Research Article

The Impact of Financial Ratio Indicators on Banking Profitability in Indonesia

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Article History: Received: 10 January 2021; Revised: 12 February 2021; Accepted: 27 March 2021; Published online: 20 April 2021

Abstract: This study aims to determine the bank's performance in terms of the risk profile, income, and capital aspects of all banks in Indonesia in 2015-2019. This type of research is quantitative with the analysis technique used is the panel data regression technique to determine whether there is a significant effect of one dependent variable (dependent) and more than one independent variable (independent). The ratio is measured by credit risk (financing), liquidity risk is proxied by FDR (Financing Debt Ratio), while asset quality is stated by NPF (Non-Performing Financing), company size as measured by total assets, measured by profitability analysis ROA (Return On Assets) Meanwhile, capital is measured by CAR (Capital Adequacy Ratio), this data shows a relationship with the financial ratio indicator of bank profitability in Indonesia. . The population in this study were all banking companies listed on the Indonesia Stock Exchange for the period 2015-2019. Based on the research that has been done, it can be concluded that FDR, CAR, and NPF have a positive effect on ROA.

Keywords: Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), Financing Debt Ratio (FDR), and Return On Asset (ROA).

1. Introduction

Banking performance is a measure of the ability of the bank's business competition. Bank performance is also an important aspect that stakeholders must know about. Based on Bank Indonesia Regulation (PBI) No 13/1/2011 the bank health assessment is one of the things regulated by Bank Indonesia which will be useful in determining Good Corporate Governance (GCG) and for dealing with risks in the future. Especially for shareholders, an assessment of bank performance will provide a signal in making investment decisions. Assessment of bank health is the final estuary or result of banking regulation and supervision that shows the performance of national banking.

According to the directorate of banking research and regulation (DPNP) in BI Circular Letter (SE) No.13/24/DPNP/2011, which are general principles that bank management must pay attention to in assessing bank performance, which is oriented towards risk, proportionality, materiality, and significance as well as comprehensive and structured assessment. Assessment of bank performance by management, shareholders, government, and other stakeholders is important because it involves the distribution of welfare among them. Bank performance can be assessed through various variables or indicators. The main source of variables or indicators on which the assessment is based in the company's financial statements.

Based on these financial reports, several financial ratios can be calculated that are commonly used as the basis for evaluating bank performance. Financial ratios can be used to measure performance because these ratios are proven to play an important role in evaluating financial performance and can be used to predict business continuity, both healthy and unhealthy (Amalia, 2020). Bank performance appraisal is carried out by analyzing financial reports. The role of banking in a country is the driving force for a country's economy. This is due to the role of banks as intermediary institutions, namely channeling funds from surplus economic units to deficit economic units, or in other words, banks play a role as collectors of funds and channel of funds (Angelina, 2020; Sarkin & Gulleroglu, 2019).

The contribution of the financial services sector continues to increase to the economy. During the last three years, namely 2015-2018, the portion of the financial services industry, especially banking and insurance, in the economy continued to increase. However, the Association of National Commercial Banks (Perbanas) has evaluated the condition of Indonesian banking for the last five years. There are at least two major challenges faced in the banking sector, namely the ratio of bad credit and liquidity. The high non-performing loan ratio was experiencing a slowdown. Furthermore, banks also experienced slowing growth or experienced tight liquidity. This is in line with the slowing growth of third-party funds from the public.

A bank that is always able to maintain its good performance, especially with a high level of profitability, and can distribute dividends properly and its business prospects can always develop and can fulfill banking regulations

properly. Profitability is an appropriate measure in measuring the performance of a bank. The most widely used measure of profitability is Return on Assets (ROA) (Susyana, 2021). This is because it is the most important ratio for comparing the efficiency and operational performance of a bank (Ponce, 2012). Banking profitability is under pressure. One of the consequences is the slowing performance of banks. Based on a report released by the Deposit Insurance Corporation (LPS) in early May 2015, the growth of credit and third-party funds (TPF) declined, and the trend of bank profit growth also continued to decline. The decline in Return on Assets was partly due to economic conditions that had not improved, in line with world economic conditions and slow credit growth.

