autocorrelation, and heteroscedasticity.
(Bank Size), liquidity risk.	The results showed that the ROA and ROE variables had a positive and significant effect on liquidity risk. The NPL and medium size variables have a negative effect on liquidity risk.

ANALISIS PENGARUH NON PERFORMING LOAN (NPL), RETURN ON ASET (ROA), RETURN ON EQUITY (ROE) DAN SIZE (BANK SIZE) TERHADAP RISIKO LIKUIDITAS PERBANKAN (Studi Kasus Pada Bank Konvensional yang Terdaftar di BEI periode 2016 - 2020)

History of article:	Abstrak
Accepted Approved Published	Dalam perekonomian suatu negara, perbankan punya andil yang besar. Perbankan memainkan peran penting. Fungsi perbankan sebagai intermediary, dimana bank berfungsi sebagai perantara antara pihak berkecukupan dengan membutuhkan. Penelitian ini difokuskan pada area yang berpengaruh terhadap risiko likuiditas pada bank. Tujuan dari penelitian ini tidak lain untuk menganalisis efek NPL, ROA, ROE dan Size terhadap risiko likuiditas pada bank-
Kata Kunci: NPL, ROA, ROE, Size, risiko likuiditas.	bank yang listing di BEI periode 2016-2020. Sampel yang digunakan dalam penelitian adalah seluruh bank, baik Bank BUMN maupun Swasta Nasional di Indonesia yang diakui di BI dari tahun 2016 hingga 2020. Dari kriteria yang diperoleh 40 bank, metode yang digunakan adalah purposive sampling. Metode analisis yang digunakan dalam penelitian ini adalah regresi linier yang diuji melalui asumsi klasik dengan normalitas, multikolinearitas, autokorelasi dan heteroskedastisitas. Hasil penelitian menunjukkan bahwa variabel roa dan ROE berpengaruh baik dan signifikan terhadap risiko likuiditas. Variabel sedang NPL dan Size berpengaruh negatif dan tidak signifikan terhadap risiko likuiditas.
INTRODUCTION	

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Banks have an important role and position in the country's economy. Roman &, 2016), stated that the banking zone occupies an important position in funding public or private zones. For (Budi Santoso & Nuritomo, 2016) banks, as financial intermediaries, have generally aimed to raise funds from citizens and return them to citizens for a variety of purposes. They say banks can specifically act as trustees, development and service agents.

Universal Liquidity is a bank's expertise in funding legacy surges and handling debt when it expires, without incurring unexpected losses from the bank. Banking is the collection, withdrawal, and other banking of funds that are highly susceptible to various risks. (Effendi & Thisman, 2017) said liquidity risk is one of the most important risks facing banks. This is because if a bank gets caught in a liquidity bottleneck, it cannot do business, and if this is always guaranteed, it threatens bankruptcy.

Previous studies on variables affecting liquidity risk have been attempted by some researchers, but there is still a comparison of the findings. (Effendi & Disman, 2017) survey, nonperforming loans have a significant positive impact on liquidity risk. However, in contrast to the survey (Azhary & Muharam, 2017), the NPL results are detrimental. The study by (Sukmana & Suryaningtyas, 2016) created a positive and significant link between ROA and liquidity risk. However, unlike what (Bani and Yaya, 2016) a significant negative link is created between ROA and liquidity risk. A previous study of the impact of ROE on liquidity risk was conducted by (Iqbal, 2012) and showed a positive link between ROE and liquidity risk. However, according to a survey (Muharram & Kurnia, 2012), ROE is negatively impacting traditional bank liquidity levels. In a study (Iqbal, 2012), he created a significant and positive link between size and liquidity risk. In contrast, The study of (Bani & Yaya, 2016), found that there was no relationship between liquidity risk and size. Profitability has conditions that are not much different, some research results such as (Nishanthi, 2015) and (Nugrahaeni, 2014) show that a company's liquidity risk will always be related to profitability.

Similarly, the ability of a bank in managing loans provided has a strong correlation to its liquidity performance in accordance with the findings of (Iqbal, 2016), (Rahman, 2016) and (Roman, 2014). The research revealed that nonperferming loans (NPL) have a significant impact on a bank's liquidity performance. Liquidity management capabilities of a bank also has a correlation with the size of the bank itself, as the results of research (Sukmana & Suryaningtyas. 2016) has confirmed the fact.

The purpose of this study is to identify the impact of npl, ROA, ROE, and size on the liquidity risk of traditional banks listed on the Indonesia Impact Exchange between 2016 and 2019.

HYPOTHESIS DEVELOPMENT

According to Law Number 10 of 1998 concerning Banking, a bank is an "organization that collects funds from citizens in the form of savings and distributes funds to residents in the form of loans and in other forms to improve their standard of living". (Budi Santoso&Nuritomo. 2017) the function of the bank is to "collect public funds and lend them to citizens for various purposes or as intermediaries in the financial sector."

Universal liquidity is a knowledge filled bank. Short-term requirements, banks must be able to complete withdrawals of savings, checking accounts, time deposits, bank obligations and loan maturities without delay. Activities in the banking world are trial-and-error commercial transactions that are exposed to various risks. From Bank Indonesia Regulation No. 5/8/PB/2003, risk is the ability to execute a desired company that causes losses on the bank. (Pandia, 2012) states that liquidity risk is the fulfillment of requests for withdrawal of savers or distribution of debt to prospective debtors, and the fulfillment is not fast due to the failure of banks to fulfill their obligations.

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The risk caused by liquidity risk can be measured using the ratio of funds liquidity to total assets. (Sukmana & Suryaningtyas, 2016) stated that LTA is the ratio used to calculate the number of liquid relics from the number of relics owned by banks that can convert the relics. Bank Indonesia Regulation No. 13/24/DPNP/2011 concerning Universal Bank Integrity Assessment is a guideline in determining LTA. Two aspects of the Universal Bank's regulatory assessment of health are based on primary and secondary liquid inheritance. Major liquidity legacy. Usually used to meet bank liquidity needs in the form of third party funds (DPK) and also has a time limit for paying debts to banks. Sukmana and Suryanintias said that in 2016 the high LTA ratio showed that the assets converted into cash were also large and the bank was also liquid.

