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THE INFLUENCE OF OWNERSHIP STRUCTURE ON THE FINANCIAL PERFORMANCE OF BANKS

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Abstract

This study aims to analyze the effect of ownership structure on the financial performance of banks in Indonesia. The variables considered include managerial, institutional, foreign, and public ownership. The study also examines bank size and credit risk as control variables, with financial performance measured by Net Interest Margin (NIM), Return on Assets (ROA), and Return on Equity (ROE). The method used is panel data regression, employing a purposive sampling technique on 43 banks listed on the Indonesia Stock Exchange during the 2019-2023 period. The study results indicate that managerial, institutional, and public ownership variables do not have a significant effect on financial performance, while foreign ownership has an impact on ROE. Additionally, bank size and credit risk are shown to affect both ROA and ROE. These findings suggest that factors beyond ownership structure play a more significant role in determining the financial performance of banks in Indonesia.

Keywords: Ownership Structure, Financial Performance, Banking, Panel Data Regression, Indonesia Stock Exchange

INTRODUCTION

In the modern economy, company management is often separated between owners and professional managers. This aligns with agency theory, which emphasizes the importance of company owners delegating management responsibilities to professional staff or agents. However, this separation frequently leads to conflicts of interest. These conflicts can arise due to several factors. First, different stakeholders often have varying goals. Second, stakeholders may have imperfect information and knowledge about each other's actions.

Corporate governance is necessary to mitigate these conflicts of interest within the company. Corporate governance refers to a set of mechanisms designed to consistently and sustainably create added value for the company, ensuring the effectiveness of strategy and operational efficiency. Key mechanisms of corporate governance include ownership structure, the composition of the board of commissioners, executive compensation, a multidivisional business structure, market control, and audits conducted by external auditors. Several studies have suggested that ownership structure significantly influences a company's direction and ultimately affects its performance. The ownership structure can control management decisions regarding company policies and strategic planning, which in turn impacts performance. Ownership structure can be measured through two key aspects: outsider ownership and insider ownership, particularly insider managerial ownership (Zahid et al, 2023). Outsider ownership may include government entities, domestic institutions, foreign institutions, individuals, and families, while insider ownership refers to managers. This difference in ownership can create conflicts of interest, as outsiders are less involved in day-to-day operational activities compared to insiders. Corporate governance provides a framework to protect stakeholder rights and prevent opportunistic behavior by managers.

This study replicates the work of (Kirimi, 2024), who examined and tested the impact of ownership structure on the financial performance of commercial banks in Kenya. In addition, (Kirimi, 2024) explored the effect of ownership patterns on company performance, focusing on total assets and credit risk. The study used data from a sample of 39 Kenyan banking companies for the years 2009 and 2020.

Ownership structure is a critical element of corporate governance, particularly in countries with weak regulations and legal frameworks. Thus, this study utilizes banking data

from companies listed on the Indonesia Stock Exchange, as Indonesia is considered to share similar conditions. Several previous studies related to ownership structure include research by (Zahid et al., 2023); (Oudat, 2021); and (Changjun Zheng et al., 2023).

Given the continuing developments in corporate actions, such as acquisitions or mergers, which increase company ownership, this study explores several notable phenomena. One example is the acquisition of Bank Danamon by Mitsubishi UFJ Financial Group (MUFG) in 2019, in which MUFG acquired 77.5% of Bank Danamon's shares, making it the largest national private bank in Indonesia. Another example is PT Bank Masuk Indonesia, a subsidiary of PT Media Nusantara Citra (MNC), acquiring 84.83% of Bank Panin's shares, marking MNC Group's entry into the banking industry. The ownership structure of banks in Indonesia is complex and evolving, with changes potentially having a significant impact on both the banking industry and the broader economy. Understanding the different types of bank ownership and their effects is essential for analyzing the industry's development.

In addition to these phenomena, previous studies by the aforementioned researchers yielded varying results, indicating a research gap. Therefore, this study aims to further investigate the effect of ownership structure on banking performance during a more recent period.

The independent variables in this study are managerial ownership, non-public institutional ownership, foreign ownership, and public ownership, the latter being included as a novel element. The study also includes control variables, namely bank size and credit risk. Three dependent variables—Net Interest Margin (NIM), Return on Assets (ROA), and Return on Equity (ROE)—will be used as proxies for financial performance.

REVIEW OF LITERATURE

Agency Theory

Agency theory is an economic and management concept that describes the relationship between two parties: the principal and the agent. In the context of a company, shareholders act as the principal, while management serves as the agent. However, conflicts can arise due to potential misalignment of interests between shareholders and management. Managers may pursue personal goals, such as maximizing salary, bonuses, or personal

power, which may conflict with the shareholders' objective of maximizing company value (Jensen & Meckling, 1976). Managerial ownership, as outlined by agency theory, is one method used to mitigate agency problems and enhance firm value. According to the convergence of interest hypothesis proposed by Jensen dan Meckling (1976), increasing managerial ownership significantly reduces agency problems.

