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The effect of financial leverage and operating leverage on company profitability

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ABSTRACT

This research aims to analyze the effect of financial leverage (DFL) and operating leverage (DOL) on company profitability (ROE) both simultaneously and partially in banking sub-sector companies listed on the BEI for the 2020-2022 period. This research was conducted using multiple linear regression analysis. Based on the results of the F test, it is known that DFL and DOL simultaneously influence ROE, this is proven by a significance level that is smaller than 0.05, namely 0.023. Based on the results of the t test, it is known that DFL partially has no effect on ROE, this is proven by a significance level greater than 0.05, namely 0.432. Based on the results of the t test, it is also known that DOL partially has a significant negative effect on ROE, this is proven by a significance level that is smaller than 0.05, namely 0.373. The strength of the relationship between the variables DFL, DOL and ROE is shown by the adjusted coefficient of determination (Adjusted R square) which is only 0.137 or 13.7%.

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1. INTRODUCTION

Banking is the most important component in the equity progress of today's economy(Berger et al., 2020). Almost all industries related to various activities as a whole will benefit from the presence of banks(Mehdiabadi et al., 2020). The economy benefits from mechanisms that find funding sources effectively and efficiently(Aranda-Usón et al., 2019; Cecere et al., 2020; Jin et al., 2021; Zhao et al., 2022). The banking industry plays an important role in economic development as a financial intermediary or intermediary between parties who have excess funds and parties who need funds, and is always subject to financial laws that require banking services.

The health status of a bank is determined by the level of its financial reports at different intervals, in accordance with Bank Indonesia guidelines(Juanaristo & Astika, 2022). Bank financial reports show the general financial condition of a bank(Buallay et al., 2021). This report reveals the current banking situation, including its weaknesses and strengths(Wang & Wang, 2020). The report also shows the performance of bank management during the period(Ayadi et al., 2019). Financial reports generally consist of a balance sheet, profit and loss report, capital changes report, cash flow report(Janah & Qurochman, 2023)

The main objective in running bank operations is to achieve the highest level of profitability(Le & Ngo, 2020). Profitability is a bank's ability to generate profits effectively and

efficiently(Almaqtari et al., 2019). Profitability is the ability of a company to generate profits and the results of the profits obtained. Company profits usually come from sales and capital gains(Qurochman, 2022a). Company capital is represented by funds obtained from external sources or funds which are often referred to as short-term and long-term debt capital. The use of external funds creates an effect which is usually called leverage. Leverage is the result of utilizing external funding sources, such as loan capital, to finance short-term and long-term projects(Qurochman, 2022b). In this case, financial management in each company usually uses two types of leverage, namely: Financial Leverage and Operating Leverage. The first type is financial leverage, namely the extent to which a company uses funding through debt to increase its production activities and how much profit is able to cover interest costs.(Devi, 2019). Financial leverage is considered profitable if a company produces more than the fixed costs it has to pay, whereas financial leverage is considered unprofitable if the income the company generates is less than the fixed costs it pays.

The second type of leverage is operating leverage. According to(Hidayat et al., 2020), Operating leverage is the use of assets that causes the company to bear fixed costs in the form of depreciation. Operating leverage is said to be profitable if the company is able to bear fixed costs for the use of assets or sales after deducting variable costs will be greater than fixed costs. On the other hand, operating leverage is said to be detrimental if the company is unable to cover fixed costs or in other words its sales or income is less than fixed costs.

The use of leverage in a company is an effort to increase profitability. Profitability is the ability of a company to generate profits and the results of the profits obtained. Company profits usually come from sales and capital gains(Qurochman, 2022a). Profitability ratio acc(Qurochman, 2022b), divided into four types, namely Net Profit Margin (NPM), Return on Assets (ROA) or Return on Investment (ROI) and Return on Equity (ROE). This research was carried out based on the hypothesis that the use of leverage has an impact on company profitability, namely Return on Equity (ROE). Return on Equity (ROE) is a ratio used to measure a company's ability to obtain net profits based on its own capital(Mahayati et al., 2021). The greater the ROE, the greater the level of profit achieved so that the possibility of the company being in trouble is smaller.

