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THE INFLUENCE OF LOAN GROWTH, LOAN TO ASSETS, AND SIZE ON RETURN ON ASSETS THROUGH NON-PERFORMING LOANS IN BANKING COMPANIES

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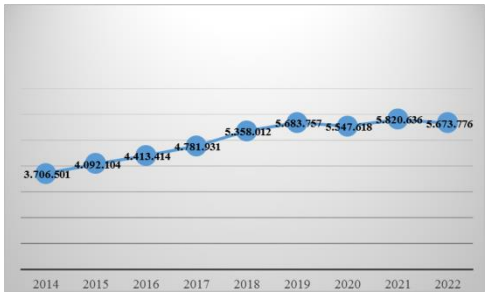
ABSTRACT

Bank performance in the last 10 years has improved marked by an increase in loans growth but followed by a declining trend in profitability. Out of a total of 47 banks, 28 banks were selected as samples using purposive sampling. Data analysis techniques using IBM SPS Amos 24.0 software. From the results of data analysis, the results show that loan growth has a positive and insignificant effect on return on assets, loan to assets has a negative and insignificant effect on return on assets, size has a positive and significant effect on return on assets, loan growth and size have a positive and insignificant effect on non-performing loans and loan to assets has a significant negative effect on non-performing loans. From the results of mediation testing using the sobel test, the results show that non-performing loans are able to provide a partial mediating role in the relationship between loan to assets and return on assets, but non-performing loans cannot act as mediation of the relationship between loan growth and size to the return on assets.

Keywords: Bank, Loan Growth, Non-Performing Loan, Return on Assets, Size

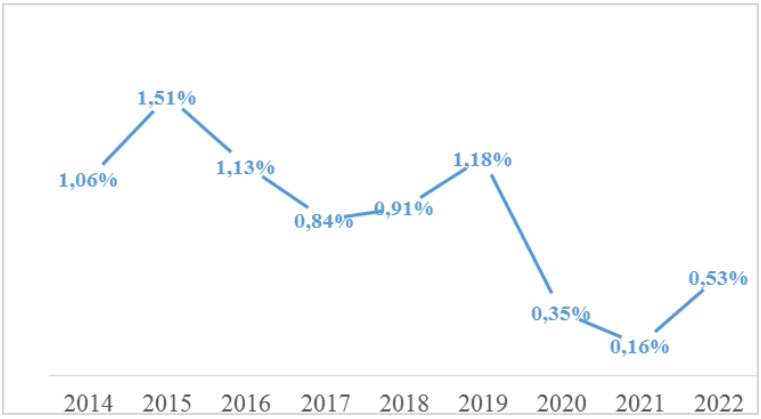
INTRODUCTION

The contribution of the banking industry to the national economy is very important, especially in Indonesia as a developing country. Banks play their role as intermediaries for parties who have excess funds to be channeled to parties who need funds. Banks in their operational activities provide financial products and services in the form of savings, deposits, current accounts, and also loans for customers or debtors. Not only as intermediaries, the existence of banks is still very much needed in Indonesia as one of the pillars of the national economy. Banks provide convenience for the community in managing their finances in the form of savings and deposits. In addition, corporations or businesses are also helped by current account products produced by banks. No less important, banks also provide loans or credit facilities where which is very important for businesses that want to expand so that their businesses grow and of course will open up new jobs. Thus, the output of these positive activities will provide a stimulus for national economic growth. Without stability in the banking sector that provides capital flows, sustainable economic growth will be a challenge (Rizvi, Narayan, Sakti, & Syarifuddin, 2020). Loans or credit are one of the main sources of income for banks. Loans are also one of the bank products that greatly contribute to all stakeholders. For the bank itself as a creditor, good loan distribution will maximize the interest income obtained. Then for the debtors themselves, both individuals and corporations, loan facilities are very useful for business expansion, meeting working capital requirements and being able to balance the capital structure (Zou & Li, 2014, hal. 2). Bank credit distribution in Indonesia in almost the last decade shows how important the role of banks is. This is indicated by the increase in the total credit distributed by banks to debtors in need.



Source: Indonesian Banking Statistics Financial Services Authority (2024)
Figure 1. Total Loans Disbursed by Commercial Banks in 2014 - 2022

Figure 1 above presents information on the total credit distributed by banks is still dynamic but the trend tends to increase. It is recorded that in 2021 the total credit distribution by commercial banks reached its highest point in almost the last decade reaching IDR5,820,636 billion. Based on the data, it can be seen that the highest increase occurred in 2018 reaching 12.05% from IDR4,781,931 billion in 2017 to IDR5,358,012 billion in 2018. Credit distribution by banks decreased in 2020 by 2.39% from IDR5,683,757 billion in 2019 to IDR5,547,618 billion. This decline was caused by the Covid-19 pandemic where many banks increased their loan requirements to reduce the risk of non-performing loans. As defined by the Basel Risk Management Committee, non-performing loans include all loans that are not collected within 90 days from the due date. If we take into account that one of the main activities of all banks is lending, then the importance of banks' exposure to credit risk and its management becomes clear to us. Therefore, several methods have been developed to manage this risk. These methods have proven to be most effective/inefficient during the financial crisis (Žunić, Kozarić, & Dželihodžić, 2021). After that in 2021, the national economic conditions that have slowly recovered are marked by an increase in total credit disbursed by 4.92% to Rp5,820,636 billion. The high level of loan disbursement indicates that the bank's liquidity conditions are still very good and also indicates that public demand for loan facilities is still very good.



Source: Secondary data is processed (2024)
Figure 2. Average ROA in 28 Banks 2014-2022

Ideally, high loan disbursement by banks will also increase bank profitability. However, the phenomenon experienced by banks found different results. This can certainly be seen in Figure 2 below showing the trend of banking ROA from 2014 to 2022 which is so dynamic and fluctuating but the trend tends to decline. Banks in Indonesia recorded the highest average ROA in 2015, which was 1.51%, while the lowest point was in 2021 with only an average ROA of 0.16%. This is because in 2021 many banks in Indonesia experienced losses as a result of the Covid-19 pandemic that occurred.

Based on the downward trend in ROA, this confirms that loan growth does not directly contribute to bank profitability because other factors besides loan growth play a role in increasing bank profitability. Other factors that cause this are internal factors such as operational efficiency, liquidity, and risk management by the bank itself and can also be caused by external factors such as macroeconomic conditions which include national economic growth, inflation rates, and interest rates which will affect bank performance. For investment decision-making, investors need to evaluate the company's prospects of achieving goals in gaining profitability during a certain period (Hasanudin, Nurwulandari, Adnyana, & Loviana, 2020). This needs to be a concern for banks so that they can continue to achieve profitability so that the goals set can be achieved. One of the goals that must be achieved by companies including banks is profit maximization. One of the assessments that can be used to determine the level of bank profits is Return on Assets (ROA). The bank's ability to generate profits will be an important assessment for investors. This is because ROA reflects the efficiency of bank management in managing its assets to generate profits. The bank's rate of return illustrates how profitable the bank is in its operational activities. A high ROA level indicates higher profitability and also illustrates that the bank can be said to be more stable or has a lower risk. In other words, the higher the ROA, the lower the bank's risk. Therefore, increasing ROA is also

an important indicator for banks to evaluate their performance (Wu, Manh-Thao, & Nguyen, 2022).

