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The Impact of Financial Ratios and Growth Opportunity on Capital Structure: A Moderation Role of Firm Size

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ABSTRACT

This study aims to examine the impact of liquidity, profitability, tangibility, and growth opportunity with firm size as a moderating variable on capital structure in distributor companies listed on the IDX Consumer Non-Cyclical for the period 2018-2022. The sampling technique used in this study was purposive sampling. The sample in this study consisted of 7 companies. This study uses panel data analysis techniques with moderated regression analysis (MRA) on E-views 13. Empirical results show that liquidity and profitability have a negative effect, and growth opportunity has a positive effect on capital structure, while tangibility does not affect capital structure. Firm size can only moderate growth opportunity to weaken the negative effect on capital structure, while tangibility cannot be moderated by firm size

INTRODUCTION

In the current era of globalization, the growth and competition that occur within the company are very tight. Companies as economic entities in Indonesia generally compete in their industry (Muria, 2018). Business activities in Indonesia have many types of businesses that can be carried out, including agrarian business activities, extractive business activities, industrial business activities, service business activities, and trade business activities (Kartawinata et al., 2023).

According to the Central Bureau of Statistics (2023), it was recorded that the gross domestic product generated in wholesale and retail trade business activities (distributor) reached IDR 539 trillion per quarter I in 2023. This data is the highest figure in contribution to GDP in Indonesia compared to other sub-industries. Competition in distributor companies makes each company move faster to improve company performance so that the main objectives of the company can be achieved. One of the company's goals is to optimize the improvement of the welfare of owners and shareholders through effective and efficient management of the company's capital resources by combining permanent sources of funds used by the company for its operational needs so that later it will help increase company profits (Pangestuti et al., 2022).

The source of a company's capital consists of two types, namely equity and debt, if the company does not have sufficient own capital to develop a larger business, the choice is to use debt (Yunita & Aji, 2018). Therefore, the capital structure is important in influencing the performance of a company. According to Brigham & Houston (2018), the factors that influence the capital structure are profitability, growth, tangibility, operating leverage, sales stability, taxes, attitudes of lenders and rating agencies,

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control of management behavior, financial flexibility, market conditions, and internal conditions of the company.

This study examines how financial ratios can affect capital structure, especially in the distributor sub-industry. Liquidity is a financial ratio that can affect capital structure. According to the pecking order theory, firms tend to prefer internal funding because of the small risk borne by the firm. In addition, companies that have high liquidity will tend not to use debt financing, because the company has large internal funds, so the company will use its internal funds first instead of debt (Bambang & Heru, 2018). Profitability is also a financial ratio that can affect capital structure. According to pecking order theory, has a view that the higher the profitability of a company, the company tends not to use debt in financing its operational activities. Therefore, companies prefer to use retained earnings (Bambang & Heru, 2018). Tangibility is also a financial ratio that can affect the capital structure. According to trade-off theory, it has a view that fixed assets can be used as collateral to make new loans in the form of debt. This means that the higher the company's ability to provide collateral in obtaining loans, the greater the proportion of loans in its capital structure because it is easier for companies to obtain credit (Wikartika & Fitriyah, 2018).

This study also examines how growth opportunity can affect capital structure, especially in the distributor sub-industry. According to trade-off theory, companies in the growth period often require a lot of funds for business development, the selection of debt is chosen to avoid the high cost of stock issuance, and the use of debt can also be used as a tool to spur company growth (Yunita & Aji, 2018).

This study uses firm size as a moderating variable that can weaken or strengthen the relationship between tangibility and growth opportunity on capital structure. A large size tends to have a large total sales, thus increasing the tangibility. The increase in tangibility will affect changes in capital structure because companies that have a high tangibility can be used as collateral for long-term debt borrowed by the company (Mukaromah & Suwarti, 2022). This shows that firm size can moderate the effect of tangibility on the company's capital structure.

Companies that have the opportunity to achieve high growth, have the opportunity to expand and require very large funds. The size of the company will affect the capital structure decision-making. The larger the size of