Effect of Non Performing Loan (NPL) on Liquidity Risk

Non-performing loans, are allocations calculated using a method that offsets all non-performing loans and all bank loans. Based on Bank Indonesia Circular No. 13/30 / DPNP dated 16 December 2011.

Based on the expected return theory, banks lend to sectors where banks profit at longer maturity interest rates. Long-term credit risk arises if the borrower does not pay the installments in time, the loan is not repaid, or the creditworthiness is low. If the loan default is large up to the installment payment of the loan received from the bank, the agenda is placed on the deferred agenda. Ordered loan installments are expected to be a source of bank liquidity, but we want to increase the liquidity risk of banks due to the problem of borrowers not paying installments on time. A previous study attempted by (Azhary & Muharam, 2017) found that NPL had a negative impact on both study models. In addition, study by (Ghenimi & Omri. 2015) created a negative and significant impact on nonperforming loans on liquidity risk. (IqbaL, 2012) said bad debts were having a negative impact and were concerned about liquidity risk. Therefore,

for them, low non-performing loans are still what banks continue to pose great liquidity risk to banks.

H1: Non Performing Loans (NPL) negatively affect liquidity risk.

Effect of Return On Asset (ROA) on Liquidity Risk

ROA is a marker that illustrates the power of banks to earn a return on some of the assets owned by banks. Bank Indonesia Circular Letter Number 6/23/DPNP 31 May 2004.

(Arthesa, 2006) that when a bank reached a "theoretical trade-off between liquidity and profitability" to strengthen its liquidity position, it would impose some of its assets on idle time. He said he would strengthen cash reserves and thereby reduce them. Bank profitability. Conversely, if a bank wants to increase its profitability until the bank endangers liquidity because the cash reserve from the consumption of bank assets is used for liquidity, the bank in turn increases the profitability of the bank. Must be used for other profits that can be used to get an increase or decrease in the liquidity of a bank and cause a case of liquidity effect. Previous studies were by (Azhary &Muharam, 2017) (Effendi & Disman, 2017), (Rahman& Banna, 2016), (Roman & Sargu, 2014), (Muharam & Kurnia, 2016), (Anam et al. 2012), (Iqbal & Akhtar, 2016), (Ali & Sadaqat, 2011), achieved results when ROA had a positive and significant impact on the liquidity effect. H2: ROA positively affects liquidity risk.

Effect of Return On Equity (ROE) on Liquidity Risk

ROE is a marker of banking expertise in managing existing capital to obtain a net profit. Sourced in Bank Indonesia Circular Message No. 6/ 23/ DPNP on May 31, 2004.

Based on the liquidity and profitability trading theory, Arthesa states that banks need to protect their liquidity levels while pursuing profitability and profitability as well as maintaining their business. I did. Profitability with banks also means for investors the dividends associated with their investment. Banks charge capital to protect their liquidity reserves, to ensure liquidity and to reduce the occurrence of liquidity effects. An early study of the effects of ROE on liquidity effects was attempted by (Iqbal, 2012) and showed a positive relationship between ROE and liquidity effects. This study was supported by studies attempted by (Bani & Yaya, 2016), (Roman & Sargu, 2014) as well as (Akhtar, Ali & Sadaqat, 2011). H3: ROE positively affects liquidity risk

Effect of Size on Liquidity Risk

Banking size is a scale that can be categorized as small, yes banking in terms of total assets, log size, and market value. In the case of (Bani & Yaya, 2016) the bank calculated the size of the bank's total assets. This is because the assets of each bank are so different that there is an extreme difference in value.

It is based on the theory of economies of scale. This is a relative increase in output as a result of accumulating all inputs accordingly. What does a bank achieve economies of scale when it can produce more production at a relatively small rate of wage increase (Kusuma, 2005) found that banks with large assets tend to be more profitable than industries with small assets, so banks waste illiquid assets to satisfy their liquidity and make great profits. The impact of liquidity on banks remains significant as it tends to rise. Previous studies by (Azhary & Muharam, 2017), (Effendi & Disman, 2017), (Bani & Yaya, 2016), (Rahman & Banna, 2016), (Abdullah & Khan, 2018) and (Anam et al, 2012). There was a negative correlation between size and liquidity effect. Because banks are large and will continue to grow until they have more assets, banks do not have to worry about the burden of maturing soon.

H4: Size(dimension of the bank) negatively affects liquidity risk

Variables Based on NPL, ROA, ROE, and the relationship between size and theory and variables, the theoretical framework can be drawn as follows:



Source: (Effendi & Disman, 2017), (Azhary & Muharam, 2017), (Bani & Yaya, 2016), (Sukmana & Suryaningtyas, 2016), (Ghenimi & Omri, 2015), (Rahman & Banna, 2015), (Roman & Sargu, 2014), (Muharam & Kurnia, 2013), (Abdullah & Khan, 2012), (Anam et all, 2012), (Iqbal, 2016), (Akhtar & Sadaqat, 2011)

Figure 1 Theoretical Frame

RESEARCH METHODS Research Variables

Research variables

In this study, we used two types of variables, the dependent variable and the independent variable. The liquidity effect measured against the LTA rate is used as the dependent variable. In contrast, the independent variables used in this study consisted of nonperforming loans, ROA, ROE, and company size.

Table 1
VARIABLE MEASUREMENT

NO	VARIABLE NAME	FORMULA	REASEARCH
1.	Non Performing Loan (NPL)	<u>Non Performaning Loan</u> X 100% Total Credit	(Azhary & Muharam, 2017)
2.	ROA	Roa = <u>Profit Before Tax</u> X 100% Total Asset	(Rahman& Banna, 2016)
3.	ROE	$\frac{\underline{\text{Eat}}_{\underline{t}}}{\underline{\text{Oe}}_{\underline{t-1}} + \underline{\text{Oe}}_{\underline{t}}}_{2}$	(Roman & Sargu, 2014)
4.	SIZE	Ln Of Total Assets	(Bani & Yaya, 2016)
5.	Liquidity Risk	Current Assets Total Assets	(Sukmana & Suryaningtyas, 2016)
		<u>Current Assets</u> Total Deposit	

Population

The population of this survey includes all banking sectors, both state banks and stateowned private banks, registered with Bank Indonesia from 2016 to 2020.

