

Financial Performance of Indonesian Banking Industry: Do Liquidity, Asset Quality and Capital Matter?

Firly Irhamni, Cucu Auliya, Denis Fidita Karya, Mohamad Yusak Anshori

Department of Management

Faculty of Economic, Business and Digital Technology

Universitas Nahdlatul Ulama Surabaya, Indonesia

firhamni@unusa.ac.id

Rizki Amalia Elfita, Dina Anggraeni Susesti

Department of Accounting

Faculty of Economic, Business and Digital Technology

Universitas Nahdlatul Ulama Surabaya, Indonesia

Abstract

This study is intended to investigate the relationship between bank liquidity, asset quality and capital adequacy in determining financial performance in the banking industry in Indonesia with a minimum core capital of IDR 5 trillion in 2015 to 2019. This paper identifies the extent to which bank liquidity can have an impact on the financial performance in banking industry. And analyzing the extent to which asset quality has an impact on the bank's financial performance. Also how is the role of capital in mediating the relationship between liquidity and asset quality of banking industry with the financial performance of the lowest core capital of IDR 5 trillion during 2015 to 2019. Evidence shows that asset quality has impact on financial performance, liquidity has a significant effect on banking financial performance. Asset quality and liquidity has high effect on the capital adequacy respectively, financial performance determinant also depends on the capital regulatory of banks, then the indirect analysis results show that the capital adequacy managed to mediate the relationship between asset quality and financial performance however, the capital reserve has weak intervening in the relationship between liquidity and financial performance through.

Keywords

Bank, liquidity, asset quality, capital adequacy and financial performance.

1. Introduction

Banking sector has been giving major contributions to the development of economic in many countries, including emerging economy like Indonesia. To enable them to leverage more, banking industry has been focusing to attain and maintain their financial performance. Bankers and many analysts have always been focused on creating expansion; yet not all growth delivers long-term value or profitability for banks. According to some, industry estimates roughly up to 40% of a bank's customers may be unprofitable to the organization. This highlights the complexity of efficiently measuring and managing their financial performance, since bankers must have a comprehensive understanding of which clients, channels, branches, and products provide the most value. In Indonesia, according to Bank Indonesia Circular 2019 period, ROA data from 2015 to 2016 showed a decrease from 2.08% to 1.90%, then in 2017 it No. 6/23/DPNP dated 31 May 2004 financial performance in banking can be measure through profitability using the ROA ratio. As in the return on asset (ROA) of banking companies in BUKU 1 – BUKU 4 for the 2015 - increased with an average value of 2.23%. In 2018 there was an increase again with a figure of 2.35% and in 2019 it decreased again with a figure 2x lower than the previous years with an average value of 1.85%.

In this study we choose ROA as a measure of a company's management performance that is sensitive to any influence of the bank's financial state and in achieving maximum profit, and it serves as a standard for management in utilizing the bank's assets to earn profit (Riyanto, 2005).

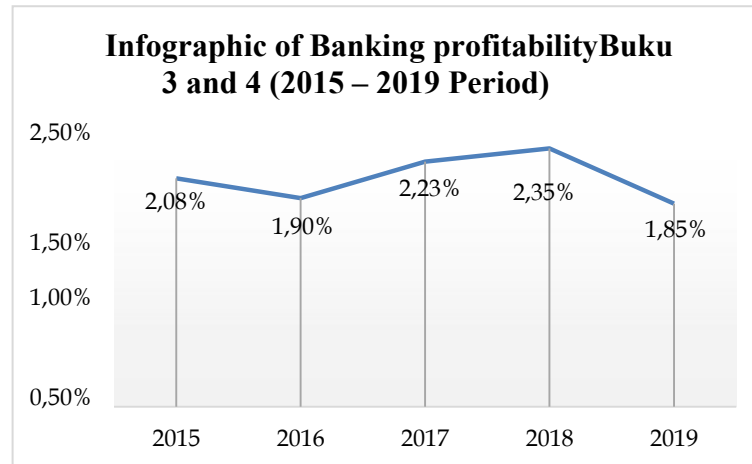


Figure 1. Banking profitability

In accordance with Bank Indonesia Regulation No. 14/26/PBI/2012 concerning Business Activities and Office Networks Based on Bank Core Capital. With this regulation, commercial banks, both conventional and Islamic, cannot run operations arbitrarily and arbitrarily, but are adjusted to the amount of core capital they have.

Table 1. Bank Core Capital Category (BUKU)

Bank Core Capital	Level of Commercial Banks Business Activities
IDR 100 billion to below IDR 1 trillion	BUKU 1
IDR 1 trillion to below IDR 5 trillion	BUKU 2
IDR 5 trillion to IDR 30 trillion	BUKU 3
More than IDR 30 trillion	BUKU 4

Nevertheless, asset quality in banking industry or nonperforming loans, are the most common problems in Indonesian banks. Asset quality is measured by the level of non-performing loan (NPL), is a collection of credit-related issues, such as poor loans. So, if the bank is only able to grant a restricted amount of credit and has trouble collecting the loan amount that has been given to the customer, the bank is said to have experienced a loss as a result of the credit problem. The second issue is liquidity, which refers to issues that arise as a result of the public's increased need for funds. The loss of opportunity to earn money from loans that have been disbursed is one of the repercussions of an unjustified NPL level, which has a negative impact on the bank's profitability in earning profits (Dendawijaya 2005). Banks with bad asset quality that exceed Bank Indonesia's requirements will see a fall in profit, because the greater the non-performing loan, the lower the credit quality, which leads to a growth in the number of non-performing loans, causing the bank to lose money in its operations that could have a negative impact on the bank's profits. Previous studies results suggest that asset quality has a negative and significant effect on profitability (Mukti 2019), (Majidi 2017), and (Ogboi 2013). Equity capital, according to Islam and Nishiyama (2016), has a beneficial impact on the profitability of South Asian commercial banks.