It is known from several previous studies that there is inconsistency in research results between the variables of loan growth, liquidity, company size, bank risk and profitability. Research results on the influence of Loan Growth on ROA by (Wijayanti & Mardiana, 2020) with the finding that Loan Growth has a positive, negative and significant effect on ROA in the study by (Thiong'o, 2017), then in the study by (Khatik, 2021) the yields were not significant. Furthermore, there are also inconsistencies in research results regarding the influence of Loan to Assets on ROA by (Zeuspita & Yadnya, 2019) with the finding that Loan to Assets has a positive, negative and significant effect on ROA in the study by (Asnawi & Van Rate, 2018), then in the study by (Kustyaningrum & Lisiantara, 2020) the yields were not significant. Hereinafter, there are also inconsistencies in research results regarding the influence of Size on ROA by (Wu, Manh-Thao, & Nguyen, 2022); (Fatikha & Yudiana, 2021) with the finding that Size has a positive and significant effect on ROA, then in the study by (Syachreza & Mais, 2020) the yields were not significant. Summary of previous research on the variables used produced mixed results so it can be concluded that there are inconsistent results related to the variables used. Thus, the researcher decided to add a bank risk variable proxied by NPL as a mediator between the relationship between independent variables (Loan Growth, Loan to Assets, and Size) and the dependent variable (ROA). NPL acts as a mediating variable that can be used in the relationship between Loan Growth, Loan to Assets, and Size to ROA. This is confirmed by research conducted by (Talumantak & Cyasmoro, 2022) which states that NPL can mediate the relationship between loan growth and profitability as measured by ROA. Another study was also conducted by (Hidayat & Lubis, 2022) which found a direct negative relationship between NPL and ROA. This indicates that the higher the NPL, the lower the bank's ability to gain profitability. Effective credit risk management and control and supervision of NPL levels are the main factors for banks to maximize their profitability. Banks must certainly ensure that loan growth and the proportion of loans to assets are managed well and as efficiently as possible to reduce the risk of NPL so that it can increase ROA. Based on the previous explanation, it is expected that the NPL variable can mediate the relationship between Loan Growth, Loan to Assets, and Size to ROA.

One indicator of the success of bank performance is the high level of credit distribution to debtors. This reflects the high productivity of the bank in its operational activities and can also occur due to the high level of debtor trust in the bank and generally the bank's very positive image in the eyes of debtors. However, banks must also be careful in distributing credit to debtors. Strong regulations and good credit standards are needed to maintain the quality of the credit provided. It is not impossible that the quality of bank credit will decline if credit distribution is not carried out properly and correctly. The risk of bad credit can occur if the bank does not maintain credit quality and this will affect the bank's ability to make a profit. Banks can maximize their interest income if their loan distribution is high, provided that the loans distributed must be monitored properly and correctly. Based on the background above and the phenomena experienced by banks today, the study aims to determine and analyze the direct influence of Loan Growth, Loan to Assets, Size, and Non-Performing Loan on Return on Assets and the direct influence of Loan Growth, Loan to Assets, Size on Non-Performing Loan. Then, this study also tests and analyzes the indirect influence of each Loan Growth, Loan to Assets, and Size on Return on Assets through Non-Performing loans.

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

Financial Management Concepts

According to the Gitman *et al.* (2019), that financial management is the science and art of managing money. In a business context, financial management is concerned with how companies get money from investors, how to invest the money to make a profit and how to make investment decisions where the profits will be distributed to investors. Brigham and Ehrhardt (2017), added that financial management in the contemporary context includes strategic decision making that includes things like financing, investment, and dividend distribution, then the company's financial management activities are related to efforts to find and use funds efficiently and effectively to achieve the company's goals. Irfani (2020) explained that one of the important functions of financial management is the investment function, which includes the activity of allocating long-term funds for physical investment in fixed assets and financial investment in securities, such as stocks, bonds, term deposits, mutual funds and various other financial investment instruments.

Agency Theory

According to the Jensen and Meckling (1976), states that agency theory is an agreement between one or more people (principals) involving another person (agent) to perform some actions or activities on their behalf. Generally, this includes delegating authority and giving responsibility to the other party (agent). The principal will provide compensation to the agent for their services. The principal and agent have different interests, which can be an obstacle for the organization in achieving its stated goals. This can lead to conflict if there is no common ground. Banks, investors, or shareholders act as principals, and bank management as agents who are given responsibility by investors. Agency conflicts can occur due to the different interests and goals of each party. Investors as principals will certainly expect maximum profits so that their welfare increases. This is different from bank management as an agent, where agents expect to obtain maximum rewards for actions that have been taken. This is also in line with what Adnyana and Lambang (2021) explained that agency conflicts often occur between management and shareholders due to differences in interests between management and shareholders.

Company management tends to gain maximum profit at the expense of other parties. Differences in interests must be overcome so as not to give rise to agency costs. Gitman & Zutter (2019) stated that agency costs are costs arising from agency problems borne by shareholders and indicate a loss of shareholder wealth. This difference in interests must be bridged by an independent third party. In this study, the amount of credit disbursed and ROA are a reflection of bank performance. Bank management will certainly provide rewards in the form of bonuses or incentives to its employees to accelerate the company's goals. As explained by Bhowmik and Sarker (2021), bank management may propose risky strategies to increase its credit growth. As a performance measurement criterion, loan growth is one of the main issues considered in banks. However, in addition to providing short-term benefits, the rapid loan growth trend also contains long-term hidden risks for shareholders.

Signalling Theory

The signal theory was first put forward by Spence in 1973, where he stated that the owner of information, namely the company, will generally provide signals or signals that can be useful for the recipient of the information. According to the Richard D. Morris (1987), signal theory refers to the stock market because there will generally be asymmetric information between the company's management and investors. This is because the management knows more information about the company than investors, so with this signal theory, the asymmetry of information will be reduced. Companies have a stimulus to share financial information with external parties. The stimulus is caused by information asymmetry between internal parties, namely the company, and external parties, namely investors, because the company has more information related to the company and the company's future picture than external parties such as investors and creditors. One way to reduce this information asymmetry is to share signals with external parties. When this signal or information is received by the market, the market will treat the information as good news or bad news (Stefanus, Lawita, & Putri, 2023). Banks with good financial performance are reflected in one of the high levels of profitability. High profitability will be seen as the bank giving a good and positive signal to investors as a consideration for making investment decisions. This can certainly also increase the trust of other stakeholders, especially the public as customers.

Bad Management Theory

The a need for appropriate management practices in the management of companies or organizations, especially banks. This is so that banks avoid ineffective management practices that can lead to errors in decision-making. Poor management by banks can be reflected in other things. About banks, these practices are manifested not only in excessive spending but also in the form of suboptimal bank management in carrying out its operational activities such as supervision, mitigation, risk management, and analysis (underwriting) of debtor loans (Berger & De Young, 1997). This can be caused by the lack of bank management capability in managing all of this which can lead to an increase in problem loans. In carrying out its duties and functions, banks must of course comply with existing regulations so that the compliance aspect is met by the bank. This compliance is considered important for banks to maintain the stability and integrity of the bank itself. In addition to compliance, risk management by banks is also important so that banks can make the right and measurable decisions. The way that banks can avoid risk is through diversification. One thing that banks can do in providing loans is to channel the loans to various sectors so that they do not only focus on one sector so that banks can reduce the risk that many loans will fail at once. It can be concluded that this theory arises due to poor management practices that can harm the company. In the case of

banks, the inability of banks to manage loans is also included in poor management practices. The bank's inability will be a loss for the bank because it can increase non-performing loans. Banks also need to diversify their loan distribution so that the risk is not only concentrated in one sector.