The development of banking performance and financial condition can be seen through the financial statements of the bank concerned. Banking financial reports will be very bad with negative net income and unfulfilled capital adequacy ratio (Capital Adequacy Ratio). Capital is a very important factor for the development and progress of a bank while maintaining public trust. Each asset creation, besides having the potential to generate profits, also has the potential to create risks. The higher the Capital Adequacy Ratio, the stronger the bank's ability to bear the risk of any risky credit/productive assets, a favorable situation for the bank will provide a substantial contribution to profitability.

Apart from having to pay attention to the adequacy of its capital, so that banks do not arbitrarily expand loans just to get large profits, also so as not to limit lending too much just to avoid the risk of bad credit, which is shown by the Non-Performing Financing (NPF) ratio. Non-Performing Financing (NPF) is a financial ratio related to credit risk. Banks are said to have high Non-Performing Financing if the number of non-performing loans is greater than the amount of credit extended to debtors. If a bank has high Non-Performing Financing, it will increase costs, both the cost of reserves for productive assets and other costs, in other words, the higher the Non-Performing Financing of a bank, it will interfere with the bank's performance.

Meanwhile, the FDR Financing to Deposit Ratio (FDR) is analogous to the Loan to Deposit Ratio (LDR) in conventional banks, which is the ratio used to measure the level of bank liquidity which shows the bank's ability to meet credit demand using the total assets owned by the bank (Dendawijaya, 2009). So that the higher the LDR, the higher the bank's profit (assuming the bank can channel its credit effectively), with the increase in bank profits, the bank's performance will also increase (Mahardia, 2008). Thus, the size of a bank's FDR ratio will affect the bank's performance.

Capital Adequacy Ratio (CAR) is a ratio related to bank capital factors to measure the adequacy of capital owned by a bank to support assets that contain risk. For now, the minimum CAR is 8% of Risk-Weighted Assets (RWA) or added with Market Risk and Operational Risk, this depends on the condition of the bank concerned (Riyadi, S., & Rafii, 2019). The amount of capital of a bank will affect whether or not a bank can efficiently carry out its activities. If the capital owned by the bank can absorb unavoidable losses, the bank can manage all its activities efficiently, so that the bank's wealth (shareholder wealth) is expected to increase and vice versa. So it can be concluded that the relationship between CAR and ROA is positive.

From several previous studies, it can be seen that the research results have a difference or Research Gap. Research by Simatupang and Franzlay (2016) states that the *Capital Adequacy Ratio* has a positive and significant effect on Return on Assets, but the research of Welta and Lemiyana (2017) says otherwise. Widowati (2015) in her research found that Non-Performing Financing has a negative and significant effect on Return on Assets, but on the other hand, research of Wibowo and Syaichu (2013) shows that Non-Performing Financing has no significant effect on Return on Assets. Suardana, Astawa, and Martini (2018) found that FDR had a positive and significant effect on Return on Assets, while Liyana and Indrayani (2020) found CAR had no significant effect on Return on Assets.

Based on the explanation described, there are inconsistencies in the results of research from several previous researchers, so researchers are interested in conducting research on the effect of financial ratios on the level of profitability (ROA) which is influenced by Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), and Financing to Deposit Ratio (FDR)

2. Literature review

Signaling Theory

Signaling Theory explains that company managers who have better information about their companies will be motivated to convey this information to potential investors so that the company can increase company value through reporting by sending signals through their annual reports (Ongore, V. O., & Kusa, 2013). This theory

shows the existence of information asymmetry between the management of the company and the parties concerned about the information. The implication of igniting theory in this research will show information about what managers do, especially credit managers, to convey independent influence on lending to debtors. This theory sends signals to debtors indicating that banking companies can channel credit through several factors so that lending will be right on target. Broadly speaking, signaling theory is closely related to the availability of information. Financial reports are information that can be used to make decisions for investors. Besides, this theory also examines what will happen when the signal hinted at is not completely convincing or how much uncertainty can be tolerated before the signal becomes meaningless at all (Obamuyi, 2013).

Return on Asset (ROA)

Profitability is very important for banking because it is used as an indicator to measure the efficiency of a company in generating profits by utilizing its assets (Nugraha, N. M., Hakim, A. A., Fitria, B. T., & Hardiyanto, 2020). Financial performance is a bank's financial condition in a certain period, where information on the financial position and past financial performance is often used as a basis for predicting future financial position and performance. Binden, Mziu, and Suhaimi (2014) assessing a bank's financial performance can be assessed using the financial ratio analysis approach of all reported financial reports. Performance measurement is used by using company profit in the form of profitability. Return on Asset is the profitability ratio which shows the percentage of profit (net income) that the company receives about the total resources or the average number of assets (Nugraha, N. M., Puspitasari, D. M., & Amalia, 2020). In other words, Return on Assets is a ratio that measures how efficient a company is in managing its assets to generate profits during a period.