From table 1 and table 2 we can see the bad asset quality over the period shows that is growing trend, liquidity is getting higher will cause idle fund risk after all.

Table 2. Average Ratios in asset quality, liquidity, and capital of bank BUKU 3 and 4

The Average Ratio 16 Banking Companies of BUKU 3 and BUKU 4			
Year	Asset Quality	Liquidit y	Capital Adequacy
2015	2,69%	88,26%	18,29%
2016	3,34%	86,91%	21,77%
2017	3,11%	85,98%	23,12%
2018	2,77%	88,78%	22,58%
2019	2,95%	99,02%	23,12%

The following studies investigate the relationship between bank capital, risk, liquidity, financial performance and efficiency: Chiaramonte and Casu (2017) posit that the potential failure and distress decreases as liquidity holdings increased, while capital ratios has significant effect in lowering potential distress only for large banks, Cole and White (2012), DeYoung and Jang (2016) conclude that loans to core deposit ration (LTCD) and (implicit) net stable fund ratio (NSFR) in banks will likely to reduce their liquidity target as their size grow dominantly for small banks and weakest for so-called SIFI banks. The results from Lee and Hsieh (2013) show that the capital of banks in low-income countries have a higher effect on profitability; then the reverse capital of banks in lower-middle income countries have the highest effect on risk, however banks high-income countries banks have the lowest values. They also find that banks in Middle Eastern countries own the highest and positive capital effect on profitability. Diamond and Kashyap (2016)), Distinguin, Roulet, and Tarazi (2013), Francis and Osborne (2012), Haneef, Archer, and Karim (2018); Ozili (2017), Beltratti and Paladino (2015), Beltratti and Paladino (2015), Deyoung et al. (2017), Horváth, Seidler, and Weill (2014), Goddard, Liu, Molyneux (2013) indicate that managerial efficiency measured as cost-income ratio appears to be a more important determinant of performance and Tran, Lin, and Nguyen (2016) investigation results that banks that produce more liquidity and exhibit higher illiquidity risk have negative effect on profitability. The level of capitalization moderate the relationship between regulatory capital and bank performance, their relationship is not linear. Regulatory capital is negatively related to bank profitability for higher capitalized banks meanwhile positively related to profitability for lower capitalized banks. In their research, Ozili (2017) concludes that regulatory bank capital has a beneficial impact on commercial bank profitability in Africa. Bank size, total regulatory capital, and loan loss provisions are significant determinants of the return on assets of listed banks compared to non-listed banks. Also, regulatory capital has a more significant (and positive) impact on the return on assets of listed banks than non-listed banks

We discuss whether and how asset quality and liquidity influence commercial banks' financial performance. We anticipate loan growth to have a positive relationship with loan default (Berger and Udell 2004). Secondly, we examine how the individual bank's financial performance is affected by capital. Then we investigate how capital adequacy mediate the relationship of asset quality and bank's financial performance. Moreover, we look into the mediating role of capital in the effect of liquidity on bank's financial performance. We have considered the return on asset (ROA) as a proxy of financial performance that will show the relationship with capital adequacy in the commercial bank. Lastly, we are evaluating the effect on bank liquidity and asset quality with capital respectively.

1.1 Objectives

1. To analyze financial performance in the banking industry in Books 3 and 4 of the Indonesia Stock Exchange.
2. To predict the effect of asset quality through financial performance of banking industry in Indonesia 3. to see whether asset quality has a substantial impact on the level of Capital Adequacy in the banking sector in the Indonesia Stock Exchange Books 3 and 4.
3. To examine how asset quality and liquidity contribute to financial performance in banking industry
4. To analyze how capital can interfere the relationship of asset quality and liquidity with financial performance in the banking industry respectively.

5. To provide insight to banking firms in industry to have an eye for the sound of their internal factors of their financial condition to avoid potential risks and loss.
6. To give proposition to principal and investors who invest in banking industry, to take into account firms asset quality, liquidity, and capital.

2. Literature Review

Bank is a business entity that has a goal in its activities to increase the level of people's living standards by collecting funds from the community in the form of savings and only issued for public needs for funds in the form of credit. (Law No. 10 of 1998 concerning Banking). This commercial bank has several activities which comprehensively include:

1. Raising Funds (funding)
2. Channeling Funds (lending)
3. Providing other services including: remittances, clearing, and incasso and many other services in accordance with the provisions of the bank itself.

2.1 Financial Performance

Financial performance, according to Fahmi (2018: 142), is an examination of a company's ability to apply financial implementation laws properly and correctly. The application of the applicable rules that have been carried out effectively and correctly is the foundation of a good company's financial performance.

Return on Asset (ROA)

ROA is the one calculation of the profitability ratios, which is used to assess a financial institution's capacity to publish accurate financial reporting. Furthermore, the Return on Assets (ROA) indicator was chosen for this study because it has a critical role in calculating management performance capabilities and identifying profits that can be obtained from the company's assets. Not only that, but the researcher believes that the ROA ratio is simple to calculate and comprehend; it is also a measure of a company's management performance that is sensitive to any influence of the banking financial situation and in maximizing profit, and it is a benchmark for management in utilizing assets owned by the company.

$$\text{Return on Asset} = \frac{\text{EBIT}}{\text{Total Asset}}$$

2.2 Asset Quality

One of the most important factors in determining a bank's overall health is asset quality. The quality of the loan portfolio and the credit management program are the two most important factors impacting total asset quality. Loans usually make up the majority of a bank's assets and pose the largest risk to its capital. Securities may account for a significant portion of the assets and carry significant risks. Other real estate, other assets, off-balance sheet items, and, to a lesser extent, cash and due from accounts, as well as premises and fixed assets, can all have an impact on asset quality. The assessment of credit risk associated with a specific asset, such as a bond or stock portfolio, is referred to as an asset quality rating. In Indonesia asset quality of bank is measured by non-performing loan (NPL) is a comparison between the amount of credit provided by the bank to customers and the level of collectibility or payment by the customer who has not fulfilled the agreement so that a comparison calculation occurs between non-performing loans and the total credit provided by the bank. Wulandari dan Purbawangsa (2019), Paramita dan Adhi (2020) state that there is a significant effect of asset quality on financial performance with ROA proxy. Paramita and Adhi (2020) also state that there is a significant influence between asset quality on the capital of banks. In accordance with the Circular Letter that has been issued by BI No. 6/23/DPNP 2004, NPL ratio:

$$\text{NPL} = \frac{\text{non performing loans}}{\text{total credit issued}} \times 100\%$$