The Financial Intermediation Theory

This theory discusses one of the functions of banking where banks have a large and dominant role in a country's economy in terms of intermediation (Gurley & Shaw, 1956). Banks function as intermediaries for parties who have excess funds with parties who need funds. Banks will collect funds from the public in the form of savings and then redistribute them in the form of loans to parties in need. Banking also has an important role in a country's economy, one of which is to facilitate the payment process, achieve financial stability, and implementer monetary policy, so that banking conditions must be stable. The parties who entrust their funds to intermediary institutions are interested in seeing the stability of performance and security of funds invested in the bank (Muhri, Habbe, & Rura, 2023). Loans disbursed by banks are one of the activities carried out by banks in their operational activities which are also by the function of intermediation. As an important contributor to a country's economy, increasing loans will encourage increased investment so that jobs are opened up. The high number of jobs available will reduce the unemployment rate so that economic growth can be achieved.

Factors that Influence Profitability

Profitability as an important factor in a company is certainly influenced by several factors. In general, large companies will have advantages. One of these advantages is the existence of surplus resources that can increase and maximize profitability, which is difficult for small companies. This is consistent with the results of research conducted by Natanael, which found that company size has a positive and significant effect on profitability as measured by Return On Assets (ROA). The balance of capital structure in a company greatly contributes to the company's ability to make a profit. If the company uses more debt in its capital structure, it will affect its profitability because the income obtained will be used to pay interest expenses. This is confirmed by research conducted by Aztari and Idayati (2023) which found that capital structure has a positive and significant effect on profitability. If the sales growth is getting higher, the profits obtained will also be bigger. Internal and external parties of the company expect this sales growth because the growth that occurs indicates the development of the company (Brastibian & Rinofah, 2020). Amrulloh and Susilo (2022) also stated something similar sales growth in banks affects profitability positively and significantly. In simple terms, ROA can be defined as the result of a comparison between net profit after tax and the total assets owned by a company.

Brigham and Houston (2019), stated that profitability is the total assets' return is the potentials of the mostly effectiveness of input the income enterprise with its obtainable assets (Sarwani & Husain, 2021). One of the indicators for measuring the level of company profitability is by using Return on Assets (ROA). ROA can also be understood as a ratio used to measure a company's efficiency in generating income or profit from economic resources or assets on its balance sheet. ROA is one of the most important performance assessment indicators for both bank management and shareholders. This ratio reflects the company's capability to obtain a rate of return from all assets owned. ROA can also be used to measure the efficiency of asset management by the company because the company is expected to be able to obtain maximum profit from all assets used in its operational activities. The higher the ROA ratio, the higher the profit obtained and the more efficient the company's management in managing all its assets. Optimal company financial performance is directly related to high company value. Investors will assess the company by considering its ability to generate profits and meet financial obligations (Elwisam, Putra, Krisnandi, Digdowiseiso, & Saputra, 2024).

Bank Risk

According to the Fahmi (2012, hal. 122), banking risk is a risk experienced by the banking business sector as a form of various decisions made in various fields, including decisions on credit distribution, credit card issuance, foreign exchange, collections, and various other forms of financial decisions made by banks where this has caused losses for the bank, and the greatest loss is in the form of finance (Kansil, Murni, & Tulung, 2017). Mitigation or prevention of bank risk is a very vital process to ensure the stability and financial health of banking institutions. Banks must be able to manage their risks well so that the bank's survival can be maintained or sustained and ensure that its financial condition is maintained. Indicators for using the Non-Performing Loan (NPL) ratio to measure bank risk.

NPLs is a comparison between total non-performing loans to total loans provided (Khamisah, Nani, & Ashsifa, 2020). NPL is used

as a measure of risk because banking risk is predominantly determined by credit risk. Then most of the third-party funds are channeled in the form of credit compared to investment instruments in securities. The increase in NPL in banks is something that must be avoided because it will have an impact on many things. NPL is a key indicator for assessing the performance of bank functions because a high NPL is an indicator of the bank's failure to manage its business, including liquidity problems (inability to pay third parties), profitability (uncollectible debts), and solvency (reduced capital). It was also explained by Nurwulandari *et al.* (2021) that banks with high NPL conditions are likely to experience increased costs, both productive asset reserve costs and other costs.

Regulation of the Financial Services Authority of the Republic of Indonesia Number 40/POJK.03/2019 classifies 5 types of credit collectibility, namely current, special attention, substandard, doubtful and bad. Meanwhile, the Circular Letter of the Financial Services Authority of the Republic of Indonesia Number of 9/SEOJK.03/2020 explains that problematic credit is credit with a quality that is less than smooth, doubtful and bad. To control NPL, banks must apply the 5C principle in providing credit. This is done to maintain the quality of credit provided with the aim of minimizing the number of problematic loans. The 5C principle is generally a system used by banks to determine the creditworthiness of prospective debtors as measured by various things.

Loan Growth

Banks in running their businesses will always be asked to continue to grow and develop, especially in terms of credit or loans that are distributed. This is because credit will generate interest which will later become the main source of income for the bank (Saputro, Sarumpaet, & Prasetyo, 2019). Explained by Hariputri and Dharmadiaksa (2018) that credit growth describes the level of development of credit volume distributed to third parties that are able to provide increased profitability and improve banking performance. With the high credit distributed to the community, it will show higher sales in the form of credit so that profits or profits can automatically increase.

Loan Growth (LG) is used to measure loan growth based on the Wijayanti and Mardiana (2020) is the change in the amount of loans in the current year expressed as a percentage of previous years. Loan growth is the growth of bank loans that occurs consecutively or for years. Positive loan growth indicates an increase in loans from the previous year. Conversely, if loan growth is negative, there is a decrease in loans compared to the previous year (Wu, Manh-Thao, & Nguyen, 2022). High loan growth indicates that the bank's function as an agent of trust is running well. Associated with agency theory, high loan growth will be considered good by the principal because his decision to give responsibility to the agent is correct. This is because the bank will get the maximum interest income if its loan growth is high. As the bank's main source of income, good loan growth will be assessed positively by investors as shareholders because the bank's management is considered successful in managing the bank.

Loan to Asset

Loan to Asset is one of the liquidity measurements used by banks. In the context of companies, this ratio measurement is to achieve the fulfillment of short-term obligations. This ratio is very important, because if the company fails to pay off its short-term obligations, it will result in a decrease in the company's stock price or reduce investor interest (Fahmi, 2012, hal. 121). Liquidity is one of the important factors to pay attention to because it ensures the smoothness of operational activities and financial stability of the bank. By monitoring the liquidity ratio regularly, banks can identify potential liquidity problems and take appropriate actions to maintain their financial health (FSR BI, 2017).

Financial ratio used to measure a bank's ability to meet credit demand using the total assets owned by the bank. This ratio is used in the banking industry to measure how much loan is given by the bank compared to the total assets it owns (Nugraha, AY, & Damayanti, 2019). This ratio is very useful for shareholders because it describes how bank management manages loans given to debtors and the total assets it has. One way to measure bank liquidity is to use the Loan to Assets ratio, so this ratio must be controlled by the bank so that bank liquidity can be maintained. The higher this ratio, the lower the bank's liquidity. Conversely, the lower this ratio, the higher the bank's liquidity. Banks need to ensure the adequacy and availability of their resources in lending so that bank operations can continue.