Ownership Structure

Commercial banks hold a central position and play a major role in the financial system (Albert dan Alexandre, 2017). Ownership structures that influence the corporate governance of banks include state ownership, managerial ownership, institutional ownership, and foreign ownership.

Ownership structure refers to the distribution of share ownership in a company and how ownership rights are allocated among different parties. It is a critical aspect of corporate governance and can significantly impact various dimensions of company performance. Ownership structure can generally be divided into several categories, including managerial ownership (directors and commissioners), institutional ownership, foreign ownership, individual ownership, and public ownership (Agung Setyobudi et al., 2023).

Previous empirical studies have established that managerial ownership has a positive impact on financial performance. For instance, increased management ownership has been shown to enhance company performance in Jordan (Alabdullah, 2018). This finding is further supported by (2017) and Al-Sa'eed (2018). A more recent study by Al Farooque et al. (2019) found that managerial ownership positively affects financial performance in Thai companies.

However, the entrenchment hypothesis, proposed by Demsetz (1983), suggests that a higher level of managerial ownership can decrease company performance due to executives using their voting rights to control strategic decision-making. Additionally, Griffith dkk. (2002) and Alipour and Amjadi (2011) found a significant negative relationship between managerial ownership and the financial performance of commercial banks.

Financial Performance

According to Sucipto (2018), financial performance refers to the determination of specific measures that can assess the success of an organization or company in generating profits. From this understanding, it can be concluded that financial performance is the

company's ability to utilize its resources to achieve its goals. Financial performance is a critical process for the company, as financial issues are one of the main factors affecting the company's survival or going concern.

Company Size

Company size refers to the scale of the company, which can be measured by total assets, total sales, average total sales, and average total assets. Large companies are often characterized by substantial assets, which enable them to innovate more easily and drive company growth. As a company grows in size, its level of operational sustainability typically increases, as larger companies tend to have higher total assets. Company size is important because larger entities often have more detailed data, leading to higher quality financial reporting (Kristanti, 2022)

Credit Risk

Credit risk is evaluated through an analysis of the risks associated with each customer and the overall loan portfolio. This involves assessing the quality of credit and mitigating risk by taking collateral and adjusting credit lines accordingly. Credit risk is defined as the risk that a borrower or counterparty in a financial transaction may be unable or unwilling to meet their debt obligations when they become due (Saunders & Cornett, 2020).

RESEARCH METHOD

The research aims to examine the effect of managerial ownership (MO), institutional ownership (IO), foreign ownership (FO), public ownership (PO), bank size, and credit risk on financial performance. This is a quantitative study, and the data used are secondary. The data source comes from the Indonesia Stock Exchange website (https://www.idx.co.id/) and the websites of each company, covering 5 years from 2019 to 2023. The data was obtained from companies that publish their financial statements and annual reports. The unit of analysis for this research is banking companies listed on the Indonesian Stock Exchange. The sampling technique used in this study is purposive sampling, based on specific criteria related to the variables to achieve accurate results. Panel data regression analysis is employed in this research, with the help of Eviews 12 software for the analysis.

The measurement of each variable in this study is designed to assess the relationship between the independent variables and control variables concerning the dependent variable. The independent variables include managerial ownership, institutional ownership, foreign ownership, and public ownership. The control variables consist of bank size and credit risk, while the dependent variable is financial performance, which is measured using Net Interest Margin (NIM), Return on Assets (ROA), and Return on Equity (ROE). The measurement of each variable is as follows:

Table 1
Operational Definition of Variables

Variable Type	Variable Name	Proxy	Symbol	Formula
Variable Dependent	Financial Performance	Net Interest Margin	NIM	$\frac{\text{Net Interest Income}}{\text{Total Asset}}$
		Return on assets	ROA	$\frac{\text{Net Income}}{\text{Total Asset}}$
		Return on equity	ROE	$\frac{\text{Net Income}}{\text{Total Equity}}$
Variable Independent	Ownership Structures	Managerial ownership	MO	Proportion of Equity shares held by bank's executive
		Institutional ownership	IO	Proportion of Equity shares held by institutions
		Foreign ownership	FO	Proportion of Equity shares held by foreigners
		Public ownership	PO	Sum of percentage of shares held by public members
Variable Control		Bank Size	BS	Ln total assets
		Credit Risk	CR	$\frac{\text{NPLs}}{\text{Total Loan and advances}}$

This study employs secondary data collection, which involves obtaining data indirectly from sources such as financial statements and annual reports of companies. The data used is quantitative, consisting of values calculated from the financial reports of banking companies listed on the Indonesia Stock Exchange (IDX). The data is sourced from the IDX

website (https://www.idx.co.id/) and the respective websites of the sample companies. The research focuses on banking sector companies listed on the IDX.