2.3 Liquidity

Liquidity refers to the efficiency or ease with which an asset or security can be converted into ready cash without affecting its market price. The most liquid asset of all is cash itself. According to Bank Indonesia Regulation No. 17/11/PBI/2015 dated 26 June 2015, the formula for loan to deposit ratio (LDR) was changed to include securities in the LDR calculation, so that its name was changed to loan to funding ratio (LFR). it was changed by expanding the funding component in order to encourage greater lending to the Micro, Small and Medium Enterprises (MSME) sector. LFR is a financial calculation ratio used by numerous banking firms to assess the ratio between the amount

of loan value offered to the public and the capital collected by the bank, which includes demand deposits, savings, time deposits, and other short-term liabilities, as well as securities. Liquidity with LFR as proxy is judged to be directly proportional to financial performance (ROA) and LFR has an effect on financial performance with ROA as proxy Majidi (2017), Wulandari dan Purbawangsa (2019), and Faridz (2019). Wulandari dan Purbawangsa (2019) also posit that liquidity of banks has a significant effect on the capital with CAR as proxy. The LFR ratio can be calculated using BI Circular Letter No. 18/18/DKMP dated August 24, 2016.

$$LFR = \frac{\text{Total credit}}{\text{Total third party funds and securities}} \times 100\%$$

2.4 Bank's Capital

Bank's capital is referred as Capital Adequacy Ratio. This ratio is a capital or fund adequacy ratio that indicates whether a bank is able to provide capital reserves that may be required in order to expand its business activities. In addition, the bank will collect a number of risks that may arise as a result of the bank's operational losses. The higher the ratio, the better the capital held position will become.

Capital Adequacy Ratio (CAR)

The capital adequacy ratio (CAR) measures a bank's ability to offer cash for business development while also accounting for the probability of risk losses produced by operating banks. The more significant the ratio, the better the capital situation is becoming. Article 2, paragraph 1 of Bank Indonesia Regulation Number 10/15 / PBI / 2008 says that banks must provide a minimum capital of 8% of risk-weighted assets (RWA). CAR is a ratio that indicates how much risk is included in a bank's total assets (loans, investments, securities, bills at other banks financed with capital, and cash obtained from outside the bank). The greater the CAR, the more capable the bank is of absorbing the risk of any noisy credit or productive assets (Hassan, 2021). CAR is directly proportional to or affects financial performance. These conclusions are in accordance with the research conducted by Agbeja et al. (2015), Wulandari and Purbawangsa (2019), Septiani and Lestari (2016) which state that CAR has a significant influence on financial performance with ROA as a proxy.

$$CAR = \frac{\text{Capital}}{\text{risk-weighted assets}} \times 100\%$$

So, we develop our hypotheses as follow:

- H1: Asset quality with (NPL) proxy has a significant effect on financial performance of banks (ROA).
- H2: Liquidity with (LFR) has a significant effect on financial performance of banks (ROA).
- H3: Asset quality with (NPL) have a significant effect on the Capital (CAR).
- H4: Liquidity with (LFR) has a significant effect on the Capital (CAR).
- H5: Capital with (CAR) has a significant effect on financial performance of banks (ROA)
- H6: Asset quality with (NPL) have a significant effect on financial performance of banks (ROA) through Capital
- H7: Liquidity with (LFR) has a significant effect on financial performance (ROA) through Capital

3. Methodology

In this study, using exogenous and endogenous variables, also intervening variable. Exogenous variables are variables that are often referred to as stimulus, predictor, and antecedent variables. Exogenous variables in this study are asset quality and liquidity. While endogenous variables are often referred to as output variables, criteria, and consequences. Endogenous variable in this study is financial performance. And intervening variable is often called interrupting variables or between independent variables and dependent variables. Intervening variable in this study is capital. The data analysis technique in this research is analyzing the data and testing the hypothesis using descriptive statistics, testing the hypothesis using associative research testing with the help of WarpPLS software version 7.0. is carried out by evaluating the outer model and inner models.

a. Measurement Model (Outer Model)

Outer Model Evaluation is used to determine the specification of the relationship between latent variables and their indicators.

b. Structural Model (Inner Model)

The structural model in PLS is evaluated by using R^2 for the dependent construct, path coefficient values or t-values for each path to test the significance between constructs in the structural model.

c. Hypothesis testing

Hypothesis testing was conducted to explain the meaning of the relationship between exogenous and endogenous variables. The results of the correlation between constructs are measured by looking at the path coefficient and the level of significance which is then compared with the research hypotheses that have been compiled. The following is used as a basis for decision making, namely:

p-value 0.05 then H_0 is accepted

p-value < 0.05 then H_0 is rejected, and H_a is accepted

4. Data Collection

This study uses a quantitative approach. The method for sample selection used in this study is the sampling method used in this study is the Saturated Sample method. According to Ghazali and Latan (2014) Saturated sampling is a sampling technique when all members of the population are used as samples. Meanwhile, according to Arikunto (2012:104) saturated sampling is obtained from a population of less than 100 samples, so the number of samples used is entirely from the population. So, we take 100% of the population in the Banking Sector Companies in BUKU 3 and 4 which are listed on the Indonesia Stock Exchange for the 2015 – 2019 period.

