

The Impact of Bank-Specific and Macro Economic Factors on Profitability in Small Banks

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Abstract

Purpose: The objective of this study is to decide whether the profitability of small banks is shaped by bank-specific and macro economic factors including liquid ratio, loan to deposits ratio, deposit to assets ratio, capital adequacy ratio, firm size, GDP growth, and inflation.

Method: The sample selected using purposive sampling technique as many as 77 units of analysis consisting of 42 banks in the BUKU 1 category and 35 banks in the BUKU 2 category registered with OJK since 2014-2019. After eliminated the outlier data, there were 413 observations as panel data. The analytical method used in this study is the regression panel fixed effect model and random effect model.

Findings: The results indicate that liquidity and loan to deposit ratio positively affects small banks profitability in Indonesia. Meanwhile, size, deposit to asset ratio, capital adequacy ratio, and GDP growth negatively affects profitability. Nevertheless, inflation does not affect profitability. This study mention that small bank's managers need to deal with and take notice to the bank operational well i.e liquidity and loan to deposit ratio.

Novelty: This research investigates the outcome of bank-specific and macro economic factors on profitability in small banks period 2014-2019. The earlier research only check-out those variables solely and spotlight on distinctive samples and distinctive period. This study has implication for banking sector especially for small bank to pay more attention, strengthen, and maintain the existence of their business through several ways, increasing and optimizing the level of equities owned to make assets increase and the cost of the funding structure becomes optimal.

Keywords: Profitability, Liquid Ratio, Loan to Deposits Ratio, Deposit to Asset Ratio, Capital Adequacy Ratio

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INTRODUCTION

Banking is one of the industries with intense business competition. In 2021, the number of banks officially registered with the Financial Services Authority (OJK) is 114 banks. In order to improve healthier competition between banks, and make monitoring easier, the government issued Financial Services Authority regulation number 6 /POJK.03/2016 about business activities

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and office networks based on the core capital of banks article 3 paragraph 1 which groups banks into several categories based on the amount of core capital, which is hereinafter referred to as BUKU (Commercial Bank of Business Activities). The regulation asserts that the tighter the competition between interbanks and between segments, the more efforts are needed to strengthen capital and expand the reach of its operations.

This was reinforced by the release of Financial Services Authority regulation number 12/POJK.03/2020 March 16, 2020 which requires all conventional banks to increase the amount of core capital to 3 trillion gradually until 2022. The emergence of the regulation is also a new problem that must be solved immediately by BUKU 1 and 2 banks which hereinafter referred to as small size banks with a very limited range of authority and areas of operation. If these provisions are not met, then these small-sized banks will be sold to other investors who are willing to increase their equity or must be ready to be merged with fellow small-sized banks or BUKU 3 and 4 banks which hereinafter referred to as larger sized banks. During 2014-2019, there were many mergers or acquisitions in small conventional banks so that they became larger conventional banks, namely Bank DKI, Bank Aceh, BPD NTB, Bank BNP Paribas Indonesia, Bank HSBC Indonesia, Bank Mayapada International Tbk, Bank Sinarmas Tbk, Bank ICBC Indonesia, Bank Keb Hana Indonesia, and Deutsche Bank Ag. This condition also triggered a drastic decrease in the number of small conventional banks, as the following graph:

This condition is exacerbated by the decrease in the level of profitability in terms of Return on Equity (ROE) and Net Interest Margin (NIM) throughout the observation year. It appears that the decrease of ROE is more drastic compared to NIM. In addition, the dynamics of credit development channeled are relatively stagnant even though at the end of the year observations experienced a drastic increase. But the increase in credit channeled is followed by a rise in Non-Performing Loan (NPL) which causes the poorer condition of small conventional banks as figure 2:

Profitability becomes crucial for every company, not least in the banking industry. This is an important performance indicator and the first concern by stakeholders in the tight vortex of business competition between banks (Alarussi & Alhaderi, 2018; Priya & Velnampy, 2013). Bank resources become internal factors of the bank that can be managed by the bank itself so that these internal factors play a big role in the future prospects of the bank, including the most important thing, profitability. Any bank that can manage its internal resources well and able to elaborate with the economic situation that occurs will certainly be easier to achieve high profitability (Alper & Anbar, 2011; Curak et al., 2012; Riaz & Mehar, 2013; Sultan et al., 2020). When banks have a competitive advantage, it shows that banks are able to compete and generate high profits in the competition of the intermediary industry.

Managerial efficiency of profit theory explains that companies that are able to manage their

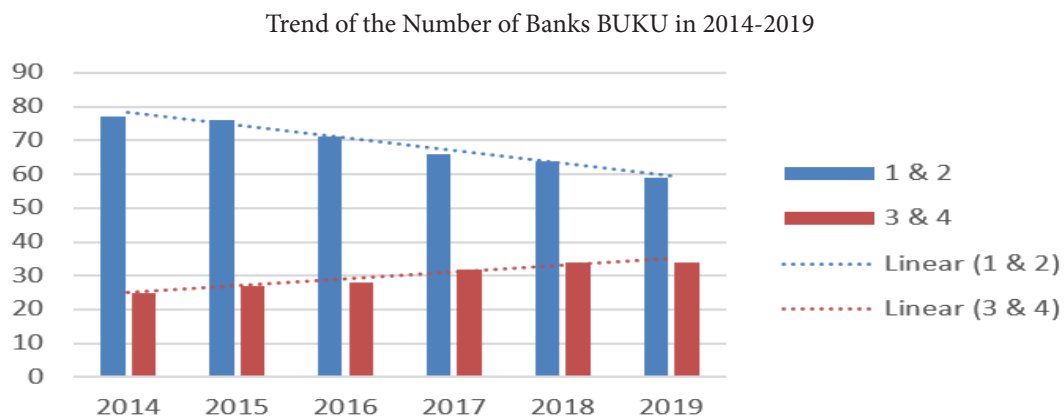


Figure 1. Trend of The Number of Small Banks vs Larger Banks in 2014-2019
(Source: Data Processed and Financial Services Authority, 2021)

