Financial Ratio indicators and profitability in Islamic Bank: The Moderating Effect of Size and Age Bank

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Abstract
Indonesia's Islamic banking sector demonstrates strong development based on financial performance. This study is to find the effect on return on assets of financial ratios, capital adequacy ratio, non-performing financing, and financing to deposit ratio, using size and age as moderating factors. This will enable one to determine whether age and size of banks affect the correlation between these financial parameters and return on assets. Using secondary data on Islamic commercial banks in Indonesia between 2011 – 2023 with total 119 bank-year observations. This work applies a quantitative research approach. This analysis reveals that despite non-performing financing reduces return on assets, the capital adequacy ratio and financing to deposit ratio improve these indices. By using moderation regression analysis, banks can increase the impact of the financing ratio on deposits and the capital adequacy ratio on return on assets.

1. Introduction

The Financial Services Authority reported that the banking sector in Indonesia has made significant progress, especially Islamic banking. In contrast to conventional banks, the main source of profit is interest from loans or credit provided, while Islamic banks' profits are obtained through profit-sharing principles such as *musyarakah* (مشاركة) and *mudharabah* (مضاربة), rental principles (*ijarah/*إيجارة) and *ijarah muntahiyah bi al-tamlik* (الإجارة المنتهية بالتمليك)), sale and purchase principles (*murabahah/*مرابحة), *salam* (السلام), and *istishna'*(استصناء)), and also service principles (*hiwalah /*الحوالة, *rahn/* الرهن, *wakalah/* وكالة, *kafalah/* كفالة, and *qardh* /قرض). According to *Undang-Undang No. 21 Tahun 2008*, Islamic banks are financial entities that operate in line with sharia principles or Islamic law, as per the fatwa of *Majelis Ulama Indonesia*. These principles encompass fairness and equilibrium, benefit, universalism, and the avoidance of aspects like as *gharar* (غرر), *maysir* (ميسر), *riba* (ربا), *dzalim* (ظالم), and everything that is deemed haram (Otoritas Jasa Keuangan, 2017)

Established in 1991, Bank Muamalat Indonesia was the first Islamic bank to open in Indonesia. The establishment of Islamic banks and conventional banks operating in the Islamic business sector shows how rapidly Islamic banking has developed. Thirteen Islamic commercial banks, twenty Islamic business units, and one hundred and sixty-seven Islamic rural banks are listed in the Financial Services Authority's 2023 Islamic banking statistics and trends report. Islamic banking has proven to be crisis-resistant and capable of continuing to grow well, even increasing compared to the previous year. Over the past four years, the average growth rate of Islamic banking assets has remained in the double digits. Islamic commercial banks, Islamic banking units, and Islamic microfinance banks have shown positive development (Otoritas Jasa Keuangan, 2020).

Profitability is the company's ability to make a profit. Profitability provides a measure of the level of management effectiveness of a company. In general, profitability can be used as an indicator to measure the performance of a company. The higher the profitability of a company, the higher the company's performance and ability to generate profits (Lestari & Wulandari, 2019). One of the profitability ratio indicators whose results are relevant and effective in measuring the financial performance of a bank set by Bank Indonesia is return on assets (Ali, 2018). One of the profitability ratio indicators whose results are relevant and effective in measuring the financial performance of a bank set by Bank Indonesia is return on assets (Ulfatul Khasanah, 2023). Suryani explained that bank profitability is the extent to which a bank can generate profits within a certain time (Suryani, 2012). The main objective in running a business is to generate profits. As a financial institution, profits have a significant impact on a bank's performance. If the return on assets increases, it will improve the bank's position in asset utilization and also the level of profits earned by the bank (Ali, 2018).

The biggest challenge faced by banks is maintaining financial stability. This decline in performance can be identified through an increase in the number of non-performing loans or bad debts, which is a condition where customers are unable to fulfill their obligations to pay loan installments to the bank. This problem can be caused by two factors, namely internal and external factors. Internal factors include problems arising from both parties, such as misunderstandings between customers and the bank in establishing cooperation, as well as a lack of supervision of customers. Meanwhile, external factors consist of two elements: (1) negligence, which is when a customer's business experiences a decline or loss, making them unable to pay installments, and (2) intentionality, which is when customers consciously refuse to fulfill their obligations to pay their debts to the bank (Agustina, 2021).

One of the tools used to project the future financial condition of a bank is financial ratio analysis obtained from the company's financial statements. The financial stability or instability of a company can be assessed through financial ratios, including the Capital Adequacy Ratio, Non-Performing Financing, and Financing to Deposit Ratio. According to a study conducted by Altman (1968), financial ratios can predict the likelihood of a company's failure with an accuracy rate of 94 to 95 percent (Lestari, 2022).