5. Results and Discussion

5.1 Numerical Results

In general, descriptive statistics only provide a description or descriptive of the actual data state of the data. The analytical tool used in this study is the mean (mean) and standard deviation. From table 1, the maximum value for asset quality is 0,1% and its minimum value is 0. Liquidity variable, the maximum value is 716% and the minimum is 60,7%. In financial performance, the maximum value is 0 and the minimum - 0. For capital, the maximum value is 5% and the minimum value is 1% (table 3).

Table 3. statistic descriptive

Variable	N	Min	Max	Mean	Std. Deviasi
Asset quality (X1)	80	0,000	0,001	0,000	0,000
Liquidity (X2)	80	0,607	7,160	1,093	0,774
Financial performance (Y)	80	0,000	0,000	0,000	0,000
Capital (Y1)	80	0,001	0,005	0,002	0,001

b. Convergent Validity

The criteria for the loading factor value of each indicator greater than 0.70 can be said to be valid, and the p-value if < 0.05 is considered significant (Table 4)

Table 4. Output combined loading and cross-loading

Variable	Loading	P-value	Description
Asset quality	1,000	$< 0,001$	Meets convergent validity
Liquidity	1,000	$< 0,001$	
Financial performance	1,000	$< 0,001$	
Capital	1,000	$< 0,001$	

c. Average Variance Extracted (AVE)

According to Latan and Ghazali (2017) recommend that the AVE value should be greater than 0.50 which means that 50% or more of the variance of the indicator can be explained. The following, according to the table below, is the result of the AVE calculation that has been carried out, namely (Table 5):

Table 5. Result *Output* AVE value

Average Variance Extracted (AVE)			
Latent variables	AVE	Criteria	Description
Asset quality	1,000	>0,50	Meets convergent validity
Liquidity	1,000	>0,50	
Financial performance	1,000	>0,50	
Capital	1,000	>0,50	

Table 6. Value of loading latent constructs of indicators and to other constructs

	Asset quality (X1)	Lliquidity (X2)	Financial performance (Y)	capital (Y1)	Description
Asset quality	(1,000)	0,000	0,000	0,000	Meets discriminant validity
Liquidity	0,000	(1,000)	0,000	0,000	
Financial performance	0,000	0,000	(1,000)	0,000	
Capital	0,000	0,000	0,000	(1,000)	

Based on the table 6, the cross loading value indicates the discriminant validity results for each block can be dominantly assessed as good. As it is clear that the four constructs used in this study are declared valid because they meet discriminant validity, because the value of each block with a construct must have a higher value than the other constructs.

Table 7. Result of *output correlation among latent variables*

	Asset quality	Lliquidity	Financial performance	capital
Asset quality (X1)	(1,000)	-0,121	-0,379	0,333
Liquidity (X2)	-0,121	(1,000)	0,077	-0,037
Financial performance (Y)	-0,379	0,077	(1,000)	-0,084
Capital (Y1)	0,333	-0,037	-0,084	(1,000)

Based on the results of the table 7, data processing using AVE criteria method, all indicators can be said have met the criteria of discriminant validity. The next test is a construct reliability test that can be measured by 2 criteria, namely composite reliability and Cronbach's alpha. A construct can be declared reliable if the composite reliability value > 0.70 (table 8 and 9).

Table 8. Output *Composite Reliability* dan *Cronbach's Alpha*

	Asset quality (X1)	Liquidity (X2)	Financial performance (Y)	Capital (Y1)
<i>R - Squared</i>			-0,075	0,409
<i>Adj. R-squared</i>			-0,117	0,394
<i>Composite reliability</i>	1,000	1,000	1,000	1,000
<i>Cronbach's Alpha</i>	1,000	1,000	1,000	1,000
<i>Avg. Var. Extract</i>	1,000	1,000	1,000	1,000
<i>Full Collin. VIF</i>	1,497	1,171	1,181	1,195
<i>Q - Squared</i>			0,519	0,419

Table 9. Result *Output Model Fit Indices*

	Index	P-Value	Criteria	Description
APC	0,372	< 0.001	P > 0,05	Accepted
ARS	0,155	= 0.037	P > 0,05	Accepted
AVIF	1,068		AVIF < 5	Accepted

Based on the Average Path Coefficient (APC), Average R-Squared (ARS) and Average Variance Factor (AVIF) criteria, the index values of the three results were declared acceptable because the p-values in APC and ARS were less than 0.05. the same is the case for the result of the AVIF value of 1.068 with the value criteria must be < 5 and can be said to be acceptable if, so that the result of the AVIF index value is accepted (**Figure 2**).

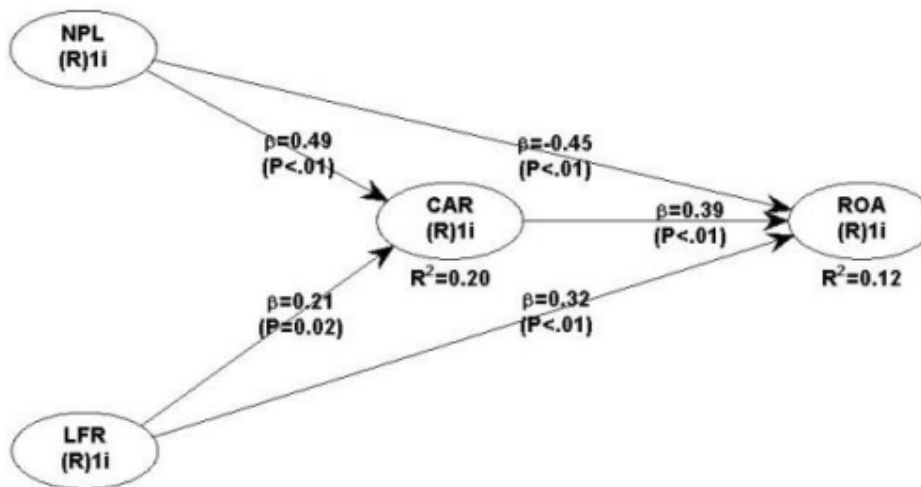


Figure 2. Path Coefficient

5.2 Validation and Hypothesis Test Results

Testing this hypothesis to prove the truth of the alleged research or hypothesis. The results of correlations between constructs are measured by looking at the path coefficient and its significance level which are then compared with the research hypotheses contained in chapter two. The level of significance used in this study was 5%. The

following is a picture of a research model and the results of the effect sizes obtained based on data processing (Table 10):