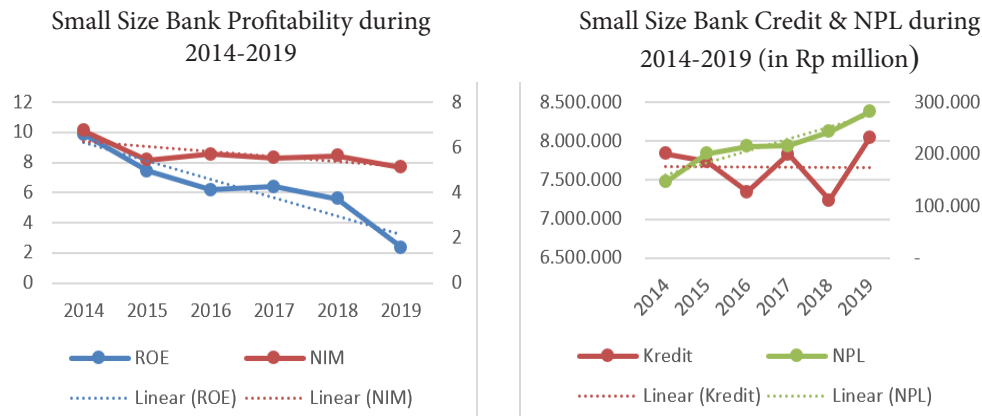


Figure 2. Small Banks Financial Condition in 2014-2019
(Source: Data Processed and Financial Services Authority, 2021)

policies and resources efficiently and consistently over time will create higher profits so that they can survive in business competition (Bolarinwa et al., 2021; Salvatore, 2019; Sanyal, 2019). The bank's ability to manage and develop assets and capital owned greatly determines the profitability will be formed. If profitability is positive, then the bank gets a profit which means the bank gets an incentive to increase output in the long run. On the contrary, if profitability is negative, indicates that the customer lacks or does not want the products or services offered by the bank due to inefficient methods. In addition to the bank's ability to manage operations, strategic timing and external factors can also provide more advantages even though competitor bank has the same resources and information (Makadok, 2011). This research aims to find out every bank-specific factor, liquid ratio, loan to deposits ratio, deposit to assets ratio, capital adequacy ratio and firm size that affect the formation of profitability combined with the time and macroeconomic conditions of the country, GDP (Gross Domestic Product) growth and inflation. The results of this study are useful for managers, regulators, and especially small conventional banks to be able to survive in the competition of intermediary businesses.

Liquid ratio measures how much current asset composition a bank has of all total assets owned (Singh & Sharma, 2016). Banks need to pay attention to liquidity issues because the availability of funds to make payments to customers is the basis of public confidence in the bank's business (Anggari & Dana, 2020). The dominant liquid asset derived from channeled credit has a positive effect on the bank's profitability. Sultan et al. (2020) found a positive effect of liquid ratio on banking profitability. In another result, Lipunga (2014) found no significant effect of liquid ratio on the bank's profitability. Furthermore, the loan to deposit ratio measures the effectiveness of banks in their credit distribution (Harun, 2016). A high loan to deposit ratio indicates that banks have a lot of funds derived from deposits to be channeled through credit. Banks with large credit distribution capabilities will increase bank profitability. Chou & Buchdadi (2016) found that loan to deposit ratio has a significant positive effect on bank profitability. Different results found by Sutrisno (2018) who proved loan to deposit ratio is not significantly related on profitability.

Deposit to asset ratio measures the composition of asset financing using deposit funds (Singh & Sharma, 2016). According to Helms (2006), deposits are seen as the most optimal funding alternative for banks, but the interest given to depositors becomes a greater burden than current accounts and savings. Therefore, the deposit to asset ratio can negatively affect the profitability of banks. Alper & Anbar (2011) stated that deposit to asset ratio has a significant negative effect on bank profitability. Different results shown by Riaz & Mehar (2013) & Sultan et al. (2020) who prove deposit to asset ratio have a significant positive effect on bank profitability. Capital adequacy ratio measures the ability of banks to provide capital in anticipation of losses due to non-current credit (Fahmi, 2015). The increasing value of the capital adequacy ratio will increase idle funds as well. This shows that banks have not been able to efficiently regulate the provision of capital which causes banks to experience a decrease in profits. Dodi et al. (2018) proved the negative effect of

capital adequacy ratio on bank profitability. But Ahmad (2015); Fiscal & Lusiana (2014); Soares & Yunanto (2018) found that capital adequacy ratio had no significant effect on bank profitability.

The size of the company measures the size of assets owned by banks (Meidiyustiani, 2016). Banks of larger sizes have a competitive advantage in the scope of their industry. Banks with a relatively larger number of assets have more opportunity to channel funds held to debtors. Thus, companies with larger assets can gain greater profits or profitability. Rahman et al. (2015) & Sultan et al. (2020) found a positive effect of size on profitability. Different results were shown by Ali & Puah (2018) who found a negative effect of size on profitability.