Return on assets (ROA) is a ratio used to measure the ability of bank management to generate overall profits (Dendawijaya, 2009). The greater the Return on Asset (ROA), the greater the level of profit achieved by the bank and the better the company's performance. Return on Asset (ROA) was chosen as an indicator for measuring bank financial performance because Return on Asset (ROA) is used to measure the effectiveness of a company in generating profits by utilizing its assets. Return on Asset (ROA) is the ratio between profit before tax to average total assets. The greater the ROA, the greater the level of profit achieved by the bank (Herdinigtyas, W., & Almilia, 2005). Based on Bank Indonesia regulations, which are stated in BI Circular Letter No. 9/24/DPBS, mathematically, ROA is formulated as follows:

$$Return\ On\ Assets\ = \frac{Net\ Profit\ After\ Tax}{Total\ Assets} x\ 100\%$$

Capital Adequacy Ratio (CAR)

The strength of this aspect of capital allows the building of a bank condition that is trusted by the public. Bank management must use all its operational tools to be able to maintain public trust. One of the strategic tools in supporting trust is adequate capital. Capital is one of the important factors in developing a business and accommodating the risk of loss, the amount of capital of a bank will affect whether or not a bank can efficiently carry out its activities, and can affect the level of public trust. The use of bank capital is also intended to meet all bank needs to support bank operations and as a tool for business expansion. One of the ratios that are often used to measure the aspect of capital is the Capital Adequacy Ratio (CAR). According to Pinasti and Mustikawati (2018) CAR is a financial ratio related to Bank capital where the amount of Bank capital will affect whether the bank can carry out its activities efficiently or not. Sudarmawanti and Pramono (2017) reveal that an increase in circulation and a decrease in the capital adequacy ratio (CAR) will show a decrease in bank assets that can still be covered by available bank equity, the higher the CAR, the better the condition of the Bank. The greater the capital adequacy ratio (CAR), the greater the profit of the Bank.

Capital Adequacy Ratio (CAR) is a ratio that shows how much of a bank's assets contain an element of risk (credit, investment, securities, claims on other banks) which are also financed from their capital in addition to obtaining funds from sources outside the bank (Yuliani, 2007). In other words, the Capital Adequacy Ratio is the ratio of bank performance to measure the adequacy of the bank's capital to support assets that contain or generate risk.

$$Capital\ Adequacy\ Ratio = \frac{Capital}{Risk\ Weighted\ Assets}\ x\ 100\%$$

Non-Performing Financing (NPF)

The ratio used to assess asset quality in this study is to use NPF (Non-Performing Financing). Non-Performing

Financing (NPF) is a measure of the bank's business risk ratio which shows the amount of risk of non-performing financing that exists in a bank (Taswan, C., & Si, 2010). The higher the NPF of a bank, the higher the risk of the bank on financing problems. This will affect the bank's income, thereby reducing bank profits and also reducing the ROA of the bank. NPF is a situation where the loan repayment agreement is at risk of failure, it even indicates that the bank will experience a risk of failure. According to Rivai (2007), there are several definitions of problematic financing, namely:

1. Financing which in its implementation has not reached/met the target desired by the bank;
2. Financing that has the possibility of risk arising at a later date for the bank in a broad sense;
3. Experiencing difficulties in completing its obligations, both in the form of repayment of the principal and/or payment of interest/late fees and bank fees borne by the customer concerned;
4. Credit or financing for special attention, less current, doubtful, and bad as well as current groups that have the potential to be in arrears.