The sampling method used in this study is purposive sampling. The sample consists of 215 financial statement periods, covering 43 banking companies over 5 years (2019-2023). The criteria for selecting the sample are as follows:

1. Banks must be registered as public companies on the Indonesia Stock Exchange from 2019 to 2023.
2. Banks must have complete and consecutive data from 2019 to 2023 that aligns with the study's objectives.
3. The financial reporting year must be from December 31, 2019, to December 31, 2023.
4. Banks must not have been delisted during the 2019-2023 period.
5. Banks must provide detailed financial reports that meet the data requirements for the study variables.

Data Testing Method

The data analysis method used in this study is panel data regression. This approach aims to measure and test the effect of independent variables—managerial ownership, institutional ownership, foreign ownership, and public ownership—along with control variables including bank size and credit risk, on the dependent variable, financial performance. Financial performance is measured using Net Interest Margin (NIM), Return on Assets (ROA), and Return on Equity (ROE). The data will be analyzed using Eviews 12 software, producing two primary tests: the model selection test and the hypothesis test.

Model Selection Test Results

In panel data regression analysis, three models are considered for testing: the Common Effect, Fixed Effect, and Random Effect models. To select the appropriate model for interpretation, three specific tests are performed:

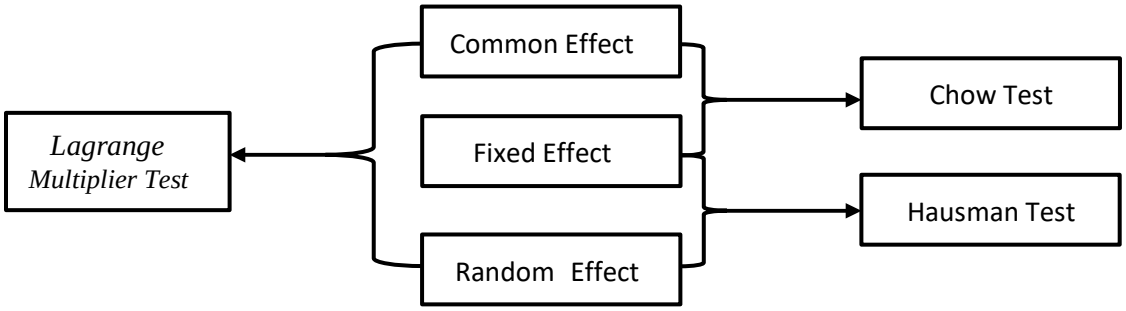

Figure 1.
Model Selection in Panel Data
Source: Various sources, processed

Model Selection Test Results: There are three models in conducting panel data regression analysis testing, namely the common effect, fixed effect, and random effect models. Three testing steps are carried out in determining the selection of the right model to be interpreted, namely the Chow Test, the Hausman Test, and the Lagrange Multiplier Test.

RESULTS AND DISCUSSION

Multiple Panel Regression

In this study, the analysis method used is multiple regression panel data analysis. Where this method describes the relationship between ownership structures consisting of managerial ownership, institutional ownership, foreign ownership and public ownership as independent variables, control variables consisting of bank size, and credit risk, while the dependent variable is financial performance measured by Net Interest Margin (NIM), Return on Asset (ROA), and Return on Equity (ROE). The available data will be measured and tested using Eviews 12 software. The regression equation is as follows: Model 1:

$$NIM = {}_0 + {}_1 MO + {}_2 IO + {}_3 FO + {}_4 PO + {}_5 BS + {}_6 CR + \sum$$

Model 2:

$$ROA = {}_0 + {}_1 MO + {}_2 IO + {}_3 FO + {}_4 PO + {}_5 BS + {}_6 CR + \sum$$

Model 3:

$$ROE = {}_0 + {}_1 MO + {}_2 IO + {}_3 FO + {}_4 PO + {}_5 BS + {}_6 CR + \sum$$

Information:

NIM = Net Interest Margin

ROA = Return on Assets

ROE = Return on Equity

MO = Managerial Ownership

IO = Institutional Ownership

FO = Foreign Ownership

PO = Public Ownership

BS = Bank Size

CR = Credit Risk

$_0$ = Constant

$_1$ $_2$ $_3$ = Koefisien regresi

$\sum$ = Standard error

Descriptive Statistical Analysis

Descriptive analysis provides insights into the distribution of the dataset by examining the maximum, minimum, mean, and standard deviation of all variables involved in the study. The independent variables in this study include managerial ownership, institutional ownership, foreign ownership, and public ownership. The control variables consist of bank size and credit risk, while the dependent variable is financial performance, which is measured by three metrics: Net Interest Margin (NIM), Return on Assets (ROA), and Return on Equity (ROE). Descriptive statistics help summarize the basic characteristics of the data and provide a foundational understanding of the variables in the study.