In addition to analyzing bank-specific factors, the bank's profitability dynamics are also influenced by macroeconomic factors, GDP growth and inflation. Both are factors that are outside the company but affect the company's financial performance either directly or indirectly (Samsul, 2015). Macroeconomic is a science that discusses economic conditions and problems as a whole, aspects discussed in macroeconomics are the actions of consumers, entrepreneurs, and overall economic activities (Sukirno, 2015). With a comprehensive scope, the occurrence of changes in macroeconomics will have an impact on business performance, including banking, for example, banking credit, when economic conditions are unstable which means that many corporate profits are falling, of course, the credit channeled by banks and their quality will decrease and decrease, and vice versa (Athanasoglou et al., 2008; H. Rahman et al., 2020). Petria et al. (2015) found that there is a positive association between GDP growth and profitability. Nevertheless, Noman et al. (2015) prove the negative effect of GDP growth on profitability. In terms of inflation, Gyamerah & Amoah (2015) & Noman et al. (2015) found a positive relationship between inflation and profitability. However, Jadah et al. (2020) prove an inverse relationship between inflation and profitability.

Hypothesis Development

The Bank operates by collecting funds from the public in the form of current accounts, savings, and deposits and bond issuance and then distributes credit with a percentage of interest that has been determined and agreed then the difference in the percentage of these two banking products becomes the main source of the bank obtaining profits in the form of interest income. In addition, other bank services, such as provision, transfer services, foreign exchange benefits and other services are also secondary sources of income for banks. In the perspective of managerial efficiency theory of profit, the ability of banks to manage working capital including channeling credit productively and efficiently can increase profits. To support these activities, the bank is required to have adequate liquidity, the ability to meet its short-term debt which includes maturing loans, withdrawals, and investment deposits (Alshatti, 2015). Good liquidity capability makes banks more trusted by customers and increases the level of customer trust to store excess funds owned for a long period of time. This condition strengthens the banking business so that it also increases the potential for profit. The condition of the readiness of large and adequate funds will be able to cover withdrawal activities by customers at any time, the necessity to meet their short-term debt, as well as cheap sources of funding so that the existence of liquid assets makes the bank have a higher chance to fulfil it (Alper & Anbar, 2011). Liquid assets which dominated by credit channeled, indicates that when the liquid ratio increases, it proves that banks are able to channel credit productively and efficiently so that the opportunity to get profits is getting wider. Sultan et al. (2020) found a positive effect of liquid ratio on banking profitability. On the other side, Alper & Anbar (2011; Lipunga (2014) found no significant effect of liquid ratio on the bank's profitability. Based on the explanation above, the following is the first hypothesis:

H₁: Liquid Ratio Has Significant Positive Effect on Bank Profitability

Liquidity becomes important to a bank, because it relates to the fulfillment of bank obligations, including withdrawals by customers made at any time and a portfolio of bank funding sources channeled in the form of credit. Loan to deposit ratio describes how well the liquidity condition of the bank and how effective the bank is in distributing its credit from third-party sources of funds

(Harun, 2016). From the point of view of managerial efficiency theory of profit, the condition of a higher loan to deposit ratio in accordance with the provisions of the Financial Services Authority shows that banks are effective and efficient in their credit distribution. When banks can make efficiencies in these provisions, it will increase their profits. However, loan to deposit ratio needs to be maintained to remain stable, as stated in Bank Indonesia Regulation No. 18/14/PBI/2016 about changes to Bank Indonesia Regulation No. 15/15/PBI/2013 about mandatory minimum current accounts of banks in rupiah and foreign exchange for conventional banks which is 78%-92%. This is because a higher loan to deposit ratio increases the risk of bank liquidity conditions, and lower loan to deposit ratio indicates the less effectiveness of banks in lending which results in increased costs. As stated above, the rise of loan to deposit ratio makes bank profits rise, so that loan to deposit ratio has a significant positive effect on bank profitability (Curak et al., 2012; Panjaitan, 2011). Different results found by Hayati & Musdholifah (2014); Ongore & Kusa (2013); Sutrisno (2018) who proved loan to deposit ratio is not significantly related on profitability. The results of previous studies that are not consistent, we propose the following hypothesis:

H₂: Loan to Deposit Ratio Has Significant Positive Effect on Bank Profitability

Deposits become one of the large and main sources of funding for banks, and also become a longer fund stored in the bank because it has a longer period of time than current account and savings products. However, high competition in market causes banks to provide higher interest on deposits to attract depositors. In the point of view of managerial efficiency theory of profit, the bank's decision to increase deposit interest resulted in an increase in the cost of funds so that it has the potential to greatly reduce bank profits. This indicates that the management of the bank is inefficient. This statement is in accordance with Alper & Anbar (2011) which proves the deposit to asset ratio has a significant negative effect on bank profitability. Different results shown by Riaz & Mehar (2013) & Sultan et al. (2020) who prove deposit to asset ratio have a significant positive effect on bank profitability, therefore researchers want to retest the following hypotheses:

H₃: Deposit to Asset Ratio Negatively Affects Bank Profitability

Capital adequacy ratio (CAR) measures a bank's ability to provide capital in anticipation of potential risk of loss or business failure. One of the covered by CAR is the anticipation of customer withdrawal needs, when CAR is high, then customers will feel safe and trust in the bank increases, and will certainly encourage banks to get higher profits (Ahmad, 2015). The minimum limit of CAR is regulated in Financial Services Authority regulation No. 11/POJK.03/2016 about the obligation to provide minimum capital of banks article 2 paragraph 1 which is 8% of the total assets owned by banks. However, higher CAR will indicate the existence of an idle fund. The main income of the bank derived from the interest on the credit channeled will be reduced. In the perspective of managerial efficiency theory of profit, this condition show that banks are less efficient in regulating the provision of capital so that the perceived impact is a decrease in profits. Dodi et al. (2018) proves the negative effect of CAR on bank profitability. But Ahmad, (2015); Fiscal & Lusiana (2014) found that CAR had no significant effect on bank profitability. Hence, the following hypothesis is proposed to test the effect of CAR on bank profitability:

H₄: Capital Adequacy Ratio Has Significant Negative Effect on Bank Profitability

Bank size is calculated using a proxy Ln (total assets), this proxy is used to see how much assets the bank has. From the point of view of managerial efficiency theory of profit, large assets make banks have the opportunity to manage their business more productively, efficiently and a wider range of operations in distributing credit and other services so that banks can generate large profits. Large assets also support more extensive and diverse operating activities, so that the profits obtained are also getting bigger. In addition, banks with large assets foster confidence in security and more attractive to customers (K. Ali et al., 2011). This shows that there is a significant positive effect of the size on the bank's profitability (K. Ali et al., 2011; Almazari, 2014; Anggraeni, 2015;

Sultan et al., 2020). Different results were shown by Javaid et al. (2011) who found a negative effect of size on profitability. Curak et al. (2012) & Panjaitan (2011) proves there is no significant effect of size on bank profitability. Based on these arguments, we propose the following hypothesis:

H₅: Bank Size Has a Significant Positive Effect on the Profitability of the Bank

Gross domestic product growth (GDP growth) describes the economic condition of a country. When the rate of GDP growth increases, a country's economy will also increase. This is because the increase in the country's economy causes investment in a country to increase. One source of funding in investment is derived from bank credit, so that when the credit channeled by the bank to the public is high, the banking profit is also high. So that GDP growth has a significant positive effect on bank profitability (K. Ali et al., 2011; Sultan et al., 2020). Different results demonstrated by Ongore & Kusa (2013) that prove the effect of GDP is insignificant on bank profitability. Because prior studies on the impact of GDP growth on bank profitability show inconsistent results, we propose the following hypothesis:

H₆: GDP Growth Has a Significant Positive Effect on Bank Profitability

Inflation can be interpreted as rising prices of goods during the observation period. The higher the price increase the lower the value of money (Satoto & Budiwati, 2013). Inflation must be kept stable, because although high inflation causes interest rates to rise, thus adding to bank incomes, excessive inflation can cause people's purchasing power to decrease because they cannot reach the price of goods. This causes the company's profits to fall, while the profit of falling banking credit will also decrease, so inflation has a significant negative effect on bank profitability. Ongore & Kusa (2013) found that inflation and profitability were negatively correlated. Different results were shown by Alper & Anbar (2011) which proved that inflation had no significant effect on bank profitability. Based on these arguments, we propose the following hypothesis:

H₇: Inflation Negatively Affects Bank Profitability

METHODS

This study describes the relationship between independent variables and their dependent variables. The sample used is a small size category conventional bank during 2014-2019 as many as 77 banks with a maximum core capital of Rp 5 trillion. During the period 2014-2019 the number of small size banks continued to decrease, in 2014 as many as 77 banks consisting of 42 BUKU 1 banks and 35 BUKU 2 banks then to 76 consisting of 31 BUKU 1 and 45 BUKU 2 banks in 2015 and in 2016 to 71 banks consisting of 23 BUKU 1 and 48 BUKU 2 banks. In 2017 the number of BUKU 1 and 2 banks was 66 where BUKU 1 bank as many as 18 and BUKU 2 as many as 48 then became 64 banks consisting of 18 BUKU 1 and 46 BUKU 2 banks in 2018 and in 2019 only 59 banks were left where 13 banks were classified as BUKU 1 and 46 banks classified as BUKU 2. Table 1 describes a summary of sample selection during the study.

The data was obtained through the bank's official website and the official website of the

Table 1. Sample Selection

Selection Criteria	Total
Conventional banks registered with Financial Services Authority in 2014-2019	99
Non small conventional banks registered with the Financial Services Authority in 2014 (BUKU 3 & 4)	(22)
Total bank (42 BUKU 1 and 35 BUKU 2 banks)	77
Number of observations from 77 small size banks with financial statements accessible during the period 2014-2019	462
Number of observations turned into larger sized banks based on the bank's core capital during the period 2015-2019	(49)
Total observations	413

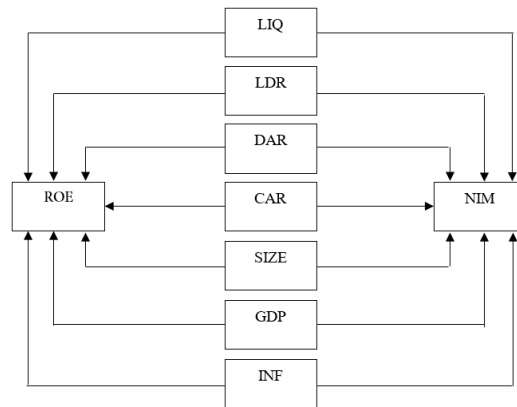


Figure 3. Research Framework

Financial Services Authority (<https://www.ojk.go.id>). The selection of samples at small banks is based on the current condition of small banks experiencing a decrease in profitability and a drastic increase in non performing loan so that its existence is increasingly desperate in the intermediary business and there are demands by Financial Services Authority to raise its core capital to at least 3 trillion gradually until 2022 for all conventional banks. In addition, previous research that focused its research only on banks classified as medium and large or listed on the Indonesia Stock Exchange only.