The capital adequacy ratio, which is specifically determined by regulatory authorities for areas under government control, such as financial institutions and insurance, is the ratio that reflects capital adequacy. A bank's capital adequacy in supporting assets that contain or have the potential to cause risk is measured using bank performance ratios. The efficiency of a bank's operations is significantly influenced by the quantity of capital it possesses (Banaswati, 2022). As the capital adequacy ratio increases, the bank becomes more adept at managing the risk of potential losses resulting from hazardous loans or assets, which in turn enhances consumer confidence in the bank (Arifin, 2002). This figure is employed to evaluate the bank's stability and circumstances in relation to the capital that its proprietors possess. This ratio indicates the extent to which bank capital is utilized to support all of a bank's hazardous assets, including loans, investments, bonds, and claims on other banks (Suriani, 2019).

Utilizing non-performing financing to evaluate the character of loans within a bank. The credit risk assessed to the bank decreases as the level of non-performing financing decreases. Conversely, the magnitude of the credit risk that the bank must assume increases as the quantity of non-performing financing increases. The limit of non-performing financing that is deemed to be satisfactory is less than 5%, as per the regulations established by Bank Indonesia (Putra, 2019).

The measurement tool that shows the amount of financing development carried out by the bank is the financing to deposit ratio, which functions in assessing how liquid a bank is, can present the bank's capacity to meet financing requests by utilizing all assets owned. When more funds are channeled back to customers through credit, the unused funds will decrease and the income received by the bank will increase because it has been allocated to provide financing to customers. When more funds are channeled to customers in the form of loans, the amount of funds that are not utilized properly will decrease. This will certainly have a positive impact on increasing the profitability of Islamic banks. Bank Indonesia sets the financing to deposit ratio range for banks between 78% - 92% (Astuti, 2022).

From the findings obtained, there is a gap phenomenon, thus this study adds bank size and bank age as moderating variables to fill the gap. Bank size shows the total assets owned by the banking institution. Banks with a larger amount of assets will find it easier to get funds in the stock market because it is considered that the bank's performance is more stable than banks that have a small size (Sutrisno & Riduwan, 2022). Bank age describes how long a bank has existed, operated, and carried out its activities. Bank age is obtained from the subtraction of the current year minus the year of establishment. Established banks often yield greater earnings than newly formed institutions, because new banks usually experience more costs for marketing purposes, purchasing assets, and capital (Zuchrinata & Yunita Irni, 2019).

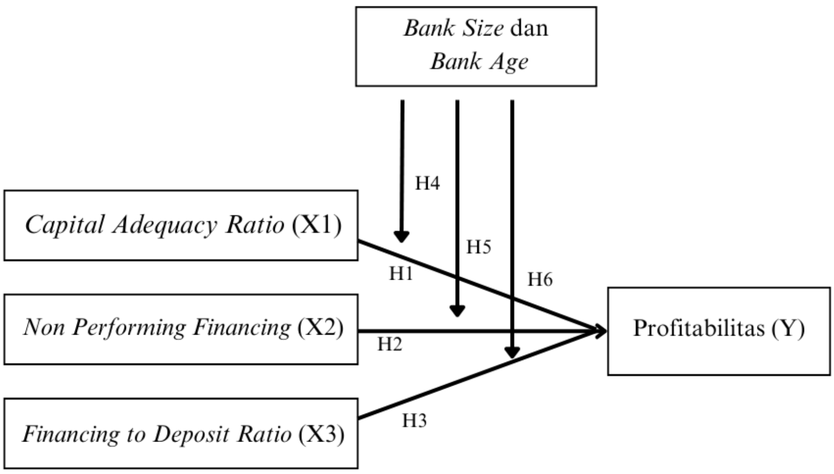

Figure 1. Conceptual Framework

Literature Review

a. The Effect of Capital Adequacy Ratio on Profitability

The Capital Adequacy Ratio is a capital metric that indicates the bank's ability to manage financial risks associated with its operations and retain funds for business expansion. The CAR ratio can serve as an indicator of the extent to which the bank's capital is utilized to finance all of its hazardous assets (Banaswati, 2022). The bank's ability to mitigate potential losses and the confidence of its customers are both enhanced by a higher CAR ratio (Arifin, 2002).