Sample

The samples used in this study were selected using a targeted sampling method. Illustration retrieval method with purposive sampling procedure is an illustration retrieval method that is tried because it is sourced on the criteria that have been determined by researchers. After trying to select illustrations sourced on the criteria, 40 conventional banks that were listed on IDX from 2016 to 2020 passed the criteria.

Analysis Methods

The data in this study comes from secondary data sourced from Bloomberg as well

as the annual report of each banking illustration in question obtained from the IDX website.

The analysis method used in this study is multiple linear regression, which is tested to pass classical assumptions with tests of normality, multicolonierity, autocorrelation and heteroskedastisity. In this study, multiple regression equations are used as follows:

Liquidity Risk = α + β 1 NPL + β 2 ROA + β 3 ROE + β 4 Firm Size + e

RESULTS OF RESEARCH AND DISCUSSION Descriptive Statistical Analysis

Descriptive statistical analysis can be used as the basis for describing and describing data from diagrams based on means, standard deviations, variants, maximums, and minimums. Obtained from the IDX website from 2016 to 2019, based on Bloomberg data and an annual report of images of each bank in question. The analysis results for each of the variables LTA, NPL, ROA, ROE and size of traditional banks

			Table 2		
		Descri	ptive Statistical Ana	alysis	
Descriptive Statistics					
	Ν	Minimum	Maximum	Mean	Std. Deviation
LTA (%)	160	6,35	37,50	15,4557	5,76066
NPL (%)	160	,03	14,76	3,6875	3,54667
ROA (%)	160	-9,72	16,10	1,2434	2,49750
ROE (%)	160	-75,66	22,45	4,6557	15,42339
SIZE (Rupiah)	160	2.365.227.887	2.235.335.548.189	247.665.468.329	245.482.675.675
Valid N (listwise)	160				

Source: Secondary data processed by SPSS 24

Sourced in table 1 shows the number of observations on conventional banks registered with IDX in this study as many as 160 data illustrations. Not only that, the table also showed variables analyzed in the study consisting of LTA, NPL, ROA, ROE and size.

In table 1 dependent variable in this research is LTA has an average value of 15. 4557% with a standard deviation value of 5.76066. LTA has a minimum value of 6.35% from the Central Java Regional Development Bank in 2017. On the contrary, the maximum value is 37.50% at Bank Central Asia Tbk in 2016.

Model Summaryb Descriptive Statistics					
· · · · · · · · · · · · · · · · · · ·	N	Minimum	Maximum	Mean	Std. Deviation
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ROE (%)	160	-75,66	22,45	4,6557	15,42339
SIZE (Rupiah)	160	2.365.227.887	2.235.335.548.189	247.665.468.329	245.482.675.675
Valid N (listwise)	160				

Table 3 **Determination Coefficient Test Results**

Source: Secondary data processed by SPSS 24

Sourced in table 1 shows the number of observations on conventional banks registered with IDX in this study as many as 160 data illustrations. Not only that, the table also showed variables analyzed in the study consisting of LTA,

NPL, ROA, ROE and size. In table 1 dependent variable in this research is LTA has an average value of 15. 4557% with a standard deviation value of 5.76066. LTA has a minimum value of 6.35% from the Central Java Regional

registered with IDX from 2016 to 2020 are as follows:

Development Bank in 2017. On the contrary, the Tbk in 2016. maximum value is 37.50% at Bank Central Asia

Table 4 Determination Coefficient Test Results Model Summaryb

Model Summary [®]				
Model	R	R Square	Adjusted R	Std. Error of
			Square	the Estimate
1	,346ª	,187	,236	,24335
a Dradiat	ana (Can	atant) CI7E	DOE NDI DOA	

a. Predictors: (Constant), SIZE, ROE, NPL, ROA

b. Dependent Variable: LTA

Based on the results of the determination coefficient test (R^2) in table 2 indicates if the value of the adjusted coefficient of determination (Adjusted R Square) is 0.236. The subject indicates that

the ability of LTA dependent variables can be presented by independent variables NPL, ROA, ROE and SIZE of 23.6% and the remaining 76.4% influenced by other aspects.

		F Statist	Table 5 ical Test F	Results		
			ANOVAa ANOVAª			
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	,376	4	,087	6,254	,003 ^b
1	Residual	2,645	169	,018	· · · ·	
	Total	3,113	174		· · · ·	

a. Dependent Variable: LTA

b. Predictors: (Constant), SIZE, ROE, NPL, ROA

Source: Secondary data processed by SPSS 24

Based on the results of Statistical Test F (Test of overall significance of illustration regression) in table 3 obtained a calculated value of F of 6, 254 with a significance value of 0.003. The significance value smaller than 0.05 indicates if the model used in this study is feasible for use, and that LTA dependent variables can be

displayed by independent VARIABLES NPL, ROA, ROE, and SIZE. Based on the comparison of the calculated F and F values of the table, the table F value is 3.76. The calculated F is greater than the table F, so it can be inferred if simultaneously all independent variables affect dependent variables

			Coefficients	I		
Model		Unstandardize	d Coefficients	Standardized	t	Sig.
				Coefficients		
		В	Std. Error	Beta		
	(Constant)	1,222	,206		5,547	,000
	NPL	-,085	,061	-,180	-1,265	,337
1	ROA	,047	,016	,369	3,482	,022
	ROE	,006	,001	,360	5,536	,001
	SIZE	-3,122	4,659	-,067	-,657	,366

Table 6 Statistical Test Result t (Individual parameter significance test) Coefficientsa

a. Dependent Variable: LTA

Source: Secondary data processed by SPSS 24

Based on the test results of statistical test results t(individual parameter significance test) in table 4. 7, until you can get multiple linear regression equations as follows:

LTA (t-1) = 1.222- 0.085 NPL + 0.047 ROA + 0.006 ROE - 3.122 SIZE

Discussion of Research Results

The results of the study on early hypothesis testing obtained results if NPL negatively influenced not signfikan to the effect of liquidity projected with the ratio of LTA. The result is based on the coefficient direction of the NEGATIVE VALUE NPL with values t- 1, 265 and significance values of 0.337. Because the value of significance is greater than 0.05 until the early hypothesis (H1) which tells if NPL negatively affects the effect of liquidity is rejected. In 2016, the npls were negatively linked to liquidity. The large NPL ratio shows the magnitude of bad loans and eventually causes losses on the part of banks. Iqbal also said that the large NPL ratio of conventional banks was due to careless lending applications and that it was a factor in liquidity cases. Bank Indonesia has set the maximum npl ratio through Bank Indonesia Regulation (PBI) of 5%. The average value of NPL (Non Performing Loan) in the illustration of the bank used is

2.7867%. The results showed banks could reduce the NPL ratio below 5% to cause substantial profitability, as banks look to save money to form non-performing loans and PPAP.