RESULTS AND DISCUSSION

Discussion of Y1 Variable Test

Chow Test Results

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	41.250058	(42,166)	0.0000
Cross-section Chi-square	523.919067	42	0.0000

From the test, the Prob (cross section Chi-Square) value is 0.000 < 0.05, so the selected model is the Fixed Effect model.

Hausman Test Results

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	11.045910	6	0.0870

The Prob value is 0.0870 > 0.05, so the selected model is the Random Effect model.

LM Test Results

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	329.4873 (0.0000)	0.071197 (0.7896)	329.5585 (0.0000)
Honda	18.15178 (0.0000)	0.266829 (0.3948)	13.02393 (0.0000)
King-Wu	18.15178 (0.0000)	0.266829 (0.3948)	5.607632 (0.0000)
Standardized Honda	19.63984 (0.0000)	0.599547 (0.2744)	9.787849 (0.0000)
Standardized King-Wu	19.63984 (0.0000)	0.599547 (0.2744)	3.329195 (0.0004)
Gourieroux, et al.	--	--	329.5585 (0.0000)

The Prob value of 0.00 is less than 0.05, which indicates that the Random Effect Model is the most appropriate model based on the results of the Chow Test, Hausman Test, and Lagrange Multiplier Test. In the Random Effect Model, classical assumption tests are not required, as it is assumed that the Generalized Least Squares (GLS) estimation method effectively handles heteroscedasticity and autocorrelation issues.

Panel Data Regression Equation

Y1 = -16.10*MO_X1 + 1.40*IO_X2 - 0.77*FO_X3 + 0.25*PO_X4 + 0,00*BS_K1 - 0.20*CR_K2 + 4.91

Explanation of Coefficients:

1. Managerial Ownership (X1): The beta coefficient for Managerial Ownership is -16.10, meaning that if all other variables are held constant, a 1-unit increase in X1 will result in a 16.10 decrease in NIM (Y1). Conversely, a decrease in X1 will lead to an increase in Y1 by 16.10.
2. Institutional Ownership (X2): The beta coefficient for Institutional Ownership is +1.40, indicating that a 1-unit increase in X2, with all other variables constant, will increase NIM (Y1) by 1.40.
3. Foreign Ownership (X3): The beta coefficient for Foreign Ownership is -0.77. Thus, a 1-unit increase in X3 will decrease NIM (Y1) by 0.77 if all other variables remain constant.
4. Public Ownership (X4): The beta coefficient for Public Ownership is +0.25, suggesting that a 1-unit increase in X4 will increase NIM (Y1) by 0.25.
5. Bank Size (K1): The beta coefficient for Bank Size is +0.00, implying that changes in K1 will not affect NIM (Y1), assuming all other variables remain constant.
6. Credit Risk (K2): The beta coefficient for Credit Risk is -0.20. Therefore, a 1-unit increase in K2 will result in a 0.20 decrease in NIM (Y1), holding other variables constant.
7. Constant (4.91): This value indicates that if all independent and control variables are zero, the NIM (Y1) will be 4.91.

Hypothesis Test Results

T-test results

Dependent Variable: NIM Y1
Method: Panel Least Squares
Date: 07/20/24 Time: 06:44
Sample: 2019 2023
Periods included: 5
Cross-sections included: 43
Total panel (balanced) observations: 215

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MO X1	-16.09847	10.35307	-1.554946	0.1215
IO X2	1.399778	1.631400	0.858022	0.3919
FO X3	-0.774669	1.620733	-0.477975	0.6332
PO X4	0.253583	3.009098	0.084272	0.9329
BS K1	9.06E-16	1.11E-15	0.818965	0.4137
CR K2	-0.199467	0.123961	-1.609106	0.1091
C	4.911189	1.736775	2.827764	0.0051

Partial Influence of Independent and Control Variables on the Dependent Variable:

1. The results of the t-test for the Managerial Ownership (MO) variable (X1) show a t-value of 1.55, which is less than the t-table value of 1.97, and a significance value of 0.1215, which is greater than 0.05. Therefore, the alternative hypothesis (Ha) is rejected, and the null hypothesis (H0) is accepted, indicating that the Managerial Ownership variable has no effect on the Net Interest Margin (NIM) of banks listed on the Indonesia Stock Exchange.
2. The results of the t-test for the Institutional Ownership (IO) variable (X2) show a t-value of 0.85, which is less than the t-table value of 1.97, and a significance value of 0.3919, which is greater than 0.05. Therefore, Ha is rejected, and H0 is accepted, meaning that the Institutional Ownership variable has no effect on the NIM of banks listed on the Indonesia Stock Exchange.
3. The results of the t-test for the Foreign Ownership (FO) variable (X3) show a t-value of 0.48, which is less than the t-table value of 1.97, and a significance value of 0.6332, which is greater than 0.05. Therefore, Ha is rejected, and H0 is accepted, meaning that the Foreign Ownership variable has no effect on the NIM of banks listed on the Indonesia Stock Exchange.