This is further strengthened by research conducted by Ulfatul (2023), Silvia (2022), Ahmadul and Syaichu (2024), Mariana, et al (2022), Agusto and Wirman (2021) stating that the Capital Adequacy Ratio has a positive effect on profitability. So, it can be concluded that there is a conjecture:

H1: Capital Adequacy Ratio has a positive effect on profitability

b. The Effect of Non-Performing Financing on Profitability

Non-performing financing as a gauge of loan quality at a bank. Non-performing financing are financing whose quality is compromised or poor. Customers will also have more trust in the bank as the NPF ratio indicates how well it is handling the risk of losses that might happen (Putra, 2019)

Research by Chavia, et al (2022), Rifka, et al (2019), Adhalia and Nana (2021), Uswatun, et al (2022), Hendra and Agus (2022) suggesting NPF has a good impact on profitability strengthens this even further. It follows that there is a supposition that:

H2: Non-Performing Financing has a negative effect on profitability

c. The Effect of Financing to Deposit Ratio on Profitability

Funding from a Deposit Ratio is a metric representing the proportion of funds given by Islamic banks to the general population derived from outside sources. The income generated in an Islamic bank is much influenced by the degree of FDR; more funds channelled in the form of loans will result, the less the amount of funds that are not productively utilized. This will also support the increase in sharia income (Ali, 2018).

This is reinforced by research conducted by Syakhrun, et al (2019), Dina and Nana (2022), Marisya (2019), Octavia and Munareja (2022), Setyarini, et al (2021) asserted that the Financing to Deposit Ratio positively influences profitability. Therefore, it may be argued that there is a suspicion that:

H3: Financing to Deposit Ratio has a positive effect on profitability

d. Bank size in moderating the Capital Adequacy Ratio relationship to profitability

The size of a bank indicates the total assets possessed by the institution (Lestari, 2022). The larger the bank size indicates that the bank has a high amount of assets, which has an impact on liquidity, profits, and a significant increase in sales at the bank (Wulandari & Rofiuddin, 2022).

Capital Adequacy Ratio (CAR) a measure of capital that reflects the bank's capacity to hold funds for business growth & face financial risks arising from its activities. The CAR ratio demonstrates the degree to which all hazardous bank assets are funded by the capital possessed (Banaswati, 2022).

This is further strengthened by research conducted by Handoko and Trisnawati (2021), Pardian, et al (2022), Sari and Puspita (2023), Agam and Pranjoto (2021), Naingolan and Sitorus (2021) mentioning that The size of a bank significantly influences its profitability. And also Ulfatul (2023), Silvia (2022), Ahmadul and Syaichu (2024), Mariana, et al (2022), Agusto and Wirman (2021) stated that the Capital Adequacy Ratio has a positive effect on profitability. So it can be concluded that there is a suspicion that:

H4: Bank size is able to moderate the relationship between Capital Adequacy Ratio and profitability.

e. Bank size in moderating the relationship between Non-Performing Financing on profitability

Bank size shows the total assets owned by the bank (Lestari, 2022). Bank size can affect the extent to which the bank can manage and use funds effectively (Khuluddiyah & Budianto, 2024). Non-Performing Financing (NPF) is assessed by looking at the ratio between bad debts and total loans disbursed. A high NPF level will reduce bank profits, while a low NPF level is expected to increase bank profits (Almunawwaroh & Marliana, 2018).

This is further strengthened by research conducted by Handoko and Trisnawati (2021), Pardian, et al (2022), Sari and Puspita (2023), Agam and Pranjoto (2021), Naingolan and Sitorus (2021), stating that Bank size has a significant effect on profitability. And also Chavia, et al. (2022), Rifka, et al (2019), Adhalia and Nana (2021), Uswatun, et al (2022), Hendra and Agus (2022) stated that Non-Performing Financing (NPF) has a positive effect on profitability. So it can be concluded that there is a suspicion that :

H5: Bank size is able to moderate the relationship between Non-Performing Financing on profitability.

f. Bank size in moderating the relationship between Financing to Deposit Ratio on profitability

Bank size shows the total amount of assets owned by the bank (Lestari, 2022). Bank size can affect the extent to which the bank manage and use funds effectively (Khuluddiyah & Budianto, 2024).

The amount of Financial to Deposit Ratio of a bank has a significant effect on its income. The more funds that are channeled back to customers in the form of loans, the less funds that do not produce. This will have a positive impact on increasing bank income (Ali, 2018).