The results of the study on the second hypothesis, obtained results if ROA positively influenced and signfikan to the effect of liquidity projected with the ratio of LTA. The result is based on the direction of positive regression coefficient with values t 3, 482 and significance values of 0.022. Because the significance value is smaller than 0.05 until the second hypothesis (H2) which tells if ROA positively affects the effect of liquidity is accepted. Sourced on theory trade of between liquidity and profitability, if a bank wants to Strengthen its liquidity position is tried by means of increasing reserves in cash by imposing assets owned by your bank to raise some of the idle funds, thus lowering the profitability of the bank. Conversely, if the bank wants to strengthen its profitability until the bank has to risk liquidity, because cash reserves derived from the consumption of bank assets are used for liquidity needs to be used by banks for other interests that can increase profitability in the bank so as to increase liquidity in the bank to decrease and cause cases of liquidity effects. The results of the study were unchanged, compared

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with studies tried by (Azhary & Muharam, 2017), (Effendi & Disman, 2017), (Rahman & Banna, 2016) (Muharam & Kurnia, 2016), (Anam et al, 2016), (Iqbal, 2016).

The results of the study on the third hypothesis, obtained results if ROE influenced positive and signfikan to the effect of liquidity projected with the ratio of LTA. The results are based on the results of multiple regression analysis showing if the coefficient of positive regression with values t 5, 536 and significance values of 0.01. Because the value of significance is smaller than 0.05 to the third hypothesis (H3) which tells if ROE positively affects the effect of liquidity is accepted. Referring to theory trade of between liquidity and profitability, Arthesa said that on the one hand the bank must protect its liquidity level, but on the other hand banks must also seek profit and profitability not only to keep the business at the bank profitability also means for investors in obtaining dividends related to their investments. To protect its liquidity the bank charges its capital to protect liquidity reserves to reduce the occurrence of liquidity effects. The results of the study were unchanged, compared with studies tried by (Ghenimi & Omri, 2015), (Rahman & Banna, 2016), (Roman & Sargu, 2014) and (Iqbal, 2016). (Iqbal, 2016) who has a strong roe ratio, said the large ROE ratio shows that the return on investment from shareholders is more lightning. when banks have a larger ROE they have a large income that can be used to support short-term liabilities and banks want to have fewer cases or risky conditions.

The results of the research on the fifth hypothesis, obtained results if the size of the bank affects negatively and does not signfikan against the effect of liquidity projected with the ratio of LTA. The results are based on the direction of the firm size, which is negative with a value of t- 0, 657 and a significance value of 0.366. Because the value of significance is greater than 0.05 to the 5th hypothesis, which reports that the size of the bank affects negatively against liquidity risk is rejected. The size does not affect liquidity risk due to conventional banks, competition in the banking market continues to be strong, because the rise of sharia banking is therefore a race to acquire customers. (Bani & Yaya, 2016), said the issue led to conventional banks increasing their assets and improving their business so that customers were comfortable with the services provided. And the small amount of total assets owned by a bank so as not to cause liquidity effects on the bank. The study was in line with studies attempted by (Azhary & Muharam, 2017), (Effendi & Disman, 2017), (Bani & Yaya, 2016), (Rahman & Banna, 2015), (Ghenimi & Omri, 2015) as well as (Akhtar & Sadagat, 2016) who said the size of the bank had no effect on liquidity effects. The results showed that the minimum value of size measured by total assets was 2. 365. 227. 887 and the maximum value is 2. 235. 335. 548. 189. The comparison between the minimum value and the maximum is quite large showing that the small amount of total relics owned by a bank does not want to cause the formation of liquidity risk in the bank.

Conclusion

The results of this research show that there are some aspects that influence liquidity as measured by using LTA variables. Of the 5 aspects studied consisting of NPL, ROA, ROE and Firm Size. From the results of the study it was proven that roa and ROE variables have a positive and significant influence on the effect of liquidity. In contrast, other variables consisting of NPL and Firm Size do not affect the liquidity effect. On the contrary, other variables consisting of NPL and Firm Size do not affect liquidity risk.

This research has limitations that the beginning is the results of the determination coefficient test shows the value of Adjusted R Square only 0.236. This means that if only 23.6% of dependent variables can be displayed by independent variables. The opposite of the remaining 76.4% was exposed by other variables beyond the variables used in this study. Not only that this study also has limitations The study is only focused on conventional banks, so it has not been able to compare the liquidity effect with

variables used in sharia banks and banks that conduct mergers.

Based on the results of this research, there are some initial recommendations for banks that banks must be more selective in sharing credit periods and keeping a close eye on the condition of prospective credit recipients. Not only that, it is expected that the bank is able to manage productive assets that can increase the source of liquidity in the bank. And banks are also obliged to manage their income such as accumulated capital from investors so that more liquid relics are available, so as to minimize liquidity risk. Not only recommendations for banks, there are some recommendations that can be considered for future research.

For the next research can classify the illustration of the banking to be used, a kind of sourced at the small dimension of the bank, so that better results can be obtained. Not only that, the next research can equate 2 types of banks more specifically to recognize how liquidity risk comparison in banks, for example the comparison between conventional bank liquidity risk with sharia banks such as research tried by (Efendi & Disman, 2017), (Sukmana & Suryaningtyas, 2016), and (Muharam & Kurnia, 2013). And the next research could raise independent variables that support liquidity effects, such as NIM, NWC, GDP growth, and inflation levels as tried by (Ghenimi & Omri, 2015), (Rahman & Banna, 2016) as well as (Anam et al, 2012).