4. The results of the t-test for the Public Ownership (PO) variable (X4) show a t-value of 0.08, which is less than the t-table value of 1.97, and a significance value of 0.9329, which is greater than 0.05. Therefore, Ha is rejected, and H0 is accepted, meaning that the Public Ownership variable has no effect on the NIM of banks listed on the Indonesia Stock Exchange.
5. The results of the t-test for the Bank Size control variable (K1) show a t-value of 0.82, which is less than the t-table value of 1.97, and a significance value of 0.4137, which is greater than 0.05. Therefore, Ha is rejected, and H0 is accepted, meaning that the Bank Size control variable has no effect on the NIM of banks listed on the Indonesia Stock Exchange.
6. The results of the t-test for the Credit Risk control variable (K2) show a t-value of 1.61, which is less than the t-table value of 1.97, and a significance value of 0.1091, which is greater than 0.05. Therefore, Ha is rejected, and H0 is accepted, meaning that the Credit Risk control variable has no effect on the NIM of banks listed on the Indonesia Stock Exchange.

F-Test Results:

F-statistic	2.173246
Prob(F-statistic)	0.046877

The calculated F-value is 2.173, which is less than the F-table value of 2.257, and the significance value is 0.047, which is less than 0.05. Therefore, H0 is accepted, meaning that all research variables collectively have no significant effect on changes in the NIM of banks listed on the Indonesia Stock Exchange.

Determination Coefficient Test Results

R-squared	0.058992
Adjusted R-squared	0.031847
S.E. of regression	4.517894
Sum squared resid	4245.565
Log likelihood	-625.7434
F-statistic	2.173246
Prob(F-statistic)	0.046877

The adjusted R-Square value is 0.0318, or 3.2%. This indicates that the independent and control variables in this study can explain only 3.2% of the variation in the NIM of banks listed on the Indonesia Stock Exchange. The remaining 96.8% is explained by other variables not included in this study.

Discussion of Y2 Variable Test:

Chow Test Results:

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	5.454600	(42,166)	0.0000
Cross-section Chi-square	186.433791	42	0.0000

The p-value for the cross-section Chi-Square is 0.000, which is less than 0.05. Therefore, the Fixed Effect model is selected.

Hausman Test Results:

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.904224	6	0.6896

The p-value is 0.06896, which is greater than 0.05. Therefore, the Random Effect model is selected.

LM Test Results

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	91.16391 (0.0000)	0.012978 (0.9093)	91.17689 (0.0000)
Honda	9.547979 (0.0000)	-0.113921 (0.5453)	6.670887 (0.0000)
King-Wu	9.547979 (0.0000)	-0.113921 (0.5453)	2.706690 (0.0034)
Standardized Honda	10.64651 (0.0000)	0.184592 (0.4268)	2.783709 (0.0027)
Standardized King-Wu	10.64651 (0.0000)	0.184592 (0.4268)	0.119420 (0.4525)
Gourieroux, et al.	--	--	91.16391 (0.0000)

The p-value is 0.00, which is less than 0.05, so the Random Effect model is selected. Based on the results of the Chow, Hausman, and LM tests, the best model for this study is the Random Effect model. In the Random Effect model, it is not necessary to perform classical assumption tests because the Generalized Least Square (GLS) estimation method is assumed to handle issues like heteroskedasticity and autocorrelation.

Panel Data Regression Equation

Y2 = 0.15*MO_X1 + 0.12*IO_X2 - 0.87*FO_X3 - 1.91*PO_X4 + 0,00*BS_K1 - 0.17*CR_K2 + 1.20

The explanation is as follows:

a. The beta coefficient for the Managerial Ownership variable (X1) is +0.15. This means that if all other variables are held constant and X1 increases by 1, the ROA (Return on Assets) variable (Y2) will increase by +0.15, and vice versa.
b. The beta coefficient for the Institutional Ownership variable (X2) is +0.12. This means that if all other variables are held constant and X2 increases by 1, the ROA variable (Y2) will increase by +0.12, and vice versa.
c. The beta coefficient for the Foreign Ownership variable (X3) is -0.87. This means that if all other variables are held constant and X3 increases by 1, the ROA variable (Y2) will decrease by -0.87, and vice versa.

d. The beta coefficient for the Public Ownership variable (X4) is -1.91. This means that if all other variables are held constant and X4 increases by 1, the ROA variable (Y2) will decrease by -1.91, and vice versa.
e. The beta coefficient for the Bank Size control variable (K1) is +0.00. This means that if all other variables are held constant and K1 increases by 1, the ROA variable (Y2) will not change, and vice versa.
f. The beta coefficient for the Credit Risk variable (K2) is -0.17. This means that if all other variables are held constant and K2 increases by 1, the ROA variable (Y2) will decrease by -0.17, and vice versa.