This is further strengthened by research conducted by Handoko and Trisnawati (2021), Pardian, et al (2022), Sari and Puspita (2023), Agam and Pranjoto (2021), Naingolan and Sitorus (2021) mentioning that Bank size has a significant effect on profitability. And also, Syakhrun, et al (2019), Dina and Nana (2022), Marisya (2019), Octavia and Munareja (2022), Setyarini, et al (2021) mentioned that Financing to Deposit Ratio has a positive effect on profitability. Therefore, it may be argued that there is a conjecture:

H6: Bank size is able to moderate the relationship between Financing to Deposit Ratio on profitability.

g. Bank Age in moderating the relationship between Capital Adequacy Ratio on profitability

Bank age reflects how long a bank has been in business. Established banks often yield greater earnings than freshly established banks, because new banks usually have higher costs for marketing, purchasing assets, and working capital (Zuchrinata & Yunita, 2019).

The Capital Adequacy Ratio (CAR) is a capital metric that indicates the bank's ability to manage financial risks associated with its operations and retain funds for business expansion. The CAR ratio can serve as an indicator of the extent to which the capital owned is utilized to finance all hazardous bank assets (Banaswati, 2022).

This is further strengthened by research conducted by Ali (2019), Noveliza, et al (2022), Lestari (2020), Oktavia, et al (2020) stated that Bank age has a significant effect on profitability. And also, Ulfatul (2023), Silvia (2022), Ahmadul and Syaichu (2024), Mariana, et al (2022), Agusto and Wirman (2021) stated that Capital Adequacy Ratio has a positive effect on profitability. So, it can be concluded that there is a suspicion that:

H7: Bank age is able to moderate the relationship between Capital Adequacy Ratio and profitability.

h. Bank Age in moderating the relationship between Non-Performing Financing on profitability

Bank age reflects how long a bank has been in business. Banks that have been operating for a long time generally generate higher profits compared to newly operating banks, because new banks usually have higher costs for marketing, purchasing assets, and working capital (Zuchrinata & Yunit, 2019).

Non-performing financing is used as an indicator in identifying the quality of a bank's loans. Non-performing financing can occur if there is financing made by the bank to customers (Putra, 2019).

This is reinforced by research conducted by Ali (2019), Noveliza, et al (2022), Lestari (2020), Oktavia, et al (2022) stating that Bank age has a significant effect on profitability. And also, Chavia, et al (2022), Rifka, et al (2019), Adhalia and Nana (2021), Uswatun, et al (2022), Hendra and Agus (2022) found the results that Non-Performing Financing (NPF) has a positive effect on profitability. So, it can be concluded that there is a suspicion that:

H8: Bank age is able to moderate the relationship between Non-Performing Financing on profitability.

i. Bank Age in moderating the relationship between Financing to Deposit Ratio on profitability

Bank age reflects how long a bank has been in business. Banks that have been operating for a long time generally generate higher profits than newly operating banks, because new banks usually have higher costs for marketing, purchasing assets, and working capital (Zuchrinata & Yunita, 2019).

Financial to Deposit Ratio (FDR) is a measure that shows how much funds from the public deposited in Islamic banks are channeled back by banks for financing to the public (Ali, 2018).

This is further strengthened by research conducted by Ali (2019), Noveliza, et al (2022), Lestari (2020), Oktavia, et al (2020) stated that Bank age has a significant effect on profitability. And also, Syakhrun, et al (2019), Dina and Nana (2022), Marisya (2019), Octavia and Munareja (2022), Setyarini, et al (2021) found the results that Financing to Deposit Ratio (FDR) has a positive effect on profitability. So, it can be concluded that there is a suspicion that:

H9: Bank age is able to moderate the relationship between Financial to Deposit Ratio (FDR) on profitability.

2. Research Method

This study takes exiting facts derived from yearly reports released on the websites of ten Islamic commercial banks in Indonesia and performs a quantitative style of research using a secondary data analysis technique. The population under investigation is the whole set of things that might provide data for investigation. Using 13 populations Islamic commercial banks registered with the financial services administration from 2011 to 2023 this paper investigates. The criteria determined by the researcher in selecting the sample include:

a. Islamic Commercial Banks (BUS) listed in Islamic Banking Statistics during the period 2011 to 2023.
b. Islamic Commercial Banks (BUS) which have indicators of the variables to be studied in the annual financial statements in the period 2011 to 2023.

The variables used in this study are:

a. Dependent Variable:

Profitability

In doing a certain business or activity, the main goal to be achieved is to make a profit. As a financial institution, or what is often referred to as profit, has a big impact on bank performance. Profitability is used to see the ability of financial institutions to use their assets to generate profits for shareholders of a financial institution. Profitability functions for several things, namely, assessing and understanding how much profit a company or bank can achieve within a certain period of time. In addition, profitability functions as a comparison of profit or income value or profit level last year with this year, as well as a reference to evaluate the efficiency of the company through all sources of money used, which comes from loans or from self-owned capital including profitability functions (Ali, 2018).