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Lampiran 6 LoA

JURNAL DINAMIKA MANAJEMEN

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Nomor : 013/JDM/I/2022 Hal : Letter of Acceptance (LoA) 11 Maret 2022

Yth. Bapak/Ibu **Endang Tri Widyarti** Universitas Semarang Semarang

Berdasarkan hasil penelaahan oleh tim reviewer, artikel yang telah dikirimkan dengan keterangan sebagai berikut:

Nama penulis	:Endang Tri Widyarti, Adhi Widyakto, Yohanes Suhardjo
Judul artikel	: Analysis of the Effect of Non Performing Loan (NPL), Return on
	Assets (ROA), Return on Equity (ROE) and Size (Bank Size) on
	Banking Liquidity Risk
Bidang	: Manajemen Keuangan

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Analysis of the Effect of Non-Performing Loan, Return on Assets, Return on Equity and Size on Banking Liquidity Risk

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Info Article	Abstract
History Article: Submitted 10 November 2021 Revised 27 November 2021 Accepted 3 March 2022 Keywords: NPL, ROA, ROE, Size, Liquidity Risk.	Banks play a major role in the country's economy. Banks play an important role in both public and private lending. The role of the bank as an intermediary. Useful for the bank as an intermediary between the parties to satisfy the parties in need. This study focuses on areas that affect a bank's liquidity risk. The purpose of this study is to analyze non-performing loans, ROA, ROE, and size securities for liquidity risk of banks listed on the IDX between 2016 and 2020. The sample used in the survey of all banks, both state-owned and national private banks, will be recognized by BI from 2016 to 2020. The targeted sampling method is used from criteria obtained from 40 banks. The analytical method used in this study is linear regression which was tested with classical assumptions including normality, multicollinearity, autocorrelation, and heteroscedasticity. The results showed that the ROA and ROE unitional privates had a participant officat on liquidity risk.
	variables had a positive and significant effect on liquidity risk. The NPL and medium size variables

Analisis Pengaruh Non-Performing Loan, Return on Aset, Return on Equity dan Size terhadap Risiko Likuiditas Perbankan

have a negative effect on liquidity risk.

Abstrak

Dalam perekonomian suatu negara, perbankan punya andil yang besar. Perbankan memainkan peran penting, Fungsi perbankan sebagai intermediary, dimana bank berfungsi sebagai perantara antara pihak berkecukupan dengan membutuhkan. Penelitian ini difokuskan pada area yang berpengaruh terhadap risiko likuiditas pada bank. Tujuan dari penelitian ini tidak lain untuk menganalisis efek NPL, ROA, ROE dan Size terhadap risiko likuiditas pada bank-bank yang listing di BEI periode 2016-2020. Sampel yang digunakan dalam penelitian adalah seluruh bank, baik Bank BUMN maupun Swasta Nasional di Indonesia yang diakui di BI dari tahun 2016 hingga 2020. Dari kriteria yang diperoleh 40 bank, metode yang digunakan adalah purposive sampling. Metode analisis yang digunakan dalam penelitian ini adalah regresi linier yang diuji melalui asumsi klasik dengan normalitas, multikolinearitas, autokorelasi dan heteroskedastisitas. Hasil penelitian menunjukkan bahwa variabel roa dan ROE berpengaruh baik dan signifikan terhadap risiko likuiditas. Variabel sedang NPL dan Size berpengaruh negatif dan tidak signifikan terhadap risiko likuiditas.

JEL Classification: M2, M4, O2

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INTRODUCTION

Banks have an important role and position in the country's economy. Roman & Sargu (2014), stated that the banking zone occupies an important position in funding public or private zones. Bank as financial intermediaries have generally aimed to raise funds from citizens and return them to citizens for a variety of purposes. They say banks can specifically act as trustees, development, and service agents.

Universal Liquidity is a bank's expertise in funding legacy surges and handling debt when it expires, without incurring unexpected losses from the bank. Banking is the collection, withdrawal, and other banking of funds that are highly susceptible to various risks. Effendi & Disman (2017) said liquidity risk is one of the most important risks facing banks. This is because if a bank gets caught in a liquidity bottleneck, it cannot do business, and if this is always guaranteed, it threatens bankruptcy.

Previous studies on variables affecting liquidity risk have been attempted by some researchers, but there is still a comparison of the findings. According to the research result from Effendi & Disman (2017) show that non-performing loans have a significant positive impact on liquidity risk. However, in contrast with the survey by Azhary & Muharam (2017), the NPL results are detrimental. The study by Sukmana & Suryaningtyas (2016) created a positive and significant link between Return on Asset (ROA) and liquidity risk. However, unlike what Bani & Yaya (2016) found, a significant negative link is created between ROA and liquidity risk. A previous study of the impact of Return on Equity (ROE) on liquidity risk was conducted by Iqbal (2012) and showed a positive link between ROE and liquidity risk. However, according to a survey which conducted by Muharram & Kurnia (2012), ROE is negatively impacting traditional bank liquidity levels. In his study, Iqbal (2012) created a significant and positive link between size and liquidity risk. In contrast, the study from Bani & Yaya (2016), found that there was no relationship between liquidity risk and size. Profitability has conditions that are not much different, some research results such as form Nishanthini & Meerajancy (2015) and Nugrahaeni (2014) show that a company's liquidity risk will always be related to profitability.

Similarly, the ability of a bank in managing loans provided has a strong correlation to its liquidity performance in accordance with the findings of Roman & Sargu (2014), Iqbal (2016) and Rahman (2016). The research revealed that non-perferming loans (NPL) have a significant impact on a bank's liquidity performance. Liquidity management capabilities of a bank also has a correlation with the size of the bank itself, as the results of research from Sukmana & Suryaningtyas (2016) has confirmed the fact.

The purpose of this study is to identify the impact of NPL, ROA, ROE, and size on the liquidity risk of traditional banks listed on the Indonesia Impact Exchange between 2016 and 2019.

Hypothesis Development

According to Law Number 10 of 1998 concerning Banking, a bank is an "organization that collects funds from citizens in the form of savings and distributes funds to residents in the form of loans and in other forms to improve their standard of living". As we know, the function of the bank is to "collect public funds and lend them to citizens for various purposes or as intermediaries in the financial sector."