Hypothesis Test Results

T-Test Results

Dependent Variable: ROA Y2
Method: Panel Least Squares
Date: 07/20/24 Time: 07:11
Sample: 2019 2023
Periods included: 5
Cross-sections included: 43
Total panel (balanced) observations: 215

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MO X1	0.146426	6.077751	0.024092	0.9808
IO X2	0.118719	0.957710	0.123961	0.9015
FO X3	-0.873398	0.951448	-0.917968	0.3597
PO X4	-1.909378	1.766485	-1.080892	0.2810
BS K1	1.68E-15	6.50E-16	2.594062	0.0102
CR K2	-0.167849	0.072771	-2.306531	0.0221
C	1.199991	1.019570	1.176958	0.2406

The partial influence of the independent and control variables on the dependent variable is as follows:

a. The results of the t-test for the Managerial Ownership (MO) variable (X1) show a calculated t-value of 0.02, which is less than the t-table value of 1.97, and a significance value of 0.98, which is greater than 0.05. Therefore, Ha is rejected, and H0 is accepted, indicating that the Managerial Ownership variable has no effect on the Return on Assets (ROA) of banks listed on the Indonesia Stock Exchange.
b. The results of the t-test for the Institutional Ownership (IO) variable (X2) show a calculated t-value of 0.12, which is less than the t-table value of 1.97, and a significance value of 0.90, which is greater than 0.05. Therefore, Ha is rejected, and H0 is accepted, meaning that the Institutional Ownership variable does not affect the ROA of banks listed on the Indonesia Stock Exchange.

c. The results of the t-test for the Foreign Ownership (FO) variable (X3) show a calculated t-value of 0.92, which is less than the t-table value of 1.97, and a significance value of 0.36, which is greater than 0.05. Therefore, Ha is rejected, and H0 is accepted, indicating that the Foreign Ownership variable has no effect on the ROA of banks listed on the Indonesia Stock Exchange.
d. The results of the t-test for the Public Ownership (PO) variable (X4) show a calculated t-value of 1.08, which is less than the t-table value of 1.97, and a significance value of 0.28, which is greater than 0.05. Therefore, Ha is rejected, and H0 is accepted, meaning that the Public Ownership variable does not affect the ROA of banks listed on the Indonesia Stock Exchange.
e. The results of the t-test for the Bank Size control variable (K1) show a calculated t-value of 2.59, which is greater than the t-table value of 1.97, and a significance value of 0.01, which is less than 0.05. Therefore, H0 is rejected, and Ha is accepted, indicating that the Bank Size control variable has an effect on the ROA of banks listed on the Indonesia Stock Exchange.
f. The results of the t-test for the Credit Risk control variable (K2) show a calculated t-value of 2.30, which is greater than the t-table value of 1.97, and a significance value of 0.022, which is less than 0.05. Therefore, H0 is rejected, and Ha is accepted, meaning that the Credit Risk control variable affects the ROA of banks listed on the Indonesia Stock Exchange.

F-Test Results

F-statistic	3.771536
Prob(F-statistic)	0.001381

The calculated F-value is 3.771, which is greater than the F-table value of 2.257, and the significance value is 0.001, which is less than 0.05. Therefore, Ha is accepted, indicating that the independent and control variables in this study have a simultaneous effect on changes in the ROA of banks listed on the Indonesia Stock Exchange.

Results of the Determination Coefficient Test

R-squared	0.098119
Adjusted R-squared	0.072104
S.E. of regression	2.652221
Sum squared resid	1463.129
Log likelihood	-511.2239
F-statistic	3.771536
Prob(F-statistic)	0.001381

The adjusted R-Square value is 0.072, or 7.2%. This indicates that the independent and control variables in this study explain only 7.2% of the variation in the ROA of banks listed on the Indonesia Stock Exchange, while the remaining 92.8% is explained by other variables not included in this study.

Discussion of the Y3 Variable Test

Chow Test Results

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	4.073659	(42,166)	0.0000
Cross-section Chi-square	152.300213	42	0.0000

The p-value (cross-section Chi-Square) is 0.000, which is less than 0.05. Therefore, the Fixed Effect model is selected.

Hausman Test Results

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	7.921578	6	0.2439

The p-value is 0.2439, which is greater than 0.05. Therefore, the Random Effect model is selected.