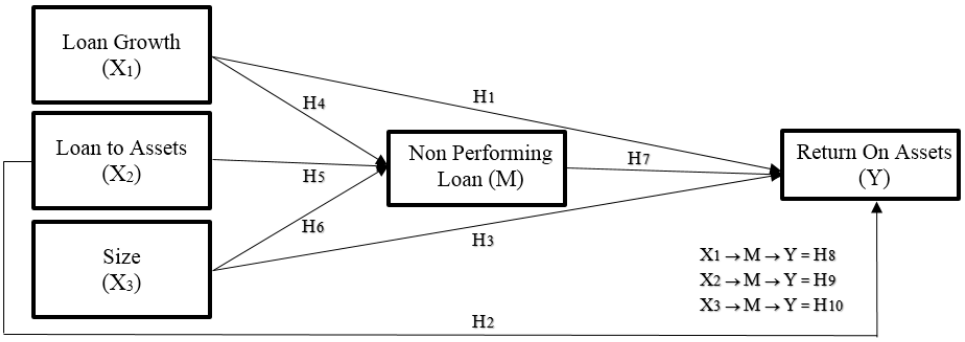
Firm size

According to the Hartono (2017, hal. 282), firm size is a scale on which companies can be classified according to various methods (total assets, log size, stock market value, etc.). The total assets owned by a company, especially a bank, reflect the value of the investment made. If the

total assets are large, this indicates that the bank is making large investments. A large firm size indicates that the company is developing so that investors will respond positively and the firm's value will increase. Firm size is a scale that can be used to determine the firm size. Banks that have a large size are considered positive by investors as having a greater chance of achieving profitability.

Proposed Framework and Alternative Hypothesis

Sugiyono (2021) explains that a framework is a conceptual model of how theory relates to various factors that have been identified as important problems. Therefore, the framework of thought can be in the form of theories, propositions or concepts that will be used as the basis for research. In the framework of thought, the research variables are explained in depth and relevant to the problems being studied, so that they can be used as the basis for answering research problems. The framework of requisite necessitates model parameters in a study, which are constructed in a form content, structure, and meaning, and with assured boundaries (Husain, 2019). The framework of thought is poured into the model which is then formulated into an alternative hypothesis statement to answer the research objectives empirically.



Source: Secondary data is processed (2024)
Figure 3. Research Model

Previous research conducted by Wu *et al.* (2022) found that bank loan growth has a positive and significant effect on the bank's ability to obtain profitability against ROA. These results can be interpreted that the higher the growth of bank loans, the higher the profitability obtained by the bank. Loans as a source of bank income will contribute greatly to the profit obtained by the bank. This hypothesis stated as:

H_1: Loan growth has a positive and significant impact on profitability (ROA)

Zeuspita and Yadnya (2019) in their research found results where there is a positive relationship between liquidity as measured by loan to assets to ROA. This result can be interpreted that the higher the loan to assets ratio, the higher the bank's profitability. Although the high ratio indicates low bank liquidity, supported by good loan quality and good asset management, it can increase profitability because it will help reduce the bank's liquidity risk. This hypothesis stated as:

H_2: Loan to assets has a positive and significant impact on profitability (ROA)

Confirmed by the results of research conducted by Fatikha and Yudiana (2021) that company size has a positive and significant influence on bank profitability as proxied by ROA. These results indicate that the larger the size of the bank, the greater the profit obtained by the bank. Banks with a larger size generally have several advantages such as better access to resources, adoption and implementation of more sophisticated technology and the ability to employ more qualified workers so that they can help banks improve operational efficiency and profitability. This hypothesis stated as:

H_3: Size has a positive and significant impact on profitability (ROA)

Research conducted by Bhowmik and Sarker (2021) found a positive and significant relationship between loan growth and bank risk (NPL). This indicates that bank non-performing loans will increase along with increasing credit growth. With these results, banks must be careful if they experience loan growth because it is likely to be a threat to bank performance in the future. This hypothesis stated as:

H_4: Loan growth has a positive and significant impact on bank risk (NPL)

The results showed that liquidity measured by loans to assets has a positive and significant relationship with NPL (Musta'da & Pramono, 2022). These yields can be interpreted that the lower the liquidity ratio, the lower the bank's risk. In managing loans, banks must pay attention to liquidity factors so that they can reduce the risk of

problematic loans. Banks must be able to manage their assets to meet their liquidity. This is so that banks can meet loan requests from debtors so that they can reduce bank risk. This hypothesis stated as:

H_5: Loan to assets has a positive and significant impact on bank risk (NPL)

Testing the relationship between company size and NPL has been previously conducted by Laksono and Setyawan (2019). The yields obtained from the study found that company size has a positive and significant effect on NPL. Banks with larger sizes will experience a surplus of resources. This is utilized by banks to aggressively distribute their loans with the aim of obtaining maximum profit. This can trigger an increase in the number of problematic loansThis hypothesis stated as:

H_6: Size has a positive and significant impact on bank risk (NPL)

The results obtained from Pratiwi and Effendi (2021) stated that NPL has a negative relationship with ROA but there is a significant influence. Thus, the higher the proportion of non-performing loans (NPL), the lower the level of bank profitability. This will cause banks to form larger bank loss reserves so that it will directly reduce net profit so that ROA decreases. This hypothesis stated as:

H_7: Bank risk (NPL) has a positive and significant impact on profitability (ROA)

Non performing loan (NPL) can function as an intervening influence on loan growth (X_1), loan to assets (X_2), Size (X_3) based on the direct influence of testing on previous studies that prove that there is a direct influence of each loan growth, loan to assets, and size on profitability (ROA), so this study proposes to test indirectly on the variables above with mediation by the bank risk (NPL) variable. The next alternative hypothesis in this study is stated as follows:

H_8: There is an indirect influence of loan growth on profitability (ROA) through bank risk (NPL)

H_9: There is an indirect influence of loan to assets on profitability (ROA) through bank risk (NPL)

H_{10}: There is an indirect influence of size on profitability (ROA) through bank risk (NPL)

RESEARCH METHODS

This type of research uses comparative research which according to Sugiyono, means research that is tasked with comparing two objects. This research uses a quantitative approach because the research data is in the form of numbers and analysis using statistics. Measurement of variables derived into indicators is operationalized using a ratio scale with the following formula:

(1). *Loan Growth* (X_1)

$$LG = \frac{Loan\ t - Loan\ t-1}{Loan\ t-1} x100\%$$

(Wu, Manh-Thao, & Nguyen, 2022)

(2). *Loan to Assets* (X_2)

$$Loan\ to\ Assets = \frac{Credit\ Given}{Total\ Assets} x100\%$$

(Bhowmik & Sarker, 2021)

(3). *Size* (X_3)

$$Size = Ln\ (Total\ Assets)$$

(Hartono, 2017, hal. 254; Wu, Manh-Thao, & Nguyen, 2022)

(4). *Non Performing Loan* (M)

$$NPL\ Ratio = \frac{\text{Non} - \text{Performing Loans}}{Total\ Loan} x100\%$$

(OJK RI, 2020, hal. 53)

(5). *Return on Assets* (Y)

$$ROA = \frac{\text{Net Income}}{Total\ Assets} x100\%$$

Gitman & Zutter (2019, p.81);
Brigham & Houston (2019); Hasanudin *et al.* (2023)

Sampling in this study used a non-probability sampling method with a purposive sampling technique. The purposive sampling technique is a sampling determination technique with certain considerations (Sugiyono, 2021). From this explanation, it can be said that purposive sampling is a sampling method based on criteria or considerations that have been set by the researcher. Therefore, the considerations in sampling used in this study include: (1) Banking sub-sector companies listed on the Indonesia Stock Exchange in 2014 – 2022 (amount of 47), and (2) Banks that released their complete annual financial reports on the Indonesia Stock Exchange in 2014-2022 (amount of 28). Thus, 19 samples were eliminated that did not meet the criteria considered. The observation years using for 9 years was multiplied by 28 banking companies so that the total data observed was 252.