Universal liquidity is a knowledge filled bank. Short-term requirements, banks must be able to complete withdrawals of savings, checking accounts, time deposits, bank obligations and loan maturities without delay. Activities in the banking world are trial-and-error commercial transactions that are exposed to various risks. From Bank Indonesia Regulation No. 5/8/PB/2003, risk is the ability to execute a desired company that causes losses on the bank. Pandia (2012) states that liquidity risk is the fulfillment of requests for withdrawal of savers or distribution of debt to prospective debtors, and the fulfillment is not fast due to the failure of banks to fulfill their obligations.

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The risk caused by liquidity risk can be measured using the ratio of funds liquidity to total assets. Sukmana & Suryaningtyas (2016) stated that LTA is the ratio used to calculate the number of liquid relics from the number of relics owned by banks that can convert the relics. Bank Indonesia Regulation No. 13/24/DPNP/2011 concerning Universal Bank Integrity Assessment is a guideline in determining LTA. Two aspects of the Universal Bank's regulatory assessment of health are based on primary and secondary liquid inheritance. Major liquidity legacy. Usually used to meet bank liquidity needs in the form of thirdparty funds and has a time limit for paying debts to banks. Sukmana and Suryanintias said that in 2016 the high LTA ratio showed that the assets converted into cash were also large and the bank was also liquid.

Effect of NPL on Liquidity Risk

NPL are allocations calculated using a method that offsets all non-performing loans and all bank loans. Based on Bank Indonesia Circular No. 13/30 / DPNP dated 16 December 2011.

Based on the expected return theory, banks lend to sectors where banks profit at longer maturity interest rates. Long-term credit risk arises if the borrower does not pay the installments in time, the loan is not repaid, or the creditworthiness is low. If the loan default is large up to the installment payment of the loan received from the bank, the agenda is placed on the deferred agenda. Ordered loan installments are expected to be a source of bank liquidity, but we want to increase the liquidity risk of banks due to the problem of borrowers not paying installments on time. A previous study attempted by Azhary & Muharam (2017) found that NPL had a negative impact on both study models. In addition, study by Ghenimi & Omri (2015) created a negative and significant impact on non-performing loans on liquidity risk. Iqbal (2012) said bad debts were having a negative impact and were concerned about liquidity risk. Therefore, for them, low non-performing loans are still what banks continue to pose great liquidity risk to banks. H1: NPL negatively affect liquidity risk.

Effect of Return on Asset (ROA) on Liquidity Risk

ROA is a marker that illustrates the power of banks to earn a return on some of the assets owned by banks. Bank Indonesia Circular Letter Number 6/23/DPNP 31 May 2004.

Arthesa (2006) that when a bank reached a "theoretical trade-off between liquidity and profitability" to strengthen its liquidity position, it would impose some of its assets on idle time. He said he would strengthen cash reserves and thereby reduce them. Bank profitability. Conversely, if a bank wants to increase its profitability until the bank endangers liquidity because the cash reserve from the consumption of bank assets is used for liquidity, the bank in turn increases the profitability of the bank. Must be used for other profits that can be used to get an increase or decrease in the liquidity of a bank and cause a case of liquidity effect. Previous studies were by Ali & Sadaqat (2011); Anam et al. (2012); Roman & Sargu (2014); Iqbal & Akhtar (2016); Muharam & Kurnia (2016); Rahman & Banna (2016); Azhary & Muharam (2017); Effendi & Disman (2017) achieved results when ROA had a positive and significant impact on the liquidity effect.

H2: ROA positively affects liquidity risk.

Effect of ROE on Liquidity Risk

ROE is a marker of banking expertise in managing existing capital to obtain a net profit. Sourced in Bank Indonesia Circular Message No. 6/ 23/ DPNP on May 31, 2004.

Based on the liquidity and profitability trading theory, Arthesa (2006) states that banks need to protect their liquidity levels while pursuing profitability and profitability as well as maintaining their business. I did. Profitability with banks also means for investors the dividends associated with their investment. Banks charge capital to protect their liquidity reserves, to ensure liquidity and to reduce the occurrence of liquidity effects. An early study of the effects of ROE on liquidity effects was attempted by Iqbal (2012) and showed a positive relationship between ROE and liquidity

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effects. This study was supported by studies attempted by Akhtaret et al. (2011); Roman & Sargu (2014); Bani & Yaya (2016). H3: ROE positively affects liquidity risk

Effect of Size on Liquidity Risk

Banking size is a scale that can be categorized as small, yes banking in terms of total assets, log size, and market value. In the case of Bani & Yaya (2016) the bank calculated the size of the bank's total assets. This is because the assets of each bank are so different that there is an extreme difference in value.

It is based on the theory of economies of scale. This is a relative increase in output because of accumulating all inputs accordingly. What does a bank achieve economies of scale when it can produce more production at a relatively small rate of wage increase Kusuma (2005) found that banks with large assets tend to be more profitable than industries with small assets, so banks waste illiquid assets to satisfy their liquidity and make great profits. The impact of liquidity on banks remains significant as it tends to rise. Previous studies by Azhary & Muharam (2017); Effendi & Disman (2017); Bani & Yaya (2016); Rahman & Banna (2016); Abdullah & Khan (2018) and Anam et al. (2012). There was a negative correlation between size and liquidity effect. Because banks are large and will continue to grow until they have more assets, banks do not have to worry about the burden of maturing soon. H4: Size negatively affects liquidity risk

Based on NPL, ROA, ROE, and the relationship between size and theory and variables, the theoretical framework can be drawn as follows:



Figure 1. Theoretical Framework

Source: Abdullah & Khan (2012), Akhtar & Sadaqat (2011), Anam et al. (2012), Muharam & Kurnia (2013), Roman & Sargu (2014), Ghenimi & Omri (2015), Rahman & Banna (2015), Bani & Yaya (2016), Iqbal (2016), Sukmana & Suryaningtyas (2016), Azhary & Muharam (2017), Effendi & Disman (2017).