One of the profitability ratio indicators whose results are relevant and effective in measuring the financial performance of a bank set by Bank Indonesia is Return on Asset, Consequently, academics employ return on assets as a metric to assess the profitability of Islamic commercial banks. An rise in return on assets enhances the bank's asset utilization and elevates its profit level (Ali, 2018).

b. Independent Variable:

1. Capital Adequacy Ratio

   A bank's capacity to supply financial resources for corporate expansion and to absorb possible losses resulting from its operational activities is gauged by its capital adequacy ratio. This ratio reflects the capital adequacy determined by regulatory authorities specifically applied to areas under government control such as financial institutions and insurance. The figure is utilized in assessing the stability and situation of the bank from the perspective of the capital held by the owners (Suriani, 2019).

2. Non-Performing Financing

   Non-performing financing as an indicator in identifying the quality of loans at a bank. Financing whose quality is hampered or bad is called non-performing financing. In banking NPF is used as a tool that functions to deal with non-performing financing where debtors are unable to fulfill financing. The decreased level of non-performing financing, the lower the credit risk charged to the bank. Vice versa, the greater the amount of non-performing financing, the greater the credit risk that must be borne by the bank (Putra, 2019).

3. Financing to Deposit Ratio

   Financing to Deposit Ratio functions in assessing how liquid a bank is, can present the bank's capacity to meet financing requests by utilizing all assets owned as well as being a measuring tool that shows the amount of financing development carried out by banks (Astuti, 2022).

c. **Moderating Variable:**

1. Bank Size

   Bank size is a general representation of the asset of the company that can be seen from the overall assets, total revenue, average income level, and average assets. Brigham & Houston explain bank size as a measure that can show how large or small a bank is based on total assets, total sales, taxation costs, total profits, and several other factors (Lestari, 2022).

2. Bank Age

   Bank age is the length of time the bank continues to exist and is able to compete in the business world. The age of a bank is calculated by subtracting the year of establishment from the present year. The longer the bank stands, it will increase the value of the bank. The longer a bank stands, investors as investors have more confidence than newly established ones, because it is assumed that with a lot of The assets will yield greater earnings, enabling the bank to endure, which will therefore lead to an increase in share price (Oktavia. Sar et al., 2016).

The measurement summary of each variable is explained in Table 1.

Table 1.
Variable Description

Variable Type	Definition	Indicator	Scale
Capital Adequacy Ratio (CAR)	Capital Adequacy Ratio that reflects the capacity of financial resources for business growth	CAR = $\frac{Equity\ Capital}{Arisk-weighted\ assets}$ x 100%	Ratio
Non-Performing Financing (NPF)	A ratio that identifies the quality of financing	NPF = $\frac{Non-performing\ loans}{Total\ Credit}$ x 100%	Ratio
Financing to Deposit Ratio (FDR)	A ratio indicating the growth of the bank's funding.	FDR = $\frac{Total\ Financing}{Total\ Third\ Party\ Funds}\ x\ 100\%$	Ratio
Bank Size	The magnitude of a bank is reflected in its total asset value.	Bank Size = Ln Total Assets	Ordinal
Bank Age	Duration of a bank's establishment	Bank Age = year of research - year of company establishment	Ordinal

Data Analysis

This study uses moderating regression analysis as analytical devices. Moderated regression analysis is a multiple linear regression method that incorporates an interaction component into its regression formula, which is the product of two or more independent variables. when the interaction variable shows a significant value, we can conclude that there is a moderating effect (Lestari, 2022). The measurement equation for testing research data is:

$ROA = \beta_o + \beta_1 CAR + \beta_2 NPF + \beta_3 FDR + \varepsilon$ ....(1)

$ROA = \beta_o + \beta_1 CAR + \beta_2 NPF + \beta_3 FDR + \beta_4 Bank\ Size + \beta_5 Bank\ Age + \beta_6 CAR * Bank\ Size + \beta_7 NPF * Bank\ Size + \beta_8 FDR * Bank\ Size + \beta_9 CAR * Bank\ Age + \beta_{10} NPF * Bank\ Age + \beta_{11} FDR * Bank\ Age + \varepsilon$ ....(2)

3. Results and Discussions

This study will give descriptive statistics pertaining to the data of each independent and dependent variable, along with the moderating variables utilized. The findings of the descriptive statistical analysis are presented in Table 2.