Data collection using the literature study method. Research data uses secondary data obtained from browsing the last updated from company's official website, ICMD data, and the site www.idx.co.id for the publication of annual and financial reports. The data analysis method in this study uses SEM (Structural Equation Modeling) using the IBM SPSS AMOS *Version* 24.0 program with the following structural model equation formulation:

NPL: $\alpha_{it} + \beta 1LG_{it} + \beta 2LTA_{it} + \beta 3Sz_{it} + e_{1it}$ ... (1)
ROA: $\alpha_{it} + \beta 1LG_{it} + \beta 2LTA_{it} + \beta 3Sz_{it} + \beta 4NPL_{it} + e_{2it}$ ... (2)

The first stage presents a description of the distribution of inferential statistical data which is continued with classical assumptions. Before conducting a hypothesis test, the structural model needs to be tested for its feasibility. This term is known as the model feasibility test or goodness of fit. Hair *et al*. (2019) categorizes goodness of fit testing into 3, namely absolute fit indices, incremental fit indices and parsimony fit indices. the determination of the criteria is summarized as follows:

Table 1 *Model Feasibility Testing Index*

Goodness-of-Fit Criteria	Cut-off Value
χ^2 Chi-Square Statistic	Expected Minimum Score
Significant Probability (p-*value*)	< 0,05
GFI	≥ 0,90
RMSEA	< 0,05
RMR	< 0,05
Standardized RMR	≤ 0,08
AGFI	≥ 0,05
NFI	> 0,90
TLI / NNFI	≥ 0,95
CFI	≥ 0,95
RFI	≥ 0,90
PGFI	> 0,50
PNFI	0,60 – 0,90
CMIN / DF	< 2,00

Source: (Hair, Black, Babin, & Anderson, 2019)

According to Ghozali (2018, hal. 98), the t-statistic test shows how far the influence of one explanatory or independent variable individually explains the variation in the dependent variable. Furthermore, the Sobel test is a statistical test that aims to determine the strength of the indirect influence test of X (independent variable) on Y (dependent variable) via M (intervening variable) (hal. 244). Path analysis is a development technique of multiple linear regression. Hasanudin *et al.* (2021) describe a technique is used to test the magnitude of the contribution indicated by the path coefficient in each path diagram of the causal relationship between variables X and Y and its impact on Z. Z-value of more than 1.96 means it is significant at a p-value of 0.05, which means that the mediating variable plays a significant role in the relationship between the independent variable and the dependent variable. The use of adjusted *R-Square* (*Adj*. R^2) values is recommended by many researchers when evaluating a regression model with many variables. The Adjusted R^2 score can increase or decrease when variables from independent variables are added to a model.

RESULTS AND DISCUSSION

Results

To present the descriptive statistical results from the data processing results are presented in Table 2:

Table 2 *Descriptive Statistics*

Descriptive	ROA	LG	LTA	Sz	NPL
Mean	0.0085	0.1140	0.5796	31.6084	0.0327
Standard Deviation	0.0237	0.4294	0.1658	1.5809	0.0514
Minimum	-0.1806	-0.6388	0.0021	29.1181	0.0000
Maximum	0.0982	5.7270	0.8235	35.0990	0.5834
Count			252		

Source: data processed with Microsoft Excel (2024)

For the ROA (Y), it has an average or mean value of 0.0085. Of the total 28 banks observed, on average the bank's ability to generate profits on its total assets is 0.85%. With a standard deviation value of 0.0237 indicating that the distribution of ROA data from the mean value is less diverse. The ROA variable has the smallest value of -0.1806, indicating that there is 1 bank, namely AGRO, which is less than optimal in 2021 in generating profits on its total assets. While the largest value of this variable reaches 0.0982. It can be interpreted that there is 1 bank, namely BNBA in 2015, which is very optimal in obtaining profits on its total assets.

For the Loan Growth (X_1), it has an average value of 0.1140. This indicates that on average, the total loan growth distributed by 28 banks during the observation period was 11.40%. It is also known that the standard deviation value is 0.4294, which indicates that the distribution of Loan Growth variable data from the mean value is quite diverse compared to the previous variable. The smallest value of the Loan Growth variable is -0.6388. It is recorded that BACA has negative loan growth in 2021. This can be concluded that there was a significant decrease in loan distribution by BACA from 2020 to 2021. While the largest value reached 5.7270. There is 1 bank with the highest loan growth among the others, namely BNLI in 2015. The Loan to Assets (X_2) variable was recorded to have an average value of 0.5796 from a total of 252 data. The average liquidity level of the 28 banks observed was 57.96%. This needs to be considered because the higher this ratio, the lower the bank's liquidity. With a standard deviation value of 0.1658, it can be said that the distribution of data from the mean value is less diverse. The smallest value of the Loan To Assets variable was recorded at 0.0021 belonging to BNBA in 2017, which indicates that BNBA's liquidity level of 0.21 is still under control. Then the largest value of the Loan To Assets ratio reached 0.8235, which belonged to BNGA in 2015, which indicated that BNGA's ability to control its liquidity was still lacking. The Size (X_3) variable which describes the size of the company has an average value of 31.6084 from a total of 28 banks observed. For a standard deviation value of 1.5809, it can be concluded that the distribution of the size variable data from the mean value is very diverse. This variable has the smallest value of 29.1181, which means that there is 1 bank, namely AGRO in 2019, which has relatively low total assets compared to other banks. While the largest value reaches 35.0990, which belongs to BBRI in 2022. It can be concluded that in 2022 BBRI made a lot of investments so that its total assets became the largest among other banks during the observation period.

From a total of 252 observation data, the Non-Performing Loan variable has an average value (mean) of 0.0327. From these results, the average level of bank risk measured by Non-Performing Loans is 3.27%. It is also known that the standard deviation value is 0.0514 which indicates that the distribution of this variable data from the mean value is not diverse. For the smallest value of this variable, namely 0.0000, it can be interpreted that several banks have very low bank risk with an NPL level of 0%, namely BACA in 2021 and NOBU from 2014 to 2016. While the largest value reached 0.5834, namely BABP in 2014. The lower the NPL, the more controlled the bank's risk, the higher the NPL, the more uncontrolled the bank's risk is because there are too many problematic loans.

Table 3 *Multicollinearity*

	r	**r^2**	***Tolerance***	**VIF**
rLG.LTA	-0.12769	0.016306	0.983694	1.016576
rLG.Sz	0.037137	0.001379	0.998621	1.001381
rLG.NPL	0.077699	0.006037	0.993963	1.006074
rLTA.Sz	0.065502	0.00429	0.99571	1.004309
rLTA.NPL	-0.42824	0.183387	0.816613	1.22457
rSz.NPL	0.081201	0.006594	0.993406	1.006637

Source: data processed with Microsoft Excel (2024)

A regression model can be said to not have multicollinearity if it has a tolerance value greater than 0.10 or if the VIF value is less than 10. If seen from Table 3 above, the tolerance value of all variables is greater than 0.10. Then, from the VIF value, it is also stated that all are at a value of less than 10. So it can be said that the regression model is free from multicollinearity symptoms which indicates that there is no correlation between the independent variables used in this study.