Profitability is used to measure a company's ability to make a profit. This study used 2 proxies at once to assess bank profitability, Return on Equity (ROE) and Net Interest Margin (NIM). Meanwhile, independent variables in this study include Liquid Ratio, Deposit to Assets Ratio, Capital Adequacy Ratio, Firm Size, Loan to Deposits Ratio, Gross Domestic Product and Inflation. Measurements of each variable are detailed presented in the following table:

The study used regression analysis of fixed effect panel models (FEM) and random effect models (REM) to look at how more than one independent variable affects dependent variables. Regression testing is performed after the data is declared to meet all classical assumptions through testing normality, multicollinearity, heteroskedasticity, and autocorrelation. Here are the regression equations in this study:

$$ROE_{i,t} = \alpha + \beta_1 LIQ_{i,t} + \beta_2 LDR_{i,t} + \beta_3 DAR_{i,t} + \beta_4 CAR_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 GDP_{i,t} + \beta_7 INF_{i,t} + e..... (1)$$

$$NIM_{i,t} = \alpha + \beta_1 LIQ_{i,t} + \beta_2 LDR_{i,t} + \beta_3 DAR_{i,t} + \beta_4 CAR_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 GDP_{i,t} + \beta_7 INF_{i,t} + e..... (2)$$

Where :

- ROE : Return on Equity
- NIM : Net Interest Margin
- LIQ : Liquidity
- LDR : Loan to Deposit Ratio
- DAR : Deposit to Asset Ratio
- CAR : Capital Adequacy Ratio
- SIZE : Firms Size
- GDP : Gross Domestic Product Growth
- INF : Inflation

RESULTS AND DISCUSSION

Table 3 shows the average ROE is 6.49%, the banks are able to provide a return on each capital invested in the bank of 0.06 times. The size of the ROE ratio is assessed by comparing it to its competitors, which in this case is a larger bank. The average ROE ratio in BUKU 3 banks during 2014-2019 was 13.48%, and in BUKU 4 banks at 19.93%, thus showing that the ROE owned by small banks is still relatively low compared to its competitors. In addition, the minimum ROE value is -89.03% experienced by Bank Jago Indonesia in 2019 as well as several other banks, such

Table 2. Variable Measurement

Variable	Description	Measurement	Source
Return On Equity (ROE)	Measure a bank's ability to make profit from each equity	Earnings After Tax / Equity	(Hasan et al., 2020; Kasmir, 2012; Komara et al., 2016; Sugiarto & Lestari, 2017)
Net Interest Margin (NIM)	Measure a bank's ability to manage its productive assets to generate interest income	Net Interest Income / Productive Assets	(Fahmi, 2015; Sugiarto & Lestari, 2017; Suu et al., 2020)
Liquid Ratio (LIQ)	Measure how much liquid asset the bank has of all total assets	Current Assets / Total Assets	(Alshatti, 2015; Singh & Sharma, 2016)
Loan to Deposit Ratio (LDR)	Measuring the effectiveness of banks in their credit distribution	Total Loan / Total Deposit	(Anggari & Dana, 2020; Fiscal & Lusiana, 2014; Kasmir, 2012)
Deposit to Assets Ratio (DAR)	Measure the composition of asset financing using deposit funds	Deposits / Total Assets	(Kajola et al., 2019; Riaz & Mehar, 2013; Singh & Sharma, 2016)
Capital Adequacy Ratio (CAR)	Measuring the bank's ability to provide capital in anticipation of losses	Bank Capital / Total ATMR	(Fahmi, 2015; Fiscal & Lusiana, 2014; Madugu et al., 2020)
Bank Size (SIZE)	Measure the small amount of assets owned by banks	Ln (Total Assets)	(Anggari & Dana, 2020; Anggraeni, 2015; Meidiyustiani, 2016; Octavio & Soesetio, 2019)
Gross Domestic Product Growth (GDP)	Measure the rate of economic growth in a country	(GDP year t – GDP year t-1) / GDP year t-1	(Jadah et al., 2020; Octavio & Soesetio, 2019; Satoto & Budiwati, 2013)
Inflation (INF)	Measure the rate of price increases over the long term in a country	(Inflation of the year t - Inflation of the year t-1) / Inflation of the year t-1	(Djawoto, 2010; Jadah et al., 2020; Octavio & Soesetio, 2019; Satoto & Budiwati, 2013)

Source: Data Processed, 2021

as BPD Banten, Bank IBK Indonesia, Bank Kesejahteraan Ekonomi and several other banks that experienced negative returns. This indicates that there are more than 20% of banks that have not been able to provide adequate returns on equity to support intermediary businesses that have the potential to suffer greater losses and potentially bankruptcy. Similarly, the average NIM is 5.73%, which means that every productive asset owned by the bank can generate 5.73% of net

Table 3. Descriptive Statistics

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
ROE	413	6.487	6.730	16.127	-89.030	34.720
NIM	413	5.725	5.240	4.434	0.040	81.170
LIQ	413	97.098	97.838	2.814	77.904	99.751
LDR	413	100.984	89.410	101.041	0.880	1873.710
DAR	413	44.220	45.224	20.563	0.584	97.272
CAR	413	26.167	21.510	17.325	0.240	148.280
SIZE	413	6.886	6.938	0.441	5.364	7.710
GDP	413	5.046	5.033	0.101	4.876	5.170
INF	413	4.539	3.809	1.444	3.198	6.419

Source: Data Processed, 2021

interest income, which is better when compared to NIM bank category BUKU 3 of 4.15% and bank category BUKU 4 of 4.81%.