According to Muhammad (2015: 165), the smoothness of the customer in paying principal installments and the profit-sharing/profit margin of financing causes the collectability of financing to be categorized into 5 types, namely:

1. Current or Collectability 1
2. Substandard or Collectability 2
3. Doubtful or Collectability 3
4. Special Attention or Collectability 4
5. Loss or Collectability 5

NPF (Non-Performing Financing) can be calculated using the following formula:

$$Non - Performing\ Financing = \frac{Financing\ (KL, D, M)}{Total\ Financing}\ x\ 100\%$$

Financing to Deposit Ratio (FDR)

FDR (Financing) to Deposit Ratio) is a comparison between the financing provided by a bank with third-party funds (DPK) that the bank has successfully mobilized. The FDR states how far the bank's ability to repay depositors' withdrawals by relying on the credit provided as a source of liquidity. In other words, the extent to which the provision of credit to credit customers can offset the bank's obligation to immediately fulfill the request of depositors who want to withdraw the money that has been used by the bank to provide credit. (Lukman, 2005: 116). This ratio is to determine the bank's ability to repay obligations to customers who have invested funds with the financing that has been provided to its debtors. The higher the ratio the higher the level of liquidity. According to Rivai (2007), Financing Deposit Ratio (FDR) is a ratio to measure how far the bank's ability to pay all public funds as well as its capital by relying on credit that has been distributed to the public.

$$Financing\ to\ Deposit\ Ratio = \frac{Financing}{Third - Party\ Funding}\ x\ 100\%$$

3. Methods

This research was conducted at banking companies listed on the Indonesia Stock Exchange (Nariswari, 2020; Nugraha, N. M., Fitria, B. T., Puspitasari, D., & Damayanti, 2020). This type of research is quantitative, data in the form of numbers that indicate the amount or amount of something, namely the company's financial statements (Octavia, 2020). The data used in this study are secondary data in the form of company financial performance data which includes data on Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), Financing to Deposit Ratio (FDR), and Return on Asset (ROA). The data used in this study were obtained from the Indonesia Stock Exchange and banking websites for 2015-2019. Data collection in this study was carried out using non-participant observation, namely by reviewing books, journals, and papers to obtain a comprehensive theoretical basis as well as an exploration of financial reports from banks in the form of balance sheets, profit, and loss reports, and the quality of productive activities (Susanti, 2020; Widajatun, 2020; Wijaya, 2020).

The population in this study were all banking companies listed on the Indonesia Stock Exchange for the period 2015-2019. While the sample in this study was 34 companies using the purposive sampling method. The approach used in this research is a quantitative approach using the Eviews 10 program to make it easier to analyze the research results (Ayunitha, 2020). While the analysis technique used is the panel data regression technique to determine whether there is a significant effect of one dependent variable (dependent) and more than one independent variable (independent) (Setiawan, 2021; Taohid, 2021). The dependent variable in this study is the bank's profitability which is proxied by Return on Assets (ROA) and the independent variables are Capital

Adequacy Ratio (CAR), Non-Performing Financing (NPF), and Financing to Deposit Ratio (FDR).

The thought framework is a synthesis or extrapolation from a theoretical review that reflects the relationship between the variables studied and is a requirement for solving research problems and formulating hypotheses. The influence between Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), and Financing to Deposit Ratio (FDR) on Return on Assets (ROA) in this study can be described in one model framework as follows:

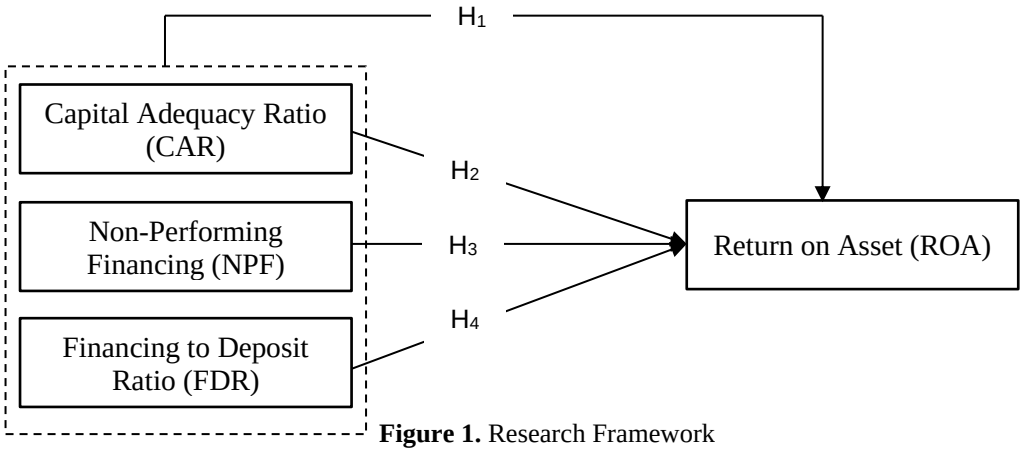

Figure 1. Research Framework

The hypothesis is a statement about something that is temporarily assumed to be true. According to Uma Sekaran (2014), a hypothesis can be defined as a logically estimated relationship between two or more variables which is expressed in the form of a testable statement. Based on theoretical foundations, previous research, and a framework of thought, the hypotheses used in this study are as follows:

H_1 : Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), and Financing to Deposit Ratio (FDR) have a significant effect on Return on Asset (ROA) of a banking company listed on the Indonesia Stock Exchange for the period 2015-2019.