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	53.22298 (0.0000)	0.291959 (0.5890)	53.51494 (0.0000)
Honda	7.295408 (0.0000)	0.540332 (0.2945)	5.540705 (0.0000)
King-Wu	7.295408 (0.0000)	0.540332 (0.2945)	2.667603 (0.0038)
Standardized Honda	8.291960 (0.0000)	0.897620 (0.1847)	1.537699 (0.0621)
Standardized King-Wu	8.291960 (0.0000)	0.897620 (0.1847)	0.076172 (0.4696)
Gourieroux, et al.	--	--	53.51494 (0.0000)

The p-value is 0.00, which is less than 0.05. Therefore, the Random Effect model is selected. Based on the results of the Chow Test, Hausman Test, and LM Test, the best model in this study is the Random Effect model. In the Random Effect model, there is no need to perform classical assumption tests, as the Generalized Least Square (GLS) estimation method is assumed to address issues of heteroscedasticity and autocorrelation.

Panel Data Regression Equation

Y3 = 7.04*MO_X1 - 6.81*IO_X2 - 10.38*FO_X3 - 11.26*PO_X4 + 0.00*BS_K1 - 1.78*CR_K2 + 14.37

The explanation is as follows:

1. The beta coefficient of the Managerial Ownership (X1) variable is +7.04. If all other variables remain constant and X1 increases by 1, the Return on Equity (ROE) variable (Y3) will increase by +7.04, and vice versa.
2. The beta coefficient of the Institutional Ownership (X2) variable is -6.81. If all other variables remain constant and X2 increases by 1, the ROE variable (Y3) will decrease by -6.81, and vice versa.

3. The beta coefficient of the Foreign Ownership (X3) variable is -10.38. If all other variables remain constant and X3 increases by 1, the ROE variable (Y3) will decrease by -10.38, and vice versa.
4. The beta coefficient of the Public Ownership (X4) variable is -11.26. If all other variables remain constant and X4 increases by 1, the ROE variable (Y3) will decrease by -11.26, and vice versa.
5. The beta coefficient of the Bank Size (K1) variable as a control variable is +0.00. If all other variables remain constant and K1 increases by 1, the ROE variable (Y3) will not change, and vice versa.
6. The beta coefficient of the Credit Risk (K2) variable is -1.78. If all other variables remain constant and K2 increases by 1, the ROE variable (Y3) will decrease by -1.78, and vice versa.
7. The constant value of 14.37 indicates that, in the absence of all independent and control variables, the ROE variable (Y3) will increase by 14.37.

Hypothesis Test Results

T-Test Results

Dependent Variable: ROE Y3
Method: Panel Least Squares
Date: 07/20/24 Time: 07:29
Sample: 2019 2023
Periods included: 5
Cross-sections included: 43
Total panel (balanced) observations: 215

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MO X1	7.036142	28.74686	0.244762	0.8069
IO X2	-6.812466	4.529826	-1.503913	0.1341
FO X3	-10.37954	4.500207	-2.306459	0.0221
PO X4	-11.25297	8.355209	-1.346821	0.1795
BS K1	7.52E-15	3.07E-15	2.447641	0.0152
CR K2	-1.783932	0.344197	-5.182876	0.0000
C	14.37091	4.822414	2.980025	0.0032

The partial influence of the independent and control variables on the dependent variable is as follows:

a. The results of the t-test for the Managerial Ownership (MO) variable (X1) show a calculated t-value of 0.24, which is less than the t-table value of 1.97, and a

significance value of 0.81, which is greater than 0.05. Therefore, Ha is rejected and H0 is accepted, meaning that the Managerial Ownership variable does not affect the ROE of banks listed on the Indonesia Stock Exchange.

b. The results of the t-test for the Institutional Ownership (IO) variable (X2) show a calculated t-value of 1.50, which is less than the t-table value of 1.97, and a significance value of 0.13, which is greater than 0.05. Therefore, Ha is rejected and H0 is accepted, meaning that the Institutional Ownership variable does not affect the ROE of banks listed on the Indonesia Stock Exchange.
c. The results of the t-test for the Foreign Ownership (FO) variable (X3) show a calculated t-value of 2.30, which is greater than the t-table value of 1.97, and a significance value of 0.02, which is less than 0.05. Therefore, H0 is rejected and Ha is accepted, meaning that the Foreign Ownership variable affects the ROE of banks listed on the Indonesia Stock Exchange.
d. The results of the t-test for the Public Ownership (PO) variable (X4) show a calculated t-value of 1.35, which is less than the t-table value of 1.97, and a significance value of 0.18, which is greater than 0.05. Therefore, Ha is rejected and H0 is accepted, meaning that the Public Ownership variable does not affect the ROE of banks listed on the Indonesia Stock Exchange.
e. The results of the t-test for the Bank Size control variable (K1) show a calculated t-value of 2.45, which is greater than the t-table value of 1.97, and a significance value of 0.02, which is less than 0.05. Therefore, H0 is rejected and Ha is accepted, indicating that the Bank Size control variable affects the ROE of banks listed on the Indonesia Stock Exchange.
f. The results of the t-test for the Credit Risk control variable (K2) show a calculated t-value of 5.18, which is greater than the t-table value of 1.97, and a significance value of 0.022, which is less than 0.05. Therefore, H0 is rejected and Ha is accepted, meaning that the Credit Risk control variable affects the ROE of banks listed on the Indonesia Stock Exchange.