Both profitability ratios illustrate poor conditions on the profitability of small conventional banks, given that these banks must urgently meet the core capital demands of \$3 trillion by 2022. One of the biggest highlights of the poor profitability of these banks is in the distribution of credit are stagnant and tends to decline during 2014-2019, especially the value of NPL which instead of falling, it is increasing, the condition is very worrying, because one of the biggest sources of income of banks is from interest income on the distribution of credit. If the distribution of credit decreases, then interest that becomes one of the components of bank income also decreases. The rising value of NPL makes the backup of productive assets and other costs will increase as well and certainly hamper the bank's profit (Sutrisno, 2018). Contrasting conditions, not only from the magnitude of the ratio, indicate the development of profitability of conventional banks the size of larger size is relatively high and more stable and has a better prospect than others, which is seen in figure 4.

Partial Regression Test

Table 4 shows the results of multiple linear regression analysis hypothesis tests and has met the entire classical assumption test for the ROE and NIM dependent variable equations as two profitability proxies used to test robust and measure profitability using the Fixed Effects Model (FEM) method and Random Effect Model (REM), with the following detailed discussion:

Effect of Liquid Ratio on Profitability

Empirical testing on liquid ratio variables accepted the first hypothesis in this study, that there was a positive and significant effect of liquid ratio on ROE but there is no significant relationship between liquid ratio and NIM. The existence of increased liquid assets can support the bank's profitability (ROE), such as cash, deposits in banks, checks, channeled credit, and money orders that can be a source for banks for the management of bank operations, paying off their short-term debt to managing the volume of credit distribution, thus affecting the dynamics of bank profitability. Including securities such as stocks and bonds is one component of current assets that can increase bank profits by trading on the capital market. However, the liquid asset ratio only affects the bottom line or the bank's final profit but does not affect the interest income that the bank will receive despite having a negative direction. This becomes very interesting considering that the main source of bank income is from the difference in interest on credit channeled and capital costs that are none other than NIM. Based on the financial report, the dynamics of the NIM level are strongly influenced by the magnitude of the formation of losses of credit impairments channeled. In addition, small conventional banks have a relatively narrower operating range than other categories of banks resulting in access to cheap sources of funding from third-party funds become limited so that they rely on debt when distributing credit. The influence of large liquid assets on profitability also depends on the magnitude of the cyclical interaction or circulation of

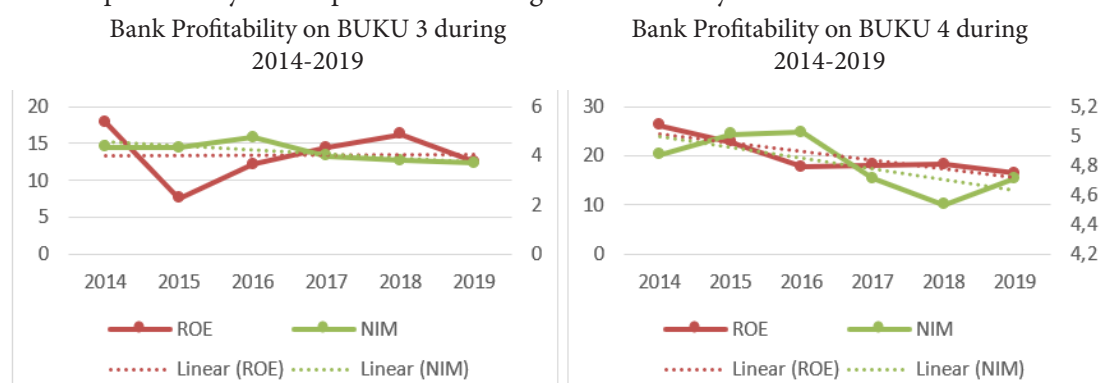


Figure 4. Larger Banks Profitability in 2014-2019
(Source: Data Processed and Financial Services Authority, 2021)

Table 4. Regression Results

VARIABLES	FE	RE	FE	RE
	ROE	ROE	NIM	NIM
LIQ	0.717** (0.300)	0.659*** (0.216)	-0.021 (0.047)	-0.049 (0.041)
LDR	0.079*** (0.027)	0.100*** (0.024)	0.031*** (0.004)	0.034*** (0.004)
DAR	-0.164*** (0.049)	-0.229*** (0.030)	-0.039*** (0.008)	-0.053*** (0.006)
CAR	-0.135*** (0.038)	-0.164*** (0.030)	-0.014*** (0.004)	-0.019*** (0.004)
SIZE	2.342 (2.930)	2.446* (1.458)	-2.036*** (0.499)	-1.294*** (0.319)
GDP	-10.229** (4.321)	-10.946*** (4.247)	-0.991 (0.701)	-0.951 (0.706)
INF	0.487 (0.358)	0.496 (0.314)	-0.040 (0.058)	0.016 (0.054)
Constant	-22.362 (34.753)	-11.721 (29.054)	26.251*** (5.588)	23.971*** (5.120)
R-squared	0.285		0.336	

Robust standard errors in parentheses

Significant at $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

the bank so that it has a quadratic relationship (Shahchera, 2012).