Table 2.
Descriptive Statistics

Variable	N	Minimum	Maximum	Mean
CAR	119	0,111	3,905	0,358
NPF	119	0	0,050	0,019
FDR	119	0	5.066	43,486
Bank Size	119	1217,100	353.624.240	15.573.346,31
Bank Age	119	1	58	21,03
ROA	119	-0,940	0,111	-0,002

Based on the results of descriptive statistics, 119 observation data were obtained from multiplying the 13-year research period from 2011 to 2023 with a sample size of 10 Islamic commercial banks. The table obtained a description of each variable as follows

The mean value for the profitability variable, represented by ROA, is -0.002, with a high of 0.111 and a low of -0.940.

The typical value for the capital adequacy ratio, represented by CAR, is 0.358, with a maximum of 3.905 and a minimum of 0,111.

The average value for the non-performing finance variable, represented by NPF, is 0.019, with a high of 0.050 and a low of 0.

The average financing to deposit ratio, represented by FDR, is 43.486, with maximum of 5066 and a low of 0.

The mean value for the size variable is 15,573,346, with a maximum of 353,624,240 and a low of 1217.1.

The mean age is 21.03, with a maximum of 58 and a minimum of 1.

Table 3.
Multiple Linear Regression Analysis & Moderating Regression Analysis

Variable	ROA (1) β	ROA (1) Sig.	ROA (2) B	ROA (2) Sig.
(Constant)	0.109	< 0.001	0.50	0.131
CAR	0.065	0.020	0.001	0.983
NPF	-0.325	< 0.001	-2.651	0.001
FDR	0.002	0.027	0.074	0.016
Bank Size			8.369	0.049
Bank Age			-0.013	0.383
CAR * Bank Size			-3.158	0.008
NPF * Bank Size			-3.022	0.474
FDR * Bank Size			-6.275	0.069
CAR * Bank Age			0.025	0.376
NPF * Bank Age			0.062	0.131
FDR * Bank Age			-0.002	0.515

According to Table 3, the data indicate that the initial model hypothesis posits a positive relationship between the capital adequacy ratio and profitability. The findings indicate a value of 0.065. This value comprises a positive value and a probability value that is inferior than the significance threshold 0.020 < 0.1. The capital adequacy ratio positively and significantly influences profitability, **H1 accepted**. The findings of this study validate studies carried out by (Siahaan et al., 2016; Wibowo & Syaichu, 2013) that show CAR increases ROA. A high CAR value will help the bank as proper capital reserves help to stabilize the extent of its activity. CAR is utilized to detect, assess, manage, and mitigate risks associated with the administration of bank assets. A higher Capital Adequacy Ratio (CAR) indicates a greater amount of capital utilized to finance productive assets or to recuperate losses from asset investments. Bank with high capital can invest its funds freely in profitable investments so as to increase customer confidence because of the possibility of banks earning high profits. If the bank's capital is fulfilled, the losses experienced by the bank can be covered so that the bank's operational activities will not experience significant fluctuations.

Non-performing borrowing adversely impacts profitability. The test result indicates -0.325. This number has a negative component and a probability value below to the significance threshold of 0.001 < 0.1. Consequently, it may be inferred that non-performing funding adversely and significantly impacts profitability, **H2 accepted.** NPF refers to a non-performing financing or finance in which the borrower fails to meet the repayment obligations as stipulated in the agreement (Wibowo & Syaichu, 2013). Credit or financing risk arises if the bank cannot return claims on loans or investments made. Poor financing quality will increase risk, especially if the distribution of financing is carried out by not applying the precautionary principle so that the bank bears the risk. The existence of problematic financing causes the channeled financing not to provide maximum results (Yusuf & Surjaatmadja, 2018)

Return on assets improves when one uses financing to deposit ratio. The test findings after testing reveal 0.002. This value comprises a good value followed by a probability value less than the significance threshold, precisely 0.027 < 0.1. This implies that the financing to deposit ratio has a positive and notable effect on profitability, **H3 accepted**. The Financing to Deposit Ratio (FDR) is a summary of the volume of external money allocated as credit or financing. A greater ratio signifies an increased capacity of the bank to extend funding. The quantity of FDR significantly influences the degree of bank profitability. This means that if the FDR ratio increases, profitability will also increase.

Size can influence the link between capital adequacy ratio and profitability. Upon testing, the p-value is less than the significance limit of 0.008 < 0.1. The test findings indicate that size moderates the association between the capital adequacy ratio and profitability, **H4 accepted.**

The size moderates the association between non-performing financing and profitability. Following the assessment, the probability value exceeds the significance level of 0.474 > 0.1. The test results indicate that size can mitigate the association between non-performing financing and profitability, **H5 rejected**.