H_2 : Capital Adequacy Ratio (CAR) has a significant positive effect on the Return on Assets (ROA) of banking companies listed on the Indonesia Stock Exchange for the period 2015-2019.

H_3 : Non-Performing Finance (NPF) has a significant negative effect on the Return on Assets (ROA) of banking companies listed on the Indonesia Stock Exchange for the period 2015-2019.

H_4 : Financing to Deposit Ratio (FDR) has a significant positive effect on the Return on Assets (ROA) of banking companies listed on the Indonesia Stock Exchange for the period 2015-2019.

4. Result and discussion

The results of the instrument test proved that the indicators on the variable Return on Assets (Y), Capital Adequacy Ratio (CAR) (X_1), Non-Performing Financing (NPF) (X_2), and Financing to Deposit Ratio (FDR) (X_3) has been declared valid and reliable, so it can be used as a measuring tool in subsequent tests. Data Return on Asset (Y), Capital Adequacy Ratio (CAR) (X_1), Non-Performing Financing (NPF) (X_2), and Financing to Deposit Ratio (FDR) (X_3) in this study have also been normally distributed, there is no heteroscedasticity, no autocorrelation, and no multicollinearity. Based on the model selection that has been done using the Chow Test and the Hausman Test, it is better to use the model Fixed Effect. Following are the results of the data processing that has been carried out:

Table 1. Panel Data Regression Results

Dependent Variable: ROA
Method: Panel Least Squares
Date: 05/08/20 Time: 21:18
Sample: 2015 2019
Periods included: 5
Cross-sections included: 34
Total panel (balanced) observations: 170

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.401655	0.451707	0.896529	0.0000
CAR	0.031091	0.018719	1.142936	0.0015
NPF	-0.356037	0.060794	-5.011569	0.0005
FDR	0.043277			0.41552
	4.217568			3
	0.0010			
R-squared	0.564673	Mean dependent var		1.109401
Adjusted R-squared	0.450691	SD dependent var		2.113848
SE of regression	1.362435	Akaike information criterion		3.649079
Sum squared resid	41.31099	Schwarz criterion		4.339892
Log-likelihood	-35.62981	Hannan-Quinn criteria.		3.929465
F-statistic	19.48884	Durbin-Watson stat		2.656705
Prob (F-statistic)	0.000000			

The results of the F hypothesis test obtained a sig F value 0.000000 < 0.05, meaning that there is a significant effect of Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), and Joint Financing to Deposit Ratio (FDR) against Return on Assets (ROA) in banking companies listed on the Indonesia Stock Exchange for the period 2015-2019. The Adjusted R-Square value is 0.564673, meaning that the Return on Assets (ROA) can be explained by the Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), and Financing to Deposits Ratio (FDR) of 56.47%, while the remaining 43.53% is explained by other factors not included in this study. Based on the resulting coefficient value, a path analysis equation can be formed, namely:

ROA = 0.031 CAR - 0.356 NPF + 0.415 FDR

It is known that partially, the variable Capital Adequacy Ratio (CAR) has a significant effect on Return on Assets (ROA) because the Sig value t 0.0015 < α = 0.05 with the direction of the positive influence seen from the resulting coefficient value. The variable Non-Performing Financing (NPF) has a significant effect on Return on Assets (ROA) because the Sig t value is 0.0000 < α = 0.05 with the direction of the negative influence seen from the resulting coefficient value. The variable Financing to Deposits Ratio (FDR) has a significant effect on Return on Assets (ROA) because the Sig t value is 0.0000 < α = 0.05 with the direction of the positive influence seen from the resulting coefficient value.