Table 10. Direct dan Indirect total effects

	Criteria	Variable	Asset quality	Liquidity	Financial performance	capital
Direct effect	Path Coefficient	Asset quality				
		Liquidity				
		Financial performance	-0,445	0,321		0,395
		Capital	0,489	0,209		
	P-Values	Asset quality				
		Liquidity				
		Financial performance	<0,001	<0,001		<0,001
		Capital	<0,001	<0,025		
	Effect sizes for path	Asset quality				
		Liquidity				
		Financial performance	0,238	0,104		0,226
		Capital	0,252	0,056		
Indirect effect	Path Coefficient	Asset quality				
		Liquidity				
		Financial performance	0,193	0,083		
		Capital				
	P-Values	Asset quality				
		Liquidity				
		Financial performance	0,006	0,144		
		Capital				
	Effect sizes for path	Asset quality				
		Liquidity				
		Financial performance	0,103	0,027		
		Capital				

This test uses a path analysis (path analysis) that has been made by researchers. The WarpPLS version 6.0 program can simultaneously generate complex structural models, so that it can produce path analysis results in one regression.

The basis for decision making is that:

P-value ≥ 0.05 , then H_0 is accepted

P-value ≤ 0.05 then H_0 is rejected and H_a is accepted.

The following is a hypothesis test proposed as follows:

Hypothesis 1

it is found that the asset quality variable shows a p-value of <0.001, Path coefficient of -0.445 and an F^2 value of 0.238 which indicates a negative and significant influence on financial performance which is proxied by Return on Assets

(ROA).

According to Mawardi (2005) if a bank has poor asset quality conditions, it will increase other costs, thus affecting bank losses. The higher the value of bad loans, the performance of the banking sector will decrease, on the contrary if the value of non-performing loans decreases, the performance will increase. Based on this description, hypothesis 1 can be accepted.

So that it can be proven in accordance with the results of data processing that has been done previously which shows that NPL has a negative effect on ROA and has increased in a number of companies in Books 3 and 4. the level of risk on lending to banks is quite low so that the profitability of the bank will benefit and vice versa if non-performing loans increase, the bank's performance will decrease.

The results obtained in this study are supported by research conducted by Choerudin et al. (2016), Mukti (2019), Majidi (2017), Damayanti (2012) which shows that asset quality has a negative and significant influence on financial performance as a proxy for ROA.

Hypothesis 2

the liquidity variable shows a p-value of <0.001 , a path coefficient of 0.321 and an F^2 value of 0.104 which indicates a positive and significant influence on financial performance proxied by Return on Assets (ROA).

If the liquidity value is higher, the bank's financial performance will also increase, while the liquidity value decreases, the financial performance value will also tend to decrease (Pompong 2010). Based on this description, hypothesis 2 is accepted.

When liquidity has a positive effect on financial performance, it shows that the higher the liquidity, the bank's financial performance will also increase. When the liquidity is high, the third-party funds channeled into credit will be even greater so that the bank's ability to generate profits through credit expansion will also be higher. Liquidity through LFR is a ratio that measures the composition of the amount of credit given compared to the amount of public funds and own capital used and added to the value of securities (Kasmir 2008:225).

The results of this study are supported by the results of research conducted by Chiaramonte and Casu (2017) and Faridz (2019) which shows that liquidity has a positive significant effect on financial performance which is proxied by ROA, so it is accepted.

Hypothesis 3

the asset quality variable shows a p-value of <0.001 , Path coefficient of 0.489 and an F^2 value of 0.252 which indicates a positive and significant influence on the Capital.

If the value of bad asset quality of bank has increased, it will affect the bank's capital in the proxy Capital Adequacy Ratio (CAR) because bank must provide funds to meet and overcome if there is a possibility of risk to the bank, which is commonly referred to as PPAP (Allowance for Eliminations of Productive Assets). In addition, bank capital that should be used for investment will decrease due to too little capital owned by a bank, as a result of the establishment of PPAP.

Asset quality has a positive and significant effect on the capital value, which shows that bank capital must be able to cover all business risks faced by banks, including if there is a risk of loss that occurs due to non-performing loans. The finding of this study is in line with the theory expressed by Ali (2004) which explains that if the capital value is higher, the greater the ability of the bank to minimize credit risk, so that non-performing loans that occur in banks will be lower with the amount of reserve funds obtained so that the effect of bad asset quality on capital is accepted.

The results of this study are strengthened by research conducted by Paramita and Adhi (2020) which shows that the asset quality variable has a positive and significant effect on the value of the Capital with (CAR) as proxied.

Hypothesis 4

the liquidity variable, has a p-value of <0.025 , a Path coefficient of 0.209 and an F^2 value of 0.056 which indicates a positive and significant influence on bank's capital. If the liquidity value increases, it can be said that more loans are being disbursed. So that an increase in the volume of credit provided by banks has a greater ability to repay funds collected from customers, so that banks do not need to use their capital as a source of financing (Pastory and Marobhe, 2013). In addition, a high liquidity value has a significant impact on increasing capital. This condition is because the liquidity ratio owned by the banking company for some time has been distributed by the bank using the collected third-party funds, so that to finance the loan request, the bank also uses its own capital, so that the hypothesis is accepted.

In this study, the results are supported by study conducted by Septiani and Lestari (2016) which shows that liquidity has a positive and significant effect on capital.