F-Test Results

F-statistic	9.620306
Prob(F-statistic)	0.000000

The calculated F-value is 9.62, which is greater than the F-table value of 2.257, and the significance value is 0.001, which is less than 0.05. Therefore, Ha is accepted, meaning that the independent and control variables have a simultaneous effect on changes in the ROE of banks listed on the Indonesia Stock Exchange.

Results of the Determination Coefficient Test

R-squared	0.217227
Adjusted R-squared	0.194647
S.E. of regression	12.54461
Sum squared resid	32732.37
Log likelihood	-845.3111
F-statistic	9.620306
Prob(F-statistic)	0.000000

The adjusted R-Square value is 0.195, or 19.5%. This indicates that the independent and control variables in this study explain 19.5% of the variation in the ROE of banks listed on the Indonesia Stock Exchange, while the remaining 80.5% is explained by other variables not included in this study.

Research Result

Variabel Y1 (NIM)	
Managerial Ownership	Tidak Berpengaruh
Institusional Ownership	Tidak Berpengaruh
Foreign Ownership	Tidak Berpengaruh
Public Ownership	Tidak Berpengaruh
Bank Size	Tidak Berpengaruh
Credit Risk	Tidak Berpengaruh
Secara Simultan	Tidak Berpengaruh
Adjusted R-Square	3.20%

Variabel Y2 (ROA)	
Managerial Ownership	Tidak Berpengaruh
Institusional Ownership	Tidak Berpengaruh
Foreign Ownership	Tidak Berpengaruh
Public Ownership	Tidak Berpengaruh
Bank Size	**Berpengaruh**
Credit Risk	**Berpengaruh**
Secara Simultan	**Berpengaruh**
Adjusted R-Square	7.20%

Variabel Y3 (ROE)	
Managerial Ownership	Tidak Berpengaruh
Institusional Ownership	Tidak Berpengaruh
Foreign Ownership	**Berpengaruh**
Public Ownership	Tidak Berpengaruh
Bank Size	**Berpengaruh**
Credit Risk	**Berpengaruh**
Secara Simultan	**Berpengaruh**
Adjusted R-Square	19.50%

The Effect of Managerial Ownership Structure on Financial Performance

The study results show that managerial ownership has no effect on financial performance, as measured by NIM, ROA, and ROE. These findings differ from those of

Agung Setyobudi et al. (2023) and Dyah Mulyani et al. (2022) who found that higher managerial ownership is associated with better financial performance.

The Effect of Institutional Ownership Structure on Financial Performance

The study found that institutional ownership has no effect on financial performance, using NIM, ROA, and ROE as proxies. These results contrast with the findings of Lin and Fu (2017), Koji et al., (2020); Alanazi, (2021); Sakawa and Watanabel, (2020) who reported that institutional ownership positively affects financial performance. However, this study aligns with the findings of Saleh et al., 2017.

The Effect of Foreign Ownership Structure on Financial Performance

The study revealed that foreign ownership has no effect on financial performance, as measured by NIM and ROA. This contradicts the findings of Meng et al. (2018). However, when using ROE as a proxy, foreign ownership does affect financial performance, which is consistent with Meng et al (2018).

The Effect of Public Ownership Structure on Financial Performance

The study found that public ownership has no effect on financial performance, using NIM, ROA, and ROE as proxies. These results differ from those of Zeitun (2019) who reported that public ownership positively affects financial performance.

The Effect of Company Size on Financial Performance

The study found that company size, as a control variable, affects financial performance as measured by ROA and ROE. This is consistent with the theory that one of the key drivers of increased ROA and ROE is the growth in total assets.

The Effect of Credit Risk on Financial Performance

The study found that credit risk, as a control variable, affects financial performance through ROA and ROE. This aligns with the theory that a reduction in credit risk, particularly through a decrease in the bank's NPL (non-performing loans), directly improves financial performance.

CONCLUSION

Based on the results of testing financial performance using the NIM ratio, no significant influence was found from any of the variables. However, in testing with the ROA ratio, only

bank size and credit risk were shown to have an effect, while the other variables did not. In testing using the ROE ratio, the variables of foreign ownership, bank size, and credit risk had an effect, but the other variables did not. Regarding the coefficient of determination, as measured by the adjusted R-Square, the variables used in this study accounted for only 3.20% of the financial performance for NIM, 7.20% for ROA, and 19.50% for ROE. The low impact of ownership structure and control variables on financial performance suggests that financial performance is not solely dependent on changes in ownership structure. The researchers suspect that other, more significant factors, such as changes in revenue (top line), net profit (bottom line), company cash flow, and other variables, require further investigation.

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