The results are in line with research by Almazari (2014) & Sultan et al. (2020) which proves the significant influence of liquid ratio on profitability. But the results are different from Alper & Anbar (2011) and Lipunga (2014) which indicated that the existence of the proportion of current assets on total assets had no significant effect on profitability.

Effect of Loan to Deposit Ratio on Profitability

The second hypothesis that suspects a significant positive influence of LDR on bank profitability is accepted, which means that an increase in the LDR ratio can increase bank profitability. This study robustly proved the positive influence of LDR on ROE and NIM as a proxy for profitability. LDR is an indicator that shows how effective the bank is in lending, the higher this ratio, the greater the credit channeled by the bank (Ahmad, 2015; Panjaitan, 2011; Thalib, 2016). The increasing number of credit distributions and the cheapness of funding sources from third-party funds, the opportunity to earn a profit from the interest percentage will also increase, but in addition to large profit opportunities, a large LDR also makes for a large credit risk (Harun, 2016). A good average of LDR, should be able to increase the profitability of small size banks, but what is currently happening is that the opposite, bank profits tend to decrease. This is because the NPL owned also tends to rise, so many problematic credits appear and certainly reduces bank interest income. In addition, the interest income obtained seems to be used to cover operating expenses that are still very high, especially capital costs, so it has not been able to increase its profitability. This indicates that the bank needs to maintain the stability of its LDR by maintaining the ideal composition of current accounts, savings and deposits in order to maintain the stability of its liquidity conditions by maintaining low capital costs (Saeed, 2014).

These results are in line with Curak et al. (2012); Harun (2016); Panjaitan (2011) who found a significant effect of LDR on profitability. But different from Hayati & Musdholifah (2014); Ongore & Kusa (2013); Sutrisno (2018) has not found any significant effect of LDR on profitability.

Effect of Deposit to Assets Ratio on Profitability

The third hypothesis that suspects the significant and consistent negative effect of the Deposit to Assets Ratio on both bank profitability proxies is accepted based on the results of partial regression in the study, which means the increase in DAR ratio can decrease bank profitability. Data obtained on the financial services authority's official website shows that the composition of third-party funds in banking continues to increase, dominated by deposits. Deposits have a greater percentage of interest than other types of saving, so the continuous increase in deposits and their dominance of other deposits will also increase the percentage of interest that banks must give, thus reducing the bank's interest margin. Moreover, with limited operating authority and the area of operation allowed by OJK, the source of bank funding to be channeled into credit must also be supported from issued debt and other types of debt. This resulted in an increase in capital costs that must be borne by small banks (Watiningsih, 2018).

These results are in line with research from Javaid et al. (2011); Sugiarto & Lestari (2017); Sultan et al. (2020) who found a significant effect of DAR in different directions, but research from Alper & Anbar (2011); Riaz & Mehar (2013) proves DAR have insignificant effect on profitability.

Effect of Capital Adequacy Ratio on Profitability

The fourth hypothesis that suspects a significant negative effect of CAR on a bank's profitability is accepted, which means the rising CAR ratio can decrease the bank's profitability. CAR is a ratio that measures a bank's financial resilience in underwriting risky assets (Fiscal & Lusiana, 2014). However, the results of this study focused on small conventional banks and showed that high CAR could reduce the level of profitability and the ability of banks to expand their businesses due to larger capital reserves used only to underwrite riskier assets. Hampered business expansion due to the higher CAR will ultimately affect the bank's performance (Muin, 2017).

The dynamics of NIM which is the main source of banking income and ROE as another proxy of profitability become depressed when CAR levels rise because the amount of funds that must always be available to anticipate the risk of losses that may be faced by banks become idle funds (Durguti et al., 2014). In addition, the level of net interest profit margin is the result of a reduction in unqualified assets that during the research period of small-sized conventional banks faced increasing non-performing loans (NPL). Thus, bank managers, especially small sizes, must be able to manage the right CAR level around the level set by Financial Services Authority accompanied by efforts to emphasize NPL levels in each period with a strict selection of prospective debtors and control of the bank's operational efficiency level.

These results are in line with the research by Dodi et al. (2018), which found a significant negative effect of CAR on profitability. But different results were shown by Ahmad (2015) and Fiscal & Lusiana (2014) which proved CAR had no significant effect on profitability.

Effect of Bank Size on Profitability

The fifth hypothesis that suspects the positive effect of bank size on bank profitability is accepted, with regression results indicating a significant positive effect on ROE. Banks with large assets have a huge potential to expand so as to increase profitability (Anggraeni, 2015). Banks with large assets have a greater opportunity to be able to increase access to cheaper funding in the form of debt and equity, operating authority, range of operations, and customer segments become more widespread to expand the users of various services provided by banks to the community. Thus, the growing assets of small banks will increase the source of income and the diversity of sources not only on interest spreads that contribute to the addition of returns on equities (Rahmawati et al., 2021).