Size can influence the link between the financing-to-deposit ratio and profitability. Following the analysis, the p-value exceeds the significance threshold of 0.069, which is less than 0.1. The test findings indicate that size moderates the link between the financing to deposit ratio and profitability, **H6 accepted.**

Age can influence the link between capital adequacy ratio and profitability. After testing, the probability value is greater than the significant level of 0.376 > 0.1. The test findings indicate that age moderates the association between CAR and profitability, **H7 rejected.**

Age can influence the correlation between non-performing financing and profitability. Upon testing, the probability value exceeds the significance level of 0.131 > 0.1. The test findings indicate that age moderates the association between non-performing financing and profitability, **H8 rejected.**

Age can influence the link between the financing-to-deposit ratio and profitability. Following the analysis, the p-value exceeds the significance threshold of 0.515 > 0.1. The test findings indicate that age may affect the association between the financing to deposit ratio and profitability, **H9 rejected.**

The moderation research suggests that size may affect the link among profitability, the financing to deposit ratio, and the capital adequacy ratio. As this study shows, size affects both the financing to deposit ratio and capital adequacy ratio with respect to profitability. Larger general asset base helps the bank to handle risks related with banking operations and fund corporate development, therefore increasing its profitability. Furthermore, given size, profitability will be favourably linked with the financing to deposit ratio.

4. Conclusions

This study revealed that the profitability of the company is favourably and significantly influenced by both the financing to deposit ratio and the capital adequacy ratio both partially and concurrently. These findings show that a bank's capability to resist credit risk and hazardous productive assets increases with larger capital adequacy ratio, so improving the company's profitability. In the same line, the Financing to Deposit ratio shows that, in a favourable ratio, the bank's capacity to channel funds is better which positively impacts the company's profitability. In contrast, profitability is adversely affected by the non-performing financing ratio. This demonstrates that the profitability of the bank will decline as the risk of the credit it assumes increases.

This study highlights the possible role of bank size and age as moderating variables that influence the relationship between Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), and Non-Performing Loans (NPL) on bank profitability. The research sample includes banks registered with the Financial Services Authority (OJK) from 2011 to 2023.

The results indicate that bank age tends to weaken the influence of CAR on profitability, as well as the influence of FDR. CAR indicates how strong a bank's capital is in absorbing loss risks. For newer banks (younger in age), strong capital is crucial and directly impacts profitability because they are still building market trust, risk management is not yet mature, and they tend to be more cautious in expansion. However, in older banks (with longer ages), a strong capital structure does not necessarily have a direct impact on profitability because banks already have more stable risk management systems, established customer bases, and more diversified income. In other words, the bank's age weakens the direct influence of CAR on profitability because more mature banks are more efficient in managing their capital. Meanwhile, FDR indicates the extent to which third-party funds (customer funds) are channeled in the form of financing. The higher the FDR, the more aggressive the bank is in channeling funds—which has the potential to increase profitability. However, in older banks, the effectiveness of financing disbursement on profitability tends to decline, as they are typically more conservative and focused on long-term sustainability rather than aggressive growth. They may also have more low-risk financing that yields smaller profit margins. Therefore, bank age can weaken the relationship between FDR and profitability.

References

Agustina, D. (2021). *Pengaruh CAR Dan BOPO Terhadap ROA Terhadap NPF Sebagai Variabel Moderasi Pada Bank Umum Syariah*.

Ali, M. B. A. (2018). *Analisis Profitabilitas Bank Umum Syariah di Indonesia*.

Almunawwaroh, M., & Marliana, R. (2018). PENGARUH CAR,NPF DAN FDR TERHADAP PROFITABILITAS BANK SYARIAH DI INDONESIA. *Amwaluna: Jurnal Ekonomi Dan Keuangan Syariah*, *2*(1), 1–17. https://doi.org/10.29313/amwaluna.v2i1.3156

Arifin, Z. (2002). *Dasar-Dasar Manajemen Bank Syariah*. Alvabet.

Astuti, R. P. (2022). Pengaruh CAR, FDR, NPF, Dan BOPO Terhadap Profitabilitas Perbankan Syariah. *Jurnal Ilmiah Ekonomi Islam*, *8*(3), 3213. https://doi.org/10.29040/jiei.v8i3.6100

Banaswati, S. R. (2022). *Analisis Faktor-Faktor Yang Mempengaruhi Profitabilitas Pada Bank Umum Syariah Di Indonesia*.