The objects chosen in this research are banking sub-sector service companies. The existence of the banking sub-sector as an intermediation institution has an important role in the economy in Indonesia. This can be seen from the market capitalization of the financial sector which is larger when compared to other sub-sectors listed on the Indonesian Stock Exchange. Market capitalization is an indicator that shows the development of a stock exchange. Market capitalization also explains the amount of capital used by a company, this capital can be in the form of share capital, surplus and other long-term debt. Based on the description above, researchers are interested in conducting research entitled "The Influence of Financial Leverage and Operating Leverage on Company Profitability (Study of Banking Sub-Sector Companies Listed on the Indonesian Stock Exchange in 2020-2022)".

Similar research that has been carried out previously includes:(Marliana et al., 2020)entitled "The Influence of Financial Leverage and Operating Leverage on the Profitability of Construction and Building Sub-Sector Companies" provides research results that simultaneously and partially DFL has an effect on Profitability and simultaneously and partially DOL has no significant effect on Profitability. In addition, research from(Putra & Kadang, 2020)entitled The Effect of Operating Leverage and Financial Leverage on Company Profitability (Study of Food and Beverage Sector Companies Listed on the Indonesian Stock Exchange in 2014-2018 which gives results that simultaneously DFL and DOL have an effect on profitability and partially DFL has no effect on profitability while DOL has an influence on profitability

2. MATERIAL AND METHOD

Financial statements

Every company has financial reports that provide useful information about the company's financial position, performance, and changes in financial position over a certain period of time, and many users of financial statements use them to make economic decisions. Financial reports describe a

company's financial position and the results of its operations at a certain point in time or a certain time period(Herawati, 2019). Financial reports can basically also be interpreted as the result of the accounting process and can be used as a communication tool between financial data and activities of a company and parties who have an interest in the company's data and activities (Qurochma, 2019).

Leverage

In running a business, companies often face fixed costs. Apart from that, this effort certainly has risks. In this context, managers need to know about leverage. Leverage involves fixed costs that are expected to generate profits. Leverage is a company's ability to use assets or funds that are subject to fixed costs (fixed cost assets or funds) to increase the level of income (return) for company owners.(Qurochman, 2022b).

In financial management, there are usually two types of leverage that can be used to increase expected profits: financial leverage and operating leverage. These two types of leverage are used by all companies to measure their performance. This type of leverage is expected to be used by companies whose profits are greater than the costs and funding sources incurred.

Financial Leverage

*Financial Leverage*is the ability of a company to utilize financial leverage by making long-lasting financial commitments that can increase earnings before interest and taxes on earnings per common share(Devi, 2019). This research was conducted based on the hypothesis that financial leverage is used as a research variable. Therefore, researchers focus on taking Debt to Equity Ratio (DER) as the Degree of Financial Leverage (DFL) research variable.

According to(TRIANA, 2019), Debt to Equity Ratio is a ratio used to assess the amount of debt used by a company. This ratio is used to determine the amount of own capital used as collateral for debt. The higher this ratio, the more unprofitable it will be because the possibility of non-payment of the company's debt is greater. The DER formula is as follows:

$$DER = \frac{debt}{equity} \tag{1}$$

Operating Leverage

Operating Leverageis the use of assets, where in this use the company must cover fixed costs(Ridoan et al., 2023). The use of operating leverage as a fixed asset with fixed costs with the goal of generating sufficient income to cover fixed costs. Through DOL (Degree of Operating Leverage), companies can see how much profit changes due to changes in sales. The level of Operating Leverage can be measured using the following formula:

$$DOL = \frac{\%\ DEBIT\ Change}{\%\ Change\ in\ SALES} \tag{2}$$

Profitability

Profitability measures a company's ability to generate profits using its financial resources. According to(Pratama, 2021). Profitability is a company's ability to generate profits in relation to sales, total assets and capital. Profitability ratios related to investment can be measured by Return On Assets (ROA) and Return On Equity (ROE).