Hypothesis 5

the Capital variable shows a p-value of <0.001 , the path coefficient is 0.395 and the F^2 value is 0.226 which indicates a positive and significant influence on the proxied financial performance by Return on Assets (ROA). If the capital ratio decreases over time, it reflects that the capital in a bank is in a weak condition and financial performance decreased. On the other hand, the higher the capital, the higher the financial performance because the profits earned by the bank will be higher. In accordance with the explanation above, the hypothesis is accepted. So, if the banking company can manage capital well by optimally utilizing its own capital, the profits obtained will also increase, because when the bank decides not to finance capital from outside the company by increasing its own capital, the health of the bank is related to the capital/ will also increase public and customer trust because of the increased profit.

So, it can be concluded that if the capital value is higher, then the financial performance will also be greater, which means the higher the bank's capital ability to maintain the possibility of risk of loss of its business activities. The results of this study are supported by research that has been carried out by several researchers including Damayanti (2012), Lee and Hsieh (2013), Tran, Lin, and Nguyen (2016); Ozili (2017) and Agbeja et al. (2015).

Hypothesis 6

From the test results, show that the p-value is 0.006, the path coefficient is 0.193 and the F^2 value is 0.103. It can be concluded that the direct effect of asset quality on financial performance is smaller (0.001) compared to the indirect effect of capital (0.006). So that capital can mediate the relationship of asset quality and financial performance.

According to Hair et al (2016), which is in accordance with the results of hypothesis testing, the result has a Competitive Mediation type which shows that the direct and indirect effects both have a significant effect but in opposite directions, so the results of the direct influence test show that asset quality has a significant negative effect on financial performance, but in the next test, namely the indirect effect of obtaining a significant positive result between asset quality and capital and also in the test between capital and financial performance, it obtained a significant positive result. So, in this study, it indicates that the effect of asset quality on financial performance through capital as a mediating variable is accepted.

If the bank has a high capita; ratio, it can protect the bank from various forms of business risk, such as a high level of non-performing loans. Banks that can anticipate all forms of business risk will have an impact on public trust, so that it will increase profits for the bank (Astohar 2009).

The results of this study are supported by studies conducted by Septiani and Lestari (2016), Paramita and Adhi (2020), Wulandari and Purbawangsa (2019).

Hypothesis 7

the results show that the p-value is 0.144, the Path coefficient is 0.083 and the F^2 value is 0.027. It can be concluded that the direct effect of liquidity on financial performance is smaller (0.001) compared to the indirect effect of capital (0.144). Capital variable is not able to mediate the effect of liquidity on financial performance. So, in this study, it indicates that the effect of liquidity on financial performance through capital as a mediating variable can be rejected.

When the liquidity has a positive effect on capital, it indicates that the higher the liquidity, the capital of the bank will also increase. So, if the liquidity increases, it indicates that more loans are being disbursed. In addition, when the volume of credit also increases when it is distributed, banks have a greater ability to repay funds collected from customers, so that banks do not need to use their capital as a source of financing (Pastory and Marobhe 2013). To improve bank performance, it is better to do it directly by increasing bank liquidity. This means that in increasing profits from interest income, bank lending does not require capital reserves or the Capital Adequacy Ratio (CAR) because a high liquidity ratio indicates that more and more third-party funds are disbursed in the form of credit. This will provide greater interest income which will increase profitability so that the bank's performance also increases. The positive relationship obtained from the test between liquidity and financial performance means that the higher the liquidity, the bank's financial performance will also increase. The higher the liquidity value means that more third-party funds are channeled in the form of credit. The loans disbursed by the bank provide interest income to the bank which in turn will increase the bank's performance.

The results of this study are supported by research conducted by Septiani and Lestari (2016) and Choerudin et al. (2016).

6. Conclusion

This study highlights some results in the case of emerging economic like Indonesia, that is deemed as potential economy to grow, yet the risks also involve in the process. Based on the asset quality condition in 2016 and 2019 the bad asset quality grew although the liquidity also increased moderately. Using an associative analysis testing model with WarpPLS, findings suggest that commercial banks likely to see the effect of bank's liquidity level on the financial performance of commercial banks also the indirect effect of bank's liquidity level through the adequacy of bank's capital. That liquidity level of banks influences significantly on the bank's financial performance and bank's adequacy capital. Findings further indicate that asset quality of banks also has great impact on bank's financial performance and its capital respectively. When bank's asset quality is bad, the financial performance of bank will be fallen. Some peculiarity results occur, although bad asset quality affects financial performance and bank's capital adequacy, the direction is reversed, nevertheless. That bank capital must be able to cover all business risks faced by banks, including if there is a risk of loss that occurs due to non-performing loans.

The finding of this study is in line with the theory expressed by Ali (2004) which explains that if the capital value is higher, the greater the ability of the bank to minimize credit risk, so that non-performing loans that occur in banks will be lower with the amount of reserve funds obtained so that the effect of bad asset quality on capital is accepted.

Although capital adequacy of banks managed to mediate the relationship between asset quality and financial performance. However, bank's capital cannot mediate the effect of liquidity on financial performance. To improve bank performance, it is better to do it directly by increasing bank liquidity. This means that in increasing profits from interest income, bank lending does not require capital reserves or the Capital Adequacy Ratio (CAR) because a high liquidity ratio indicates that more and more third-party funds are disbursed in the form of credit. This will provide greater interest income which will increase profitability so that the bank's performance also increases.

This paper enriches the literature on banking and finance in different manners. It explains how commercial banks in Indonesia with 5 trillion IDR minimum capital are using bank capital, bank liquidity and credit risk to obtain profit so their financial performance enhance.

Our findings call for immediate, phase-wise, and innovation-driven policy measures with a long-term approach to prevent potential f banking sector crisis in Indonesia. The findings could be considered as a warning sign for other emerging and developing countries where banks have high lending exposure to post pandemic COVID-19-sensitive sectors and traditionally suffer from poor asset quality, high rates of NPLs, and weaker policy and regulatory frameworks. In general, the paper's broad message is that COVID-19 is likely to put financial and capital stress on banks across all economies regardless. The findings, however, should be considered in the context of a few limitations.

Reference

- Agbeja, O., Adelakun, O.J., Olufemi, F. I., *Capital Adequacy Ratio and Bank Profitability in Nigeria: A Linear Approach*, International Journal of Novel Research in Marketing Management and Economics Vol. 2, Issue 3, pp: (91-99), Month: September-December 2015.
- Ambarawati, I. G. A. D., & Abundanti, N., Pengaruh Capital Adequacy Ratio, Non-Performing Loan, Loan to Deposit Ratio terhadap Return on Asset, *E-Jurnal Manajemen Universitas Udayana*, vol. 7,no.5, pp. 2410–2441, 2018.
- Akbar, M. T., P. Moeljadi, and Dzajuli, A., Pengaruh Kredit Macet Terhadap Profitabilitas melalui Kecukupan Modal, Biaya dan Pendapatan Operasional, *Jurnal Bisnis dan Manajemen Universitas Merdeka Malang*, Vol.5 No. 1, 2018
- Arikunto, S., *Prosedur Penelitian Suatu Pendekatan Praktek*, Rineka Cipta, Jakarta, 2012
- Astohar, Rahmadani, S., Nurlita, D., Faktor Yang Berpengaruh Terhadap Profitabilitas Dengan Net Interest Margin Sebagai Variabel Intervening Pada Bank Perkreditan Rakyat Di Indonesia, *Jurnal STIEMA* Vol. 12 no 2, 2019
- Bank Indonesia Circular No. 6/23/DPNP dated 31 May 2004
- Bank Indonesia Regulation No. 14/26/PBI/2012 concerning Business Activities and Office Networks Based on Bank Core Capital
- Berger, A.N. and Udell, G.F., The institutional memory hypothesis and the procyclicality of bank lending behavior, *Journal of Financial Intermediation*, Volume 13, Issue 4, Pages 458-495, October 2004.
- Chiaromonte, L., & Casu, B, Capital and liquidity ratios and financial distress. Evidence from the European banking industry. *The British Accounting Review*, vol. 49,no.2, pp. 138–161, 2017

- Choerudin, A., Yuniatun, E., & Kusdiasmo, B., Pengaruh Non Performing Loan (NPL) dan Loan to Deposit Ratio (LDR) terhadap Return on Asset (ROA) dengan Capital Adequacy Ratio (CAR) sebagai Variabel Intervening (Studi pada Bank Umum yang Terdaftar di BEI Periode Tahun 2012-2015), *ProBank: Jurnal Ekonomi dan Perbankan*, vol. 2, no.2, pp. 28–47, 2016.
- Cole, R. A., & White, L. J, Déjà vu all over again: The causes of US commercial bank failures this time around. *Journal of Financial Services Research*, vol. 42, no. (1–2), pp. 5–29, 2012.
- DeYoung, R., & Jang, K. Y, Do banks actively manage their liquidity *Journal of Banking & Finance*, 66, 143–161. 2016
- Damayanti, P. and Savitri, D.A.M., “Analisis Pengaruh Ukuran (Size), Capital Adequacy Ratio (Car), Pertumbuhan Deposit, Loan To Deposit Rasio (Ldr), Terhadap Profitabilitas Perbankan Go Public Di Indonesia tahun 2005 – 2009, *Jurnal Ilmu Manajemen dan Akuntansi Terapan (JIMAT Sekolah Tinggi Ilmu Ekonomi (STIE) Totalwin Semarang Volume 3 Nomor 2*, Pp. 45 – 54, November 2012
- Dendawijaya L., *Manajemen Perbankan*, Edisi 2, Ghalia Indonesia, Bogor, 2009.
- Diamond, D. W., & Kashyap, A. K, Liquidity requirements, liquidity choice, and financial stability. In *Handbook of macroeconomics* (Vol. 2, pp. 2263–2303). 2016
- Distinguin, I., Roulet, C., & Tarazi, A., Bank regulatory capital and liquidity: Evidence from US and European publicly traded banks. *Journal of Banking & Finance*, vol. 37, no.9, pp. 3295–3317, 2013.
- Fahmi, I., *Manajemen Perbankan Konvensional dan Syariah*, Ed. 2, Mitra Wacana Media, 2018
- Faridz, A.M. and Atwal A. Drs., Akt., M.Si, *Analisis Pengaruh Dana Pihak Ketiga, Loan To Funding Ratio, Capital Adequacy Ratio, Inflasi dan Produk Domestik Bruto Terhadap Profitabilitas pada Bank Bumh Persero di Indonesia Periode 2015-2017*, Skripsi thesis, Universitas Muhammadiyah Surakarta, 2019.
- Gagah, L.M., *Penggunaan CAR Sebagai Mediasi Untuk Menganalisis Pengaruh NPL, LDR, dan BOPO terhadap Profitabilitas Pada Bank Umum Konvensional Yang Terdaftar Di Bursa Efek Indonesia*, Thesis Fakultas Ekonomi Universitas Negeri Yogyakarta, 2019.
- Ghozali, I. and Latan, H., *Partial Least Square Concepts, Methods and Applications Using the WarpPLS4.0 Program*, Universitas Diponegoro, Semarang. 2014.
- Haneef, R., Archer, S., & Karim, R. A. A, Regulatory aspects of the Islamic capital market and Basel III requirements–Shari’ah-compliant bank capital instruments. In *Islamic capital markets and products: Managing capital and liquidity requirements under Basel III* (pp. 221–236. 2018.
- Hasan, Z., The Effect Of CAR, ROA, NPF And BOPO On Net Operating Margin (NOM) In Indonesian Shariah Banking, *Proceedings IHTIFAZ: Islamic Economics, Finance, and Banking 28th*, 41 – 59 June 2021
- Horváth, R., Seidler, J., & Weill, L. , Bank capital and liquidity creation: Granger-causality evidence. *Journal of Financial Services Research* vol. 45, no.3, pp. 341–361, 2014.
- Imani., A. dan Pracoyo., A. Analysis of The Effect of Capital, Credit Risk, and Liquidity Risk on Profitability in Banks. *Jurnal Ilmu Manajemen & Ekonomika*, Vol 10 No 2 Hal: 44-50, 2018.
- Islam, M. S., & Nishiyama, S.-I., The determinants of bank net interest margins: A panel evidence from South Asian countries. *Research in International Business and Finance*, 37, 501–514, 2016 doi:10.1016/j.ribaf.2016.01.024
- Lee, -C.-C., & Hsieh, M.-F., The impact of bank capital on profitability and risk in Asian banking. *Journal of International Money and Finance*, 32, 251–281, (2013).
- Majidi, Z., *Analisis Pengaruh CAR, NPL, dan LDR terhadap Profitabilitas Pada Perusahaan Perbankan Yang Listing Di BEI (2014-2016)*, Fakultas Ekonomi Universitas Islam Malang, Malang, Indonesia, 2016.
- Mawardi, W., *Analisis Faktor-Faktor yang Mempengaruhi Kinerja Keuangan Bank Umum Di Indonesia Studi Kasus Pada Bank Umum Dengan Asset Kurang Dari 1 Triliun*, *Jurnal Bisnis Strategi* Vol. 12 No. 1, 83-93. 2005.
- Million, G., Matewos, K., & Sujata, S. , The Impact of Credit Risk on Profitability Performance of Commercial Banks in Ethiopia. *African Journal of Business Management*, vol. 9, pp. 59–66, 2015.
- Ozili, P. K. , Bank profitability and capital regulation: Evidence from listed and non-listed banks in Africa. *Journal of African Business*, vol. 18, no.2, pp. 143–168, 2017.
- Paramita, P.D., and Adhi, D.K., *Pengaruh Non-Performing Loans Dan Net Ineterst Margin Terhadap Return On Asset Mediasi Dan Dimoderasi Oleh Capital Adeuacy Ratio Tahun 2015 – 2018*, *Majalah Inspiratif, Jurnal Unpad*, Volume 5 Nomor 10, July 2020.
- Pastory, D., and Mutaju, M., *The Influence of Capital Adequacy on Asset Quality Position of Banks in Tanzania*. Institutional Repository Business Education, November 2013.
- Peraturan Bank Indonesia nomor 17/11/PBI/2015 tentang Perubahan atas Peraturan Bank Indonesia nomor 15/15/PBI/2013.
- Riyanto, B., *Dasar – Dasar Pembelanjaan Perusahaan*, Edisi Keempat, Cetakan Ketujuh, Yogyakarta : YBPFE UGM, 2005.

- Sentosa, Endri, Mahmud, Herminda. 2020. "Pengaruh Net Interest Margin (NIM), Biaya Operasional Terhadap Pendapatan Operasional (BOPO), Loan to Funding Ratio (LFR) Terhadap Return on Assets (ROA) pada Bank yang terdaftar di Bursa Efek Indonesia Periode 2014-2018". Fakultas Ekonomi dan Bisnis Universitas Persada Indonesia YAI.
- Septiani, R and Lestari, P.V., Pengaruh NPL dan LDR Terhadap Profitabilitas dengan Car Sebagai Variabel Mediasi Pada PT.BPR Pasar Raya Kuta, E -Jurnal Manajemen Unud, Vol. 5, No. 1. pp. 293 – 324, 2016.
- Wulandari, N.S. and Purbawangsa, IBA, Pengaruh LDR Terhadap Profitabilitas dengan CAR Sebagai Variabel Mediasi Pada LPD kota Denpasar, E-Jurnal Manajemen UDAYANA, Vol. 8, No. 4, 2019.
- Yatiningsih, Nur Fakhri "Analisis Pengaruh Bopo, Ldr, Npl, Size, CAR, Dan NIM Terhadap ROA." Fakultas Ekonomika Dan Bisnis Universitas Diponegoro Semarang. . 2015.

Acknowledgement

This work was supported by the Universitas Nahdlatul Ulama Surabaya

Biographies

Firly Irhamni is a lecturer at Department of Management, Universitas Nahdlatul Ulama Surabaya. She earned B.A. in International Relation from Airlangga University and Master in Management and Business from Airlangga University. She has been a management consultant working in various sector industry, her focus in corporate strategy, financial management, office management also some part in human capital management. She has published research papers in several international conferences such as AICEB, ICSB, IConBMT, also international journal such as JIRSEA. Her research interests include finance and accounting, human resources, entrepreneurship, and strategic management.

Cucu Auliya' is graduated from undergraduate study from Department of Management, Universitas Nahdlatul Ulama Surabaya. Her concentration in financial management. She aspires to work as professional in financial industry. Currently, she implements gained knowledge from her research into the industry that she works in.

Denis Fidhita K. is a lecturer at Universitas Nahdlatul Ulama Surabaya, he is the secretary of the Study Program at S1 Management at Universitas Nahdlatul Ulama Surabaya. Undergraduate education is taken at Institut Teknologi Sepuluh Nopember Surabaya in Mathematics, and as his master education in Management and Business from Airlangga University. He has been teaching in statistics, entrepreneurship, operation management and marketing management Joined in the Indonesian Management Forum (FMI), his fields of study are Operation Management and Entrepreneurship.

Mohamad Yusak Anshori is an associate professor at Department of Management, Universitas Nahdlatul Ulama Surabaya. He earned B.A. in International Relation from Gajah Mada University and Master and Doctoral degree in Management and Business from Airlangga University. He is also a professional in hospitality industry currently with 2 decades experience. He published dozen reputable journals national and international. His interest in corporate management, strategic management and entrepreneurship, that bring him to be a guest associate professor in technology business school in Institut Teknologi Sepuluh Nopember Surabaya.