No	Variable Name	Formula	Research
1.	NPL	<u>Non Performaning Loan</u> X 100% Total Credit	(Azhary & Muharam, 2017)
2.	ROA	Roa = <u>Profit Before Tax</u> X 100% Total Asset	(Rahman& Banna, 2016)
3.	ROE	$\frac{\text{Eat}}{\text{Oe}_{t-1}^{t} + \text{Oe}_{t}} 2$	(Roman & Sargu, 2014)
4.	SIZE	Ln Of Total Assets	(Bani & Yaya, 2016)
5.	Liquidity Risk	<u>Current Assets</u> Total Assets	(Sukmana & Suryaningtyas, 2016)
		<u>Current Assets</u> Total Deposit	

METHOD

Data and Samples

In this study, we used two types of variables, the dependent variable, and the independent variable. The liquidity effect measured against the LTA rate is used as the dependent variable. In contrast, the independent variables used in this study consisted of non-performing loans, ROA, ROE, and company size.

The population of this survey includes all banking sectors, both state banks and stateowned private banks, registered with Bank Indonesia from 2016 to 2020.

The samples used in this study were selected using a targeted sampling method. Illustration retrieval method with purposive sampling procedure is an illustration retrieval method that is tried because it is sourced on the criteria that have been determined by researchers. After trying to select illustrations sourced on the criteria, 40 conventional banks that were listed on IDX from 2016 to 2020 passed the criteria.

Table 2. Descriptive Statistical Analysis

Research Model

The data in this study comes from secondary data sourced from Bloomberg as well as the annual report of each banking illustration in question obtained from the IDX website.

The analysis method used in this study is multiple linear regression, which is tested to pass classical assumptions with tests of normality, multicollinearity, autocorrelation and heteroskedasticity. In this study, multiple regression equations are used as follows:

Liquidity Risk = $\alpha + \beta 1$ NPL + $\beta 2$ ROA + $\beta 3$ ROE + $\beta 4$ Firm Size + e

RESULTS AND DISCUSSION

Descriptive Statistical Analysis

Descriptive statistical analysis can be used as the basis for describing the data from diagrams based on means, standard deviations, variants, maximums, and minimums. Obtained from the IDX website from 2016 to 2019, based on Bloomberg data and an annual

	N	Minimum	Maximum	Mean	Std. Deviation
LTA (%)	160	6.35	37.50	15.45	5.76
NPL (%)	160	.03	14.76	3.68	3.54
ROA (%)	160	-9.72	16.10	1.24	2.49
ROE (%)	160	-75.66	22.45	4.65	15.42
SIZE (Rupiah)	160	2,365,227,887	2.235.335,548,189	247,665,468,329	245,482,675,675

Source: Secondary data processed by SPSS 24

Table 3. Determination Coefficient Test Results Model Summary

	Ν	Minimum	Maximum	Mean	Std. Deviation
LTA (%)	160	6.35	37.50	15.45	5.76
NPL (%)	160	.03	14.76	3.68	3.54
ROA (%)	160	-9.72	16.10	1.24	2.49
ROE (%)	160	-75.66	22.45	4.65	15.42
SIZE (Rupiah)	160	2,365,227,887	2.235.335,548,189	247,665,468,329	245,482,675,675
Valid N (listwise)	160				

Source: Secondary data processed by SPSS 24

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report of images of each bank in question. The analysis results for each of the variable's LTA, NPL, ROA, ROE and size of traditional banks registered with IDX from 2016 to 2020 are as follows: Based on the results of the determination coefficient test (R^2) in table 2 indicates if the value of the adjusted coefficient of determination (Adjusted R Square) is 0.23. The subject indicates that the ability of LTA dependent va-

Table 4. Determination Coefficient Test Results Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.346ª	.187	.236	.24335		
a. Predictors: (Constant), SIZE, ROE, NPL, ROA						

b. Dependent Variable: LTA

Table 1 shows the number of observations on conventional banks registered with IDX in this study as many as 160 data illustrations. The dependent variable in this research is LTA has an average value of 15.45% with a standard deviation value of 5.76. LTA has a minimum value of 6.35% from the Central Java Regional Development Bank in 2017. On the contrary, the maximum value is 37.50% at Bank Central Asia Tbk in 2016. The table 1 also shows the number of observations on conventional banks registered with IDX in this study as many as 160 data illustrations. Not only that, but the table also showed variables analyzed in the study consisting of LTA, NPL, ROA, ROE, and size. In table 1 dependent variable in this

riables can be presented by independent variables NPL, ROA, ROE, and SIZE of 23.6% and the remaining 76.4% influenced by other aspects.

Based on the results of Statistical Test F (Test of overall significance of illustration regression) in table 3 obtained a calculated value of F of 6.25 with a significance value of 0.003. The significance value smaller than 0.05 indicates if the model used in this study is feasible for use, and that LTA dependent variables can be displayed by independent variables NPL, ROA, ROE, and SIZE. Based on the comparison of the calculated F and F values of the table, the table F value is 3.76. The calculated F is greater than the table F, so it can be inferred if simultaneously all independent variables affect dependent variables

ANOVAª						
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	.376	4	.087	6.254	.003 ^b
1	Residual	2.645	169	.018		
	Total	3.113	174			

Table 5. F Statistical Test Results

a. Dependent Variable: LTA

b. Predictors: (Constant), SIZE, ROE, NPL, ROA Source: Secondary data processed by SPSS 24

research is LTA has an average value of 15.45% with a standard deviation value of 5.76. LTA has a minimum value of 6.35% from the Central Java Regional Development Bank in 2017. On the contrary, the maximum value is 37.50% at Bank Central Asia Tbk in 2016. Based on the test results of statistical test results t (individual parameter significance test) in table 4 until you can get multiple linear regression equations as follows:

LTA (t-1) = 1.22– 0.08 NPL + 0.04 ROA + 0.006 ROE – 3.12 SIZE

	Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	s t	Sig.	
		В	Std. Error	Beta			
	(Constant)	1.222	.206		5.547	.000	
1	NPL	085	.061	-,18	-1.265	.337	
	ROA	.047	.016	,30	59 3.482	.022	
	ROE	.006	.001	,30	5.536	.001	
	SIZE	-3.122	4.659	-,06	.657657	.366	

Table 6. Statistical Test Result t (Individual parameter significance test)

a. Dependent Variable: LTA

Source: Secondary data processed by SPSS 24

Discussion of Research Results

The results of the study on early hypothesis testing obtained results if NPL negatively influenced not significant to the effect of liquidity projected with the ratio of LTA. The result is based on the coefficient direction of the negative value NPL with values t -1.265 and significance values of 0.33. Because the value of significance is greater than 0.05 until the early hypothesis (H1) which tells if NPL negatively affects the effect of liquidity is rejected. In 2016, the NPL were negatively linked to liquidity. The large NPL ratio shows the magnitude of bad loans and eventually causes losses on the part of banks. Iqbal also said that the large NPL ratio of conventional banks was due to careless lending applications and that it was a factor in liquidity cases. Bank Indonesia has set the maximum NPL ratio through Bank Indonesia Regulation (PBI) of 5%. The average value of NPL in the illustration of the bank used is 2.78%. The results showed banks could reduce the NPL ratio below 5% to cause substantial profitability, as banks look to save money to form non-performing loans and PPAP.