Because this research concerns investment, Return on Equity (ROE) is used as the key figure. Researchers chose the ROE variable as a profitability calculation variable because they wanted to test a company's ability to generate returns on its own capital(Wijaya, 2019). Profitability provides benefits for a company, such as ensuring long-term survival, making it easier to attract capital from outside, and supporting the company's future. Return on Equity can be calculated using the formula:

$$ROE = \frac{Earning\ After\ Taxes}{Total\ Equity} \tag{3}$$

The Effect of Leverage on ROE

*Leverage*is expected to increase the percentage of owner's equity. Company with*leverage*is expected to obtain profits exceeding the fixed costs borne by the amount of funds used. On the other hand, leverage is considered detrimental to a company if the profits generated are smaller than the fixed costs incurred from using debt. An increase in debt capital borrowing by companies also causes an increase in company assets. If a company's assets increase, it is hoped that the profits generated will also increase. When a company's profits increase, then*Return on Equity*(ROE) the company also increased. Additionally, the debt ratio increased due to increased external funding.

According to(TRIANA, 2019), sThe smaller the DER, the better, and if the amount of equity is large or at least equal to the amount of debt, then this ratio is suitable for securing external parties.*Return on Equity*is closely related to a company's financial resources, and it is usually assumed that a company will achieve a lower ROE if it only relies on its own capital. On the other hand, reducing equity and replacing it with debt will increase ROE.

Research Hypothesis

(Yam & Taufik, 2021)states that a hypothesis is a temporary conjecture about a thing or case and then further research is carried out which functions to find out the truth of the conjecture. From the conceptual model that has previously been created and to facilitate the observation and measurement process, the hypothesis of this research is:

H1: It is suspected that there is a significant simultaneous influence of Debt to Equity Ratio (X1) and Degree of Operating Leverage (X2) on Return on Equity (Y).

H2: It is suspected that there is a partially significant influence from the Debt to Equity Ratio (X1) on Return on Equity (Y).

H3: It is suspected that there is a partially significant influence from Degree of Operating Leverage (X2) on Return on Equity (Y).

Types of research

The type of research used is explanatory research. According to(Geovannie, 2016), explanatory research is research that explains the relationship between one variable and another variable through hypothesis testing. The main reason for choosing this type of explanatory research is to test the proposed hypothesis, so that through this hypothesis the relationship and influence between the independent variables consisting of DFL and DOL and the dependent variable, namely ROE, can be explained.

The approach used in this research is a quantitative approach. According to(Sudarmanto et al., 2021), a quantitative approach is a research method used to research a particular population or sample, collecting data using research instruments and statistical or quantitative data analysis with the aim of testing predetermined hypotheses.

Research variable

(Nasution, 2017)states that the dependent variable is the variable that is the researcher's main concern, while the independent variable is the variable that influences the dependent variable either positively or negatively. The dependent variable can be said to be a variable that is influenced by the independent variable. There are two variables in this research, namely:

Free (independent) variables, namely:

X1 = Debt to Equity Ratio (DER)

X2 = Degree of Operating Leverage (DOL)

Dependent Variable (dependent), namely:

Y = Return on Equity (ROE)

Population and Sample

Population is a generalized area consisting of objects or subjects that have certain qualities and characteristics determined by the researcher to be studied and conclusions drawn(Ul'fah Hernaeny, 2021). The population included in this research are banking sub-sector service companies

listed on the IDX. The number of banking companies listed on the Indonesian Stock Exchange as of December 2022 is 47 companies. The sample is a part or representative of the population studied(Ul'fah Hernaeny, 2021). The sample used in this research was taken using a purposive sampling technique, namely a technique for determining samples based on certain criteria and considerations. Based on this definition, the sample in this study was selected according to the following criteria:

a) Companies listed consecutively in the banking sub-sector from 2020 to 2022.
b) Companies that report financial reports consecutively in the banking sub-sector from 2020 to 2022.
c) Companies that earn profits consecutively in the period 2020 to 2022.