5. Discussion

Capital Adequacy Ratio (CAR), also known as the capital adequacy ratio, measures the capital adequacy of the bank to support risky assets. Based on the results of tests that have been done, it is known that in this study the Capital Adequacy Ratio variable has a significant effect on Return on Assets in a positive direction. So that the change in the Capital Adequacy Ratio is proven to be used to predict Return on Assets in banks listed on the Stock Exchange for the 2015-2019 study period. The positive influence shown by the Capital Adequacy Ratio indicates that the higher the Capital Adequacy Ratio achieved by the bank, the better the bank's performance, so that the bank's profit income will increase. A low Capital Adequacy Ratio value will cause a decrease in public trust because one of the functions of capital is to maintain public trust. Public trust is very important for the bank because in this way the bank will be able to raise funds for operational needs. Even though there is a BI regulation that requires banks to maintain a Capital Adequacy Ratio of at least 8%, banks in this study still demonstrate the ability to circulate funds from other parties properly and efficiently in channeling their funds. The results of this study are

in line with research conducted by Medyawati and Yunanto (2018); Risalah, Anshori, Primasari (2018) and contradicting Soares and Yunanto (2018); Ariesta, Marlina, and Hidayati (2019) who state that the Capital Adequacy Ratio has no effect on Return on Assets.

Non-Performing Financing is a financial ratio that is used as a proxy for the rate of return on credit provided by depositors to banks. In other words, Non-Performing Financing is the level of bad credit at the bank. Based on the results of the tests that have been carried out, it is known that in this study the Non-Performing Financing variable has a significant effect on Return on Assets in a negative direction. So that the change in the ratio of Non-Performing Financing is proven to be used to predict Return on Assets in banks listed on the Stock Exchange for the 2014-2018 study period. The negative effect shown by Non-Performing Financing indicates that the higher the bad credit in bank credit management, the lower the level of bank income, which is reflected in the Return on Assets. If the quality of credit provided is poor, it will increase the risk, especially if the provision of credit is carried out without using the principle of prudence and the expansion of credit disbursement is not controlled, so that the bank will bear a greater risk as well. The results of this study are consistent with research conducted by Syarifudin (2019) and in contrast to (Mismiwati, 2016) which states that Non-Performing Financing has no effect on Return on Assets.

FDR (Financing to Deposit Ratio) is a comparison between financing provided by a bank and third-party funds (TPF) that the bank has successfully mobilized. The FDR states how far the bank's ability to repay depositors' withdrawals by relying on the credit provided as a source of liquidity. In other words, the extent to which the provision of credit to credit customers can offset the bank's obligation to immediately fulfill the request of depositors who want to withdraw the money that has been used by the bank to provide credit. Based on the results of the tests that have been done, it is known that in this study the FDR (Financing to Deposit Ratio) variable has a significant effect on Return on Assets in a positive direction. So that the change in the FDR (Financing to Deposit Ratio) ratio is proven to be used to predict Return on Assets in banks listed on the Stock Exchange for the 2015-2019 study period. This means that giving credit to credit customers can offset the bank's obligation to immediately fulfill the depositors' request who want to withdraw the money that has been used by the bank to provide credit. Net interest is one of the components of profit (income) because profit is a component of return on assets, so indirectly if the net interest income increases, the profit generated by the bank will also increase so that it will improve the bank's financial performance. The results of this study are consistent with the results of research conducted by Soares and Yunanto (2018) and in contrast to Liyana and Indrayani (2020) which state that FDR (Financing to Deposit Ratio) has no effect on Return on Assets.

6. Conclusion

Based on the analysis and interpretation of the data that has been done, it can be concluded:

- CAR has a (significant) positive effect on profitability (ROA), in banking in Indonesia, because the effect of CAR on Return on Assets can occur. After all, increased profitability is also followed by an increase in the need for reserve formation to anticipate the consequences of increased risk in line with the optimization of asset productivity, so that the adequacy of banking capital in Indonesia, which is proxied by the Capital Adequacy Ratio (CAR), has decreased, also, banks in Indonesia have not significantly utilized other sources of additional capital so that capital growth can offset the growth of productive assets.
- NPF has a (significant) positive effect on profitability (ROA) on return on assets in Islamic commercial banks, it can be concluded that the NPF used in this study affects return on assets in banking in Indonesia. These results indicate that the level of the NPF will affect the level of Return on Assets. This is because the banking sector already has good reserves and has carried out a risk analysis which will later affect the size of the investment.
- FDR has a (significant) positive effect on profitability (ROA) in banking in Indonesia. Thus, the higher this ratio reflects that banks in Indonesia are increasingly effective in channeling their financing. With the assumption that this ratio is within the limits set by Bank Indonesia.

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