The results of the study on the second hypothesis, obtained results if ROA positively influenced and significant to the effect of liquidity projected with the ratio of LTA. The result is based on the direction of positive regression coefficient with values t 3.48 and significance values of 0.022. Because the significance value is smaller than 0.05 until the second hypothesis (H2) which tells if ROA positively affects the effect of liquidity is accepted. Sourced on theory trade of between liquidity and profitability, if a bank wants to Strengthen its liquidity position is tried by means of increasing reserves in cash by imposing assets owned by your bank to raise some of the idle funds, thus lowering the profitability of the bank. Conversely, if the bank wants to strengthen its profitability until the bank has to risk liquidity, because cash reserves derived from the consumption of bank assets are used for liquidity needs to be used by banks for other interests that can increase profitability in the bank to increase liquidity in the bank to decrease and cause cases of liquidity effects. The results of the study were unchanged, compared with studies tried by Anam et al. (2016), Iqbal (2016), Muharam & Kurnia (2016), Rahman & Banna (2016), Azhary & Muharam (2017), Effendi & Disman (2017).

The results of the study on the third hypothesis, obtained results if ROE influenced positive and significant to the effect of liquidity projected with the ratio of LTA. The results are based on the results of multiple regression analysis showing if the coefficient of positive regression with values t 5, 536 and significance values of 0.01. Because the value of significance is smaller than 0.05 to the third hypothesis (H3) which tells if ROE positively affects the effect of liquidity is accepted. Referring to theory trade of between liquidity and profitability, Arthesa (2006) said that on the one hand the bank must protect its liquidity level,

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but on the other hand banks must also seek profit and profitability not only to keep the business at the bank profitability also means for investors in obtaining dividends related to their investments. To protect its liquidity the bank charges its capital to protect liquidity reserves to reduce the occurrence of liquidity effects. The results of the study were unchanged, compared with studies tried by Roman & Sargu (2014), Ghenimi & Omri (2015), Rahman & Banna (2016), and Iqbal (2016). Iqbal (2016) who has a strong ROE ratio, said the large ROE ratio shows that the return on investment from shareholders is more lightning. when banks have a larger ROE, they have a large income that can be used to support short-term liabilities and banks want to have fewer cases or risky conditions.

The results of the research on the fifth hypothesis, obtained results if the size of the bank affects negatively and does not significant against the effect of liquidity projected with the ratio of LTA. The results are based on the direction of the firm size, which is negative with a value of t -0.65 and a significance value of 0.36. Because the value of significance is greater than 0.05 to the 5th hypothesis, which reports that the size of the bank affects negatively against liquidity risk is rejected. The size does not affect liquidity risk due to conventional banks, competition in the banking market continues to be strong, because the rise of sharia banking is therefore a race to acquire customers. Bani & Yaya (2016) said the issue led to conventional banks increasing their assets and improving their business so that customers were comfortable with the services provided. And the small amount of total assets owned by a bank so as not to cause liquidity effects on the bank. The study was in line with studies attempted by Ghenimi & Omri (2015), Rahman & Banna, (2015), Bani & Yaya (2016), Akhtar & Sadaqat (2016), Azhary & Muharam (2017), Effendi & Disman, (2017) who said the size of the bank had no effect on liquidity effects. The results showed that the minimum value of size measured by total assets was 2,365,227,887 and the maximum value is 2,235,335,548,189. The comparison between

the minimum value and the maximum is quite large showing that the small number of total relics owned by a bank does not want to cause the formation of liquidity risk in the bank.

CONCLUSSION AND RECOMMENDATION

The results of this research show that there are some aspects that influence liquidity as measured by using LTA variables. Of the 5 aspects studied consisting of NPL, ROA, ROE, and Firm Size. From the results of the study, it was proven that ROA and ROE variables have a positive and significant influence on the effect of liquidity. In contrast, other variables consisting of NPL, and Firm Size do not affect the liquidity effect. On the contrary, other variables consisting of NPL and Firm Size do not affect liquidity risk.

This research has limitations that the beginning is the results of the determination coefficient test shows the value of Adjusted R Square only 0.23. This means that if only 23. 6% of dependent variables can be displayed by independent variables. The opposite of the remaining 76.4% was exposed by other variables beyond the variables used in this study. Not only that this study also has limitations The study is only focused on conventional banks, so it has not been able to compare the liquidity effect with variables used in sharia banks and banks that conduct mergers.

Based on the results of this research, there are some initial recommendations for banks that banks must be more selective in sharing credit periods and keeping a close eye on the condition of prospective credit recipients. Not only that, but it is also expected that the bank is able to manage productive assets that can increase the source of liquidity in the bank. And banks are also obliged to manage their income such as accumulated capital from investors so that more liquid relics are available, to minimize liquidity risk. Not only recommendations for banks, but there are also some recommendations that can be considered for future research.

For the next research can classify the illustration of the banking to be used, a kind of sourced at the small dimension of the bank, so that better results can be obtained. Not only that, the next research can equate 2 types of banks more specifically to recognize how liquidity risk comparison in banks, for example the comparison between conventional bank liquidity risk with sharia banks such as research tried by Muharam & Kurnia (2013), Sukmana & Suryaningtyas (2016), Efendi & Disman (2017), And the next research could raise independent variables that support liquidity effects, such as NIM, NWC, GDP growth, and inflation levels as tried by Anam et al, (2012), Ghenimi & Omri (2015), Rahman & Banna (2016),

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