Khuluddiyah, Z., & Budianto, E. W. H. (2024). *Pengaruh NPF Gross, Pendapatan Mudharabah, Dan Bonus Wadiah Terhadap Penerimaan Dana ZISWAF Dengan Firm Size Sebagai Variabel Moderasi Pada Perbankan Syariah Di Indonesia*.

Lestari, K. C., & Wulandari, S. O. (2019). Pengaruh Profitabilitas Terhadap Manajemen Laba (Studi Kasus Pada Bank yang Terdaftar di Bursa Efek Indonesia Tahun 2016-2018). *Jurnal Akademi Akuntansi*, *2*(1), 20–35.

Lestari, Y. M. (2022). *Pengaruh Likuiditas Dan Solvabilitas Terhadap Financial Distress Dengan Ukuran Perusahaan dan Inflasi Sebagai Varibel Moderasi*.

Oktavia. Sar, Arifin. Rois, & Wahono. Budi. (2016). *Pengaruh Manajemen Modal Kerja, Umur*

Perusahaan, Ukuran Perusahaan, Dan Pertumbuhan Penjualan Terhadap Profitabilitas. www.fe.unisma.ac.id

Otoritas Jasa Keuangan. (2017). *Perbankan dan Kelembagaannya*. Accessed October 28, 2024. https://www.ojk.go.id/id/kanal/syariah/tentang-syariah/Pages/PBS-dan-Kelembagaan.aspx

Otoritas Jasa Keuangan. (2020). *Sejarah Perbankan Syariah*. Accessed October 27, 2024. https://www.ojk.go.id/id/kanal/syariah/tentang-syariah/Pages/Sejarah-Perbankan-Syariah.aspx

Putra, E. Y. . & M. D. P. K. (2019). *Pengaruh NPF, ROA, dan FDR terhadap CAR*.

Siahaan, E., Gultom, P., & Lumbanraja, P. (2016). Improvement of employee banking performance based on competency improvement and placement working through career development (case study in Indonesia). *International Business Management*, *10*(3), 255–261. https://doi.org/10.3923/ibm.2016.255.261

Suriani, G. (2019). *Analisis Pengaruh CAR, BOPO, NPM, Dan LDR Terhadap Pertumbuhan LabaDengan Suku Bunga Sebagai Variabel Moderasi Pada Perusahaan Perbankan Yang Terdaftar DI Bursa Efek Indonesia Periode 2013 - 2016*. *9*.

Suryani. (2012). *Analisis Pengaruh Financial to Deposit Ratio (FDR) Terhadap Profitabilitas Perbankan Syariah Di Indonesia*.

Sutrisno. Y. A. E., & Riduwan, A. (2022). *Pengaruh Ukuran Perusahaan, Umur Perusahaan, Kepemilikan Institusional, Dan Kepemilikan Manajerial Terhadap Kinerja Keuangan Perusahaan*.

Ulfatul Khasanah. (2023). Pengaruh CAR, NPF, FDR Terhadap Profitabilitas Bank Umum Syariah di Indonesia Dengan Pembiayaan Sebagai Variabel Mediasi. *Jurnal Rimba : Riset Ilmu Manajemen Bisnis Dan Akuntansi*, *1*(4), 400–414. https://doi.org/10.61132/rimba.v1i4.574

Wibowo, E., & Syaichu, M. (2013). Analisis Pengaruh Suku Bunga, Inflasi, CAR, BOPO, NPF, Terhadap Profitabilitas Bank Syariah. *Polski Tygodnik Lekarski*, *10*(6), 191.

Wulandari, R., & Rofiuddin, M. (2022). *Pengaruh Rasio Keuangan Terhadap Pertumbuhan Laba dengan Ukuran Bank sebagai Variabel Moderasi*. https://doi.org/10.29259/jmbs.v13i3.3378

Yusuf, M., & Surjaatmadja, S. (2018). International Journal of Economics and Financial Issues Analysis of Financial Performance on Profitability with Non Performance Financing as Variable Moderation (Study at Sharia Commercial Bank in Indonesia Period 2012-2016). *International Journal of Economics and Financial Issues*, *8*(4), 126–132. http:www.econjournals.com

Zuchrinata. F . A., & Yunita Irni. (2019). *Pengaruh Inflasi, Suku Bunga Bank Indonesia, Debt To Equity Ratio (DER), Ukuran Perusahaan, dan Umur Perusahaan Terhadap Profitabilitas Perusahaan Sub Sektor Pertambangan Batu Bara Yang Terdaftar Di BEI Tahun 2013 - 2017*.