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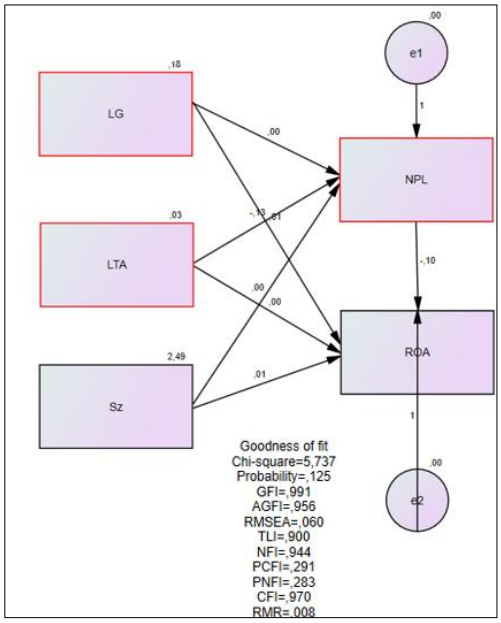
Table 4 *Heteroscedasticity*

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	0.08770107	0.022885451	3.83217562	0.00016
Loan Growth	-0.0020051	0.002671381	-0.7505944	0.45361
Loan to Total Assets	0.00301642	0.007679402	0.39279316	0.69481
Size	-0.0024966	0.000726373	-3.4370927	0.06898
NPL	0.04401385	0.024667609	1.78427704	0.07561
Intercept	0.08770107	0.022885451	3.83217562	0.00016

Source: data processed with Microsoft Excel (2024)

Decision making to determine whether or not heteroscedasticity occurs is if the probability value is > 0.05 then there is no heteroscedasticity. If seen from Table 4 above, it can be seen that all variables have a P-value above 0.05. It can be concluded that there are no symptoms of heteroscedasticity. According to Ghozali (2018), a regression model that meets the requirements is where there is a similarity in variance from the residual of one observation to another observation, or is called homoscedasticity.



Source: IBM SPSS AMOS 24.0 (2024)

Figure 4. Research Model with Goodness of Fit Score (2024)

From Figure 4 above, it is known that for the measurement of absolute fit indices, namely $\chi 2$ (Chi-Square) which is worth 5.737 with a p-value of 0.125. Then for the Goodness-of-Fit Index (GFI) value of 0.991, the Root Mean Square Error of Approximation (RMSEA) value of 0.060, and the RMR value of 0.008. The incremental fit indices testing category, includes the Normed Fit Index (NFI), Tucker Lewis Index (TLI), and Comparative Fit Index (CFI) values. It can be seen from Figure 4.2 above that this research model has an NFI value of 0.944. Then the TLI value is 0.900 and the CFI value is 0.970. The last measurement, namely parsimony fit indices includes the Adjusted Goodness of Fit Index (AGFI) and Parsimony Normed Fit Index (PNFI). This research model has an AGFI value of 0.956. Then it is also known that the PNFI value is 0.283. For the model, the spesification test requirements are all met because the results obtained are all fit and marginal fit. Only 1 measurement, namely the Parsimony Normed Fit Index (PNFI), is classified as not fit because its value is only 0.283.

Table 6 *Test of Determination Coefficient (Squared Multiple Correlations)*

	Estimate
NPL	0,199
ROA	0,149

Source: data was processed with IBM SPSS AMOS 24.0 (2024)

The determination coefficient test uses the output results of squared multiple correlations which are carried out to determine how much the independent variable is able to explain the dependent variable in a regression equation. For regression equation 1, viz: NPL = -0.002 + 0.002LG – 0.134LTA + 0.004Sz + e1it has an R^2 score of 0.199. It means that the determination coefficient of 0.199 indicates that 19.9 percent of the information contained in the data can be explained by the model, while the remaining 80.1 percet is explained by errors and other variables outside the model. For regression equation 2, viz: ROA = -0.145 + 0.006LG – 0.005LTA + 0.005Sz – 0.100NPL + e2it has an R^2 score of 0.149. These results can be interpreted that the determination coefficient of 0.149 indicates that 14.9 percent of the information contained in the data can be explained by the model, while the remaining 85.1 percent is explained by errors and other variables outside the model.

Table 6 *Path Analysis Results* (*Direct-Effect*)

Variable	Path Coefficient	*P-value*	Conclusions
LG → ROA	0.006	0.076	Reject H_1
LTA → ROA	-0.005	0.612	Reject H_2
Sz → ROA	0.005	***	Accept H_3
NPL → ROA	-0.100	***	Accept H_4
LG → NPL	0.002	0.746	Reject H_5
LTA → NPL	-0.134	***	Accept H_6
Sz → NPL	0.004	0.054	Reject H_7

*Note: *** significant* (*p < 0.01*)

Source: data was processed with IBM SPSS AMOS 24.0 (2024)

Hypothesis testing will be conducted based on the path analysis that has been done previously. As for hypothesis testing, it will be divided into 2, namely direct effect test (H_1-H_7) (view in Table 6). The direction of the relationship between the Loan Growth (X_1) and Loan to Assets (X_2) variable to the Return on Assets is positive and negative with a p-value each of 0.079 and 0.612. It means has a direct effect but insignificant toward profitability as measured by Return on Assets. Thus, hypothesis 1 and 2 is rejected. The direction of the relationship between the Loan Growth (X_1) and Size (X_3) variable to the Non-Performing Loan is positive with a p-value each of 0.746 and 0.054. It means has a direct positive but insignificant influence on bank risk as measured by Non-Performing Loan. Thus, hypothesis 5 and 7 is rejected. The direction of the relationship between the Size (X_3) to the Non-Performing Loan (M) variable and Return on Assets is positive and negative with a p-value each of 0.000 and 0.000. It means has a direct effect and insignificant toward profitability as measured by Return on Assets. Thus, hypothesis 3 and 4 is accepted. The direction of the relationship between the Loan to Assets (X_2) variable to the Non-Performing Loan is negative with a p-value 0.000. It means has a direct effect and significant toward bank risk as measured by Non-Performing Loan. Thus, hypothesis 6 is accepted. Hereinafter, for indirect-effect test or mediation (H_8-H_{10}), the yields are presented in the Table 7 as follows:

Table 7 *Summary of Mediation Test Results*

Path (Sign)	Direct	Indirect	Results	Conclusions
LG → NPL→ ROA	0.079	0.7758	No Mediation	Reject H_8
LTA → NPL→ ROA	0.615	0.0023	Partial Mediation	Accept H_9
Sz → NPL→ ROA	***	0.0863	No Mediation	Reject H_{10}

*Note: *** significant* (*p < 0.01*)

Source: data was processed with https://quantpsy.org/sobel/sobel.html (2024)

The direction of the relationship between the Loan Growth (X_1) and Size (X_3) to the Return on Assets through Non-Performing Loan (M) variable is with a p-value each of 0.7758 and 0.0863. It means has no mediation toward profitability using a Net-Performing Loan variable function. Thus, hypothesis 8 and 10 is rejected. While, the direction of the relationship between the Loan to Assets (X_2) to the Return on Assets through Non-Performing Loan (M) variable is with a p-value of 0.0023. It means has partial mediation toward profitability using a Net-Performing Loan variable function. Thus, hypothesis 9 is accepted.

Discussions

As a business entity, the orientation of the bank's operational activities is to achieve profit. This is important to maintain the continuity of the bank's operations itself. Loans are one of the bank's products that contribute to generating profits. Interest income on loans disbursed is the bank's main source of income. Thus, ideally, the increasing distribution of loans from year to year is followed by the bank's ability to create profits. From the results of the regression equation obtained, it can be interpreted that every 1 unit increase in Loan Growth (X_1) will increase Return on Assets by 0.006 units, assuming other variables are constant. This shows that higher loan growth is positively related to increased bank profitability as measured by Return on Assets. However, it is known that the relationship between the Loan Growth variable and Return on Assets has a p-value of 0.076. It means that loan growth does not significantly affect the bank's ability to make a profit. This yield can also be interpreted that if the loans distributed experience an increase or decrease, it will not significantly affect the bank's profitability level. The explanation above can be interpreted that there are other factors besides bank loan growth that more significantly affect the bank's ability to create profitability. The thing that contributes to the level of bank profitability is the level of bank efficiency in carrying out its operational activities. When banks become aggressive in distributing loans, there will be an increase in resources within the bank. If the bank is unable to manage this, operational costs can increase, which will reduce profitability. By rejecting hypothesis 1, the results obtained in this study are that there is an insignificant positive effect between loan growth and profitability. This is in line with research conducted by Khatik (2021). From the results of his research, it was found that loan growth has an insignificant positive effect on bank profitability as measured by Return on Assets.