Based on criteria points number one to three,about companies that are registered, report financial statements, and have consecutive profits for 3 years from 2020-2022. So the number of companies in the sample is 25 companies,

Data collection technique

The data collection method used in this research is to obtain secondary data about the Indonesian stock market in the form of publications. The data used in this research are the audited annual reports of banking subsector service companies (Annual Report) from 2020 to 2022 on the Indonesia Stock Exchange via their website athttp://www.idx.co.id/

Data analysis

The analysis technique used in this research uses a quantitative approach with inferential statistical analysis, namely statistics relating to how to draw conclusions based on data obtained from samples to describe the characteristics or characteristics of a population.(Sugiyono, 2017). The testing steps used with the SPSS application are:

a) Classic assumption test
Classical assumption testing aims to test the suitability of a regression model so that it can be used for estimation purposes to reduce data bias. This test also aims to ensure that the resulting data is normally distributed and does not contain multicollinearity(Nugraha, 2022).

b) Multiple Linear Regression Analysis
Multiple regression analysis is a further development of simple regression analysis. This analysis helps predict the value of a dependent variable (Y) if there are at least two or more independent variables(Triyanto et al., 2019). In addition, this analysis helps determine the influence of the independent variable on the simultaneous and partial influence on the dependent variable. The multiple linear regression equation with two independent variables in this research is:

$$\boldsymbol{Y} = \boldsymbol{a} + \boldsymbol{b}_1\boldsymbol{x}_1 + \boldsymbol{b}_2\boldsymbol{x}_2 \quad (4)$$

Information:
Y = Vdependent variable (the value of the variable to be predicted)
a = Constant
b1-2 = Regression Coefficient
X1 =Independent Variable
X2 =Independent Variable

c) Hypothesis test
Testing via F test and t test. The F test is used to test the influence of the DFL and DOL variables simultaneously on ROE. The t test is used to partially test the influence of the DFL and DOL variables on ROE.

d) Coefficient of Determination
The coefficient of determination is used to show the ability of a regression line to explain variations in the dependent variable. The coefficient of determination has a value between 0 and 1. The closer the coefficient value is to 1, the better. Conversely, when the coefficient value approaches 0, the independent variables as a whole cannot explain the dependent variable.

3. RESULTS AND DISCUSSIONS

Result.

Classic assumption test.

Normality test.

Based on the table, the Asymp value is obtained. Sig. (2-tailed) of 0.198. This value is greater than the significance value (0.198 > 0.05), so it can be concluded that the data is normally distributed and meets the normality test.

Table 1. Normality Test Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residuals
N		75
Normal Parameters, b	Mean	.0000000
	Std. Deviation	.05761078
Most Extreme Differences	Absolute	.122
	Positive	.122
	negative	-.076
Statistical Tests		.122
Asymp. Sig. (2-tailed)		. 198d

Source: Processed data, 2024

Multicollinearity Test

Based on table 2, DFL and DOL have a tolerance value of 0.859 and a VIF value of 1.165. This research shows a tolerance value > 0.1 and a VIF value < 10 so it can be concluded that there is no multicollinearity between the independent variables.

Table2.Multicollinearity Test Results

Coefficientsa

Model		Collinearity Statistics	
		Tolerance	VIF
1	DFL	,859	1,165
	DOL	,859	1,165

Source: Processed data, 2024

Multiple Linear Regression Analysis

Regression analysis is used to measure the strength of the relationship between the independent variables, namely DFL (X1) and DOL (X2) on the dependent variable, namely ROE (Y). Based on the results of analytical calculations, the following regression equation is obtained:

$\boldsymbol{Y} = \boldsymbol{a} + \boldsymbol{b}_1\boldsymbol{x}_1 + \boldsymbol{b}_2\boldsymbol{x}_2$

ROE = 0.077 + 0.002 DFL – 0.000 DOL

The interpretation of the multiple linear regression model above is:

a) a = 0.077. A constant value of 0.077 indicates that if there is no movement in DFL and DOL, then the ROE value is 0.077.
b) β1 = 0.002. If DFL increases by 1 unit, ROE will increase by 0.002 assuming the DOL variable is constant.

β2 = -0.000. If DOL increases by 1 unit, ROE will decrease by 0,000 assuming the DFL variable is constant.

Hypothesis test

F test

The first hypothesis states that DFL and DOL simultaneously influence ROE in financial services companies. Decision making for this test can be done by comparing the significance of Fcount with the following conditions:

a) If the probability of the F value or significance is > α 0.05 then, H1 is rejected.

b) If the probability of the F value or significance is < α 0.05 then, H1 is accepted.