While the negative influence on NIM is caused because banks with increasingly larger sizes provide smaller NIM due to the increasing potential for bad credit scores for high credit distribution. This is further exacerbated by the trend of interest rates that are decreasing as directed by the government through the distribution of People's Business Credit (KUR) especially those

channeled by state-owned banks with a wide range of operational areas and strong brand brands and known nationally. In addition, the smaller the bank and followed by a very limited operational reach the more it sets high interest rates to cover the risk of default on debtors especially those with no or limited use of collateral when the realization of the proposed credit (Tin et al., 2011).

These results are in line with the research of Ali et al. (2011); Anggraeni (2015); Riaz & Mehar (2013); Sultan et al. (2020) who proved the significant influence of the size on the profitability of the bank. In the other side, Curak et al. (2012) & Panjaitan (2011) found an insignificant influence of bank size on profitability.

Effect of GDP growth on Profitability

The sixth hypothesis that suspects a significant positive effect of GDP growth on bank profitability is accepted in different directions, regression test results show a significant negative effect of GDP growth on profitability. Economic growth is defined as the increase in state incomes characterized by increased production of goods and services (Sukirno, 2015). This leads to increase investment in a country sustained by banking credit, so basically the rising of GDP growth will increase bank profitability. But the fact that with credit channeled up at the end of 2019 also makes the opportunity for the emergence of NPL or problematic credit inevitable, proven during 2014-2019 the NPL of small conventional banks has increased consistently every year with the number of credit distributions rising at the end of 2019. This shows that small banks have not been able to maximally take advantage of rising and improving GDP conditions. This is because the market has been controlled by larger banks that generally have a very wide operational reach and are known by the wider community, moreover the dominance of state-owned banks over the control of banking business (Saleem & Ashfaq, 2020). This is evident, during the period of observation the number of credit distributions by small size banks is relatively stagnant and only increased drastically in 2019 but not accompanied by a decrease in the NPL level. These reasons are the underlying reasons that GDP growth can negatively affect small banks, where small sized banks have not been able to enjoy an increase in GDP growth and reduce the emergence of credit risks on credit quality channeled, especially the selection of prospective debtors who are not as tight and rigid larger banks, including those currently occurring in small size banks. GDP growth has a negative effect on bank profitability (Tan & Floros, 2012).

These significant results are also evidenced in the research of Ali et al. (2011); Mukhlis (2012); Sultan et al. (2020) who found a significant influence of GDP growth on profitability in different directions. But Ongore & Kusa (2013) proves the absence of a significant influence on GDP growth on profitability.

Effect of Inflation on Profitability

The last hypothesis that suspects a significant effect of inflation on bank profitability is rejected. Inflation is caused by an imbalance between the demand and supply of goods, money supply, and production costs consistently, massively and for a limited or long period of time. Because the source of inflation is related to each other, fiscal and monetary policy mechanisms are needed as instruments that can be carried out by the government to maintain inflation stability at a moderate level that is still able to encourage public economic growth but not excessively burden the cost of living of the community (Prasanto et al., 2020). To control the amount of money circulating in the community, Bank Indonesia (BI) will issue a monetary policy in the form of raising interest rates to reduce the amount of money in circulation. In addition, inflation is also interpreted as the increase in the price of goods and services in a certain period, so that when inflation rises on a limited and controlled basis during the observation year, the stability of banks will be maintained. Referring to Bank Indonesia's publication data that Indonesia's inflation target in 2014-2017 is in the range of 1-4%, while in 2018 and 2019 is in the range of 1-3.5%, which means the target set by BI during 2014-2019 has been achieved. To maintain the existence of intermediary business, credit distribution must still be done and increased massively limited and still put forward the principle of prudent even regardless of external conditions in the form of inflation that occurs in a country.

This certainly makes the bank can still operate stably as a source of corporate and community financing and other banking services that are a source of bank fee base income, especially small bank (Nguyen, 2020).

This result is in line with Alper & Anbar (2011) & Mukhlis (2012) that found an insignificant influence of inflation on bank profitability. But the research conducted by Karim et al. (2010); Ongore & Kusa (2013) proves the significant influence of inflation on bank profitability.

CONCLUSION

The results showed that independent variables including LIQ, LDR, DAR, CAR, SIZE, and GDP had significant influences on bank profitability, ROE and NIM, whereas inflation had no significant effect. The most influential indicator for small-sized conventional banks is liquidity. Small banks should be more focused on improving the operational performance of liquidity levels to increase the efficiency of funding costs by increasing the portion of third-party funding sources to increase profitability and reduce the high NPL. In addition, stricter selection and monitoring is needed on debtors and supported by the choice of a combination of funding sources that able to reduce capital costs through the addition of equities through increased owner capital participation. Furthermore, it is necessary to expand operational range and increase the efficiency of small banks through channelling collaboration with financial technology peer to peer lending institutions, digital payment systems, and e-aggregators recognized by OJK to the application of internet technology of various credit and deposit services independently. This is considering that its existence has not been able to maximally take advantage of the country's macroeconomic conditions due to the dominance of larger banks in the intermediary industry, especially state-owned banks. This is the evaluation material of OJK as a regulator in monitoring small bank managers to continue to exist in the intermediary industry.

The limitation of this study is that it only focuses on small-sized conventional banks, future research can use a sample of small Islamic banks in comparison to small conventional banks. In addition, the effect of gender, NPL, and age variables as one of the independent variables that are certainly closely related to bank credit conditions as one of the determinants of bank profitability, so that the results of research are increasingly relevant and complete for bank management, as well as being a consideration for investors before investing.

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