Liquidity is an indicator of whether or not bank management is optimal in fulfilling its obligations, including loan disbursement obligations from the total assets it manages. Kustyaningrum and Lisiantara (2020) explained that good bank asset placement is in financial or credit assets. Thus, banks must manage their assets well when disbursing loans to debtors so that their liquidity levels can be maintained. From the results of the previous regression equation, it can be interpreted that every 1 unit increase in Loan to Assets (X_2) will decrease Return on Assets by 0.005 units, assuming other variables are constant. This shows that a higher loan to asset ratio is negatively related to bank profitability as measured by Return on Assets. However, it is known that the relationship between the Loan to Assets variable and Return on Assets has a p-value of 0.612. It can be concluded that bank liquidity does not significantly affect the bank's ability to make a profit. This result can also be interpreted as the size of the bank's liquidity will not significantly affect the bank's profitability level. The explanation above can be interpreted that other factors besides bank liquidity are more significant in influencing the bank's ability to create profitability. The thing that contributes to the level of bank profitability is the quality of loans distributed by the bank. The quality of bank loans must be controlled so that the bank does not experience losses so that the goal of obtaining maximum profit can be achieved. By rejecting hypothesis 2, the results obtained in this study are that there is an insignificant negative effect between liquidity and profitability. This result is in line with research conducted by Kustyaningrum and Lisiantara (2020). From the results of their research, it was found that liquidity (Loan to Assets) has an insignificant negative effect on bank profitability as measured by ROA.

Related to signaling theory, company size is described by the total assets owned by the bank. Good asset optimization will provide a positive signal from the bank to stakeholders. Generally, total assets are also described as a form of investment made by company management where it is expected that the investment activity will obtain maximum profit. The large size of the company shows that the company is developing so that investors will respond positively and the company's value will increase. Market share will also relatively show the company's competitiveness is higher than its main competitors. Thus, investors will respond positively so that the company's value will increase. From the results of the previous regression equation, it can be interpreted that every

1 unit increase in bank size (Size) will increase Return on Assets by 0.005 units, assuming other variables remain constant. This shows that larger banks tend to have higher profitability. It was also found that the relationship between the Size variable and Return on Assets has a p-value *** (significant with a p-value < 0.01). It can be concluded that company size significantly affects the bank's ability to make a profit. The explanation above can be interpreted that company size (Size) is one of the main factors for banks in creating profits. Banks with high assets can form a more diversified asset portfolio so that banks have the opportunity to reduce risk and increase bank profitability. By accepting hypothesis 3, the results obtained in this study are that there is a positive and significant influence between company size and profitability. This result is in line with previous research conducted by Fatikha and Yudiana (2021). From the results of this study, it was found that company size (Size) has a positive and significant influence on bank profitability as measured by Return on Assets.

There needs to be strict implementation of regulations from banks as creditors in distributing loans to the community. This aims to minimize the existence of problematic loans that end up being uncollectible. One way that can be done is that banks can increase loan requirements so that their credit quality is maintained. In addition, banks must also apply the principle of prudence in distributing loans to minimize the risks that may be faced. From the results of the previous regression equation, it can be interpreted that every 1 unit increase in Loan Growth (LG) will increase Non-Performing Loan by 0.002 units, assuming other variables remain constant. This shows that higher loan growth is positively related to an increase in the number of problematic loans (Non-Performing Loans). However, it is known that the relationship between the Loan Growth variable and Non-Performing Loans has a p-value of 0.746. It can be concluded that loan growth affects bank risk positively but not significantly. This result can also be interpreted that the size of bank loan growth will not significantly affect the level of bank risk. The explanation above can be interpreted that other factors are more significant than bank risk that affect bank risk more. The things that contribute more to the level of bank risk are macroeconomic factors such as inflation. High inflation will increase bank interest rates. Thus, this will affect bank risk because the higher the interest, the greater the chance of bank risk, namely Non-Performing Loans, increasing. By rejecting hypothesis 4, the results obtained in this study are that there is no significant positive effect between loan growth and bank risk. This is not in line with research conducted by Hidayat and Lubis (2022). From the results of their research, it was found that loan growth (Loan Growth) had a significant negative effect on bank risk as measured by Non-Performing Loans.

This ratio generally provides an overview of how much of the bank's assets are allocated for loans. A high Loan to Assets ratio indicates that the bank is massive in lending, so it can increase income from loan interest but will be at higher risk if the debtor fails to pay. By monitoring the liquidity ratio regularly. From the results of the previous regression equation, it can be interpreted that every 1 unit increase in the Loan to Assets Ratio will decrease Non-Performing Loans by 0.134 units, assuming other variables are constant. This shows that a higher loan-to-asset ratio has a negative relationship with the amount of non-performing loans (Non-Performing Loans). This means that banks with a higher Loan to Assets ratio tend to have a lower proportion of Non-Performing Loans. It is known that the relationship between the Loan to Assets variable and Non-Performing Loans has a p-value ***. It can be concluded that liquidity has a significant negative effect on bank risk. This result can be interpreted that banks with a higher liquidity ratio tend to have lower bank risk. The explanation above can be interpreted that liquidity (Loan To Assets) is one of the main factors that can maintain loan quality. The higher this ratio can be interpreted the lower the level of bank liquidity because it means that the bank requires a larger amount of assets to finance loans given to debtors. When banks use more assets for loan distribution, banks will be more selective in providing loans by implementing the "prudent" element so that bank risk or problematic loans become more controlled. By rejecting hypothesis 5, the results obtained in this study are that there is a significant influence with a negative direction between loan liquidity and bank risk. This is in line with research conducted by Nugraha *et al.*, (2019). From the results of their research, it was found that liquidity (Loan to Assets) has a significant negative influence on bank risk as measured by Non-Performing Loans.

Banks with large sizes have their advantages compared to banks with small sizes. The advantages in question are that banks will have more resources in carrying out their operational activities including in terms of distributing loans to debtors. This will certainly be a positive signal for investors, but banks must be careful about the increased risks they face. From

the results of the previous regression equation, it can be interpreted that every 1 unit increase in company size (Size) will increase Non-Performing Loans by 0.004 units, assuming other variables are constant. This shows that larger banks tend to have a higher proportion of Non-Performing Loans. This is because banks will utilize their resource advantages in channeling their loans to debtors so that bank risk loans in the form of problematic loans increase. It is known that the relationship between the Size variable and Non-Performing Loans has a p-value of 0.054. It can be concluded that company size has a positive but insignificant effect on bank risk. This result can be interpreted that banks with larger sizes tend to have higher bank risks but are not significant. The explanation above can be interpreted that there are other factors besides company size that more significantly affect bank risk. One other factor is macroeconomic factors. Macroeconomic factors such as inflation, GDP, and interest rates will disrupt bank stability it can increase the risk of non-performing loans. The results above can also be interpreted that banks with larger sizes will face higher bank risks. Although it does not have a significant influence, it must be a concern for bank managers to be wiser in investing in banks. By rejecting hypothesis 6, the results obtained in this study are that there is an insignificant positive influence between company size and bank risk. These results are supported by previous research by Laksono and Setiawan (2019). From the results of their research, it was obtained that company size has a positive but insignificant effect on bank risk as measured by Non-Performing Loans.