Table 3. F Test Results

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,004	2	,002	5,522	.023b
	Residual	,248	72	,003		
	Total	,251	74			

Source: Processed data, 2024

Based on the table, it is known that the value of Fcount is 5.522, while Ftable (α = 0.05; df regression = 2; df residual = 72) is 3.12, so Fcount> Ftable, namely 5.522 > 3.12 and probability/Sig. F is 0.023 (P < 0.05), so the regression analysis is significant. This means that the first hypothesis is accepted that the DFL and DOL variables simultaneously influence ROE in banking sub-sector companies. This is the same as the results of research from(Putra & Kadang, 2020), but slightly different from the results of research from(Marliana et al., 2020)only DFL has a simultaneous effect, while DOL does not have a simultaneous effect.

t test

The second hypothesis states that DFL partially influences ROE in banking sub-sector companies. The third hypothesis states that DOL partially influences ROE in banking sub-sector companies. The t test is used to show how much influence an independent variable individually has in explaining the dependent variable. The t test decision can be made by comparing the significance of t with the following conditions:

a) If the probability of the t value or significance is > α 0.05 then, H2 and H3 are rejected.

b) If the probability of the t value or significance is < α 0.05 then, H2 and H3 are accepted.

Table 4. t test results

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,077	.014		5,316	,000
	DFL	,002	,002	,100	,790	,432
	DOL	,000	,000	.113	,897	,373

Source: Processed data, 2024

Based on the results of the t test in the table, between The results obtained show that the calculated t value is between the t table (-2.026 < 0.790 < 2.026) with a significance level of 0.432 > α = 0.05, so the effect of DFL (X1) on ROE (Y) is not significant at the error level α = 0.05. This means that partial DFL has no significant effect on ROE. This is the same as the result of(Putra & Kadang, 2020)And(Marliana et al., 2020).

The t test between X2 (DOL) and Y (ROE) obtained a t value of 0.897 and a significance value of 0.373. The results obtained show that the calculated t value is greater than the t table (0.897 > -2.026) with a significance level of 0.373 > α = 0.05, so the influence of DOL (X2) on ROE (Y) is significant at an error level of α = 0, 05. This means that DOL partially has no significant effect on ROE. These results are the same as the results of research from(Marliana et al., 2020)but it does not match the results of(Putra & Kadang, 2020)

Coefficient of Determination

Table 5. Coefficient of Determination

Model Summary b

Model	R	R Square	Adjusted R Square
1	.120a	.014	.137

Source: Processed data, 2024

Based on the results of data processing presented in the table, the R value (correlation coefficient) shows the magnitude of the relationship between the independent variables, namely DFL and DOL, and the dependent, namely ROE. The R value (correlation coefficient) of 0.120 shows that the relationship between the independent variables, namely DFL and DOL, and the dependent, namely ROE, is only 12%. The test results obtained for the Adjusted R Square value were 0.137 or (Adjusted R2 x 100%), namely 13.7%. This shows that DFL (X1) and DOL (X2) are able to explain 13.7% of ROE (Y), while the remaining 86.3% can be explained by other variables not used in this research.

Research Limitations

This research uses quantitative data or data that has been realized in 2020-2022. The calculation or acquisition of the Degree of Operating Leverage (DFL) value depends on the operational profit performance of a company, not on its operational profit target. This causes a high possibility that the findings or research will not be in accordance with the theory. The theory in question is a theory built based on target data.

4. CONCLUSION

Based on the discussion presented, several conclusions can be drawn. First, it is evident that the variables Degree of Financial Leverage (DFL) and Degree of Operating Leverage (DOL) collectively influence Return on Equity (ROE) in banking sub-sector companies during the 2020-2022 period. However, when analyzed separately, both the Degree of Financial Leverage (DFL) and Degree of Operating Leverage (DOL) variables do not have a significant effect on Return on Equity (ROE) within the same period. In light of these findings, several recommendations are proposed to benefit relevant stakeholders. For company management, the research suggests that the average Return on Equity is relatively low while the companies carry substantial debt. It is advised that companies exercise caution when making decisions regarding debt financing and focus on utilizing borrowed funds more effectively to enhance profitability. Additionally, for future researchers, the study reveals that the independent variables examined account for only 13.7% of the impact on Return on Equity, indicating the presence of other factors that could better explain this relationship. Future research should consider using earnings per share (EPS) as a measure of profitability instead of Return on Equity to provide more comprehensive insights.

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