Effective risk management needs to be carried out by banks to maintain their financial performance. This needs to be done so that the bank's financial performance can be maintained properly. One thing that banks can do to manage their risks is to diversify. Banks need to diversify their lending so that their risks are not only concentrated in one sector. From the results of the previous regression equation, it can be interpreted that every 1 unit increase in bank risk (Non-Performing Loan) will reduce Return on Assets by 0.100 units, assuming other variables are constant. This shows that an increase in the number of non-performing loans reduces bank profitability. It is known that the relationship between the Non-Performing Loan variable and Return on Assets has a p-value ***. It can be concluded that bank risk has a significant negative effect on bank profitability. This result can be interpreted that banks with high levels of non-performing loans will reduce bank profitability. The explanation above can be interpreted that non-performing loans are one of the main factors for banks in their ability to make a profit. Banks with high loan levels will interfere with the bank's ability to create profitability. This can be overcome with effective risk management so that the bank's non-performing loan level can be controlled so that the bank is still able to obtain maximum profit. By accepting hypothesis 7, the results obtained in this study are that there is a significant negative effect between non-performing loans and profitability. This result is in line with previous research by Pratiwi and Effendi (2021). From the results of this study, it was found that non-performing loans have a negative and significant effect on bank profitability as measured by Return on Assets.

Shareholders certainly have the hope that their welfare can increase. Shareholders will encourage bank management to increase loans disbursed in the hope of maximizing the profitability obtained. This is done to achieve the given target so that bank management as an agent will expect an increase in compensation in the form of bonuses or incentives. To achieve the loan distribution target, bank management can take higher risks by relaxing lending standards so that it can increase problem loans. From the results of the mediation test through the Sobel test, it was found that there was no indirect effect of Loan Growth on Return on Assets through Non-Performing Loans because the p-value was above 0.05 (0.77589662). Thus, the role of Non-Performing Loans in mediating the effect between Loan Growth on Return on Assets is not significant. The explanation above can be interpreted that Non Performing Loans cannot function as a mediating variable between the relationship between Loan Growth and Return on Assets. This is because bank risk as measured by NPL is not strong enough or significant enough to influence the relationship between loan growth and profitability. Changes in Non non-performing loans do not have enough impact to bridge or change the relationship between Loan Growth and Return on Assets. Bank management must formulate and formulate a loan growth strategy by considering the direct impact on its ability to generate profits. It can be interpreted that management must maintain the quality of loans disbursed and ensure that the growth of these loans can directly maximize its profits without worrying too much about the bank's possible risks. The results above indicate that Non-Performing Loans do not act as a mediating variable between Loan Growth and Return on Assets. Thus, hypothesis 8 is rejected. These

results are not in line with previous research conducted by Talumantak and Cyasmoro (2022).

The potential for agency conflict is very likely to occur in this condition. Bank management may make decisions that increase liquidity to reduce their risk, but this can reduce the potential benefits of more profitable but high-risk loans. Thus, shareholders as principals need to closely monitor the decisions taken by bank management as agents regarding liquidity and lending decisions to ensure that management does not take excessive risks that can increase NPL. From the results of the mediation test through the Sobel test, it is known that the bank risk variable measured by Non-Performing loans can mediate the relationship between Loan to Assets and Return on Assets. It can be concluded that there is an indirect effect of Loan Growth on Return on Assets through Non-Performing loans because the p-value is below 0.05 (0.00234792). Thus, the role of Non-Performing loans in mediating the effect between Loan to Assets and Return on Assets is significant. The explanation above can be interpreted that a Non-Performing Loan can function as a mediating variable between the relationship between Loan to Assets and Return on Assets. This is because bank risk as measured by Non-Performing Loan is very significant in influencing the relationship between liquidity and profitability. Changes in Non-Performing Loan will have enough impact to bridge or change the relationship between Loan to Assets and Return on Assets. Bank management needs to manage liquidity carefully to ensure that its current liquidity is adequate and can be maintained without increasing significant risk. Good liquidity management can reduce bank risk and increase profitability.

Agency problems can occur if bank management focuses more on gaining personal gain such as higher compensation for the expansion carried out. Bank risk can increase if the expansion process is not properly supervised which will reduce bank profits which will make shareholders' goals of prospering themselves cannot be achieved. Expansion of company assets on the one hand can be considered good by shareholders but if not done carefully, shareholders will consider bank management to be less than optimal in managing its assets. From the results of the mediation test through the Sobel test, it was found that the bank risk variable measured by Non-Performing Loans could not mediate the relationship between Size and Return on Assets. It can be concluded that there is no indirect effect of Size on Return on Assets through Non-Performing Loans because the p-value is above 0.05 (0.08634782). Thus, the role of Non-Performing Loan in mediating the effect between Size and Return on Assets is not significant. The explanation above can be interpreted as that a Non-Performing Loan cannot function as a mediating variable between the relationship between Size and Return on Assets. This is because bank risk as measured by Non-Performing Loans is not significant in influencing the relationship between company size and profitability. Changes in Non Performing Loan do not have enough impact to bridge or change the relationship between Size and Return on Assets. Bank management needs to manage liquidity carefully to ensure that its current liquidity is adequate and can be maintained without increasing significant risk. Good liquidity management can reduce bank risk and increase profitability. Bank management should plan and implement the company's growth strategy by considering the direct impact on its ability to earn profits. It can be interpreted that management needs to be careful in expanding in terms of company growth and ensuring that company growth can directly maximize its profits without worrying too much about the bank's possible risks. However, banks must still implement strict and appropriate policies to manage and monitor risks that may come at any time.

CONCLUSION

Based on the results of hypothesis testing, data analysis, and discussions in the previous chapters, the following conclusions can be drawn in this study: (1) Loan Growth and Loan to Assets are no influence, but Size and Non-Performing Loan have influence to the profitability (Return on Assets) in banking sub-sector companies listed on the Indonesia Stock Exchange for the period 2014-2022. (2) Loan to Growth and Size are no influence, but Loan to Assets has influence to the bank risk (Non-Performing Loan) in banking sub-sector companies listed on the Indonesia Stock Exchange for the period 2014-2022. (3) There is no mediation of Loan Growth and Size to the profitability (Return on Assets) through bank risk (Non Performing Loan), while Loan to Assets has a partial mediaton in banking sub-sector companies listed on the Indonesia Stock Exchange for the period 2014-2022.

Banks are expected to continue to pay attention to their operational costs in distributing loans so that they can continue to obtain maximum profits, then ensure the adequacy and availability of their resources in distributing loans so that bank operations can continue and the goal of obtaining profits can be achieved and can diversify the asset

portfolio so that the risk is not concentrated on one thing only. Banks still need to maintain the quality of loans disbursed by implementing the principle of "prudent" or caution in providing loans to debtors to minimize risk, then manage their loans well by being more selective in assessing the eligibility of debtors to obtain loans and optimizing assets used in fulfilling the loan to ensure the risk of problematic loans remains under control. Although banks that have a large scale, still apply strict requirements in providing loans so as not to increase bank risk and implement effective risk management so that the level of bank problematic loans can be controlled so that banks are still able to obtain maximum profit. Bank management must maintain the quality of loans disbursed and ensure that the growth of these loans can immediately maximize its profits without worrying too much about the bank's possible risks, then manage its liquidity wisely and very carefully to ensure that its current liquidity is sufficient and can be maintained without increasing significant risks. This is because good liquidity management can reduce bank risk and increase profitability and also needs to be careful in expanding and ensuring that the company's growth can immediately maximize its profits without worrying too much about the bank's possible risks. However, banks must still implement strict and appropriate policies and good risk mitigation. It is important to add other banking risk factors that affect non-performing loans (NPL) and return on assets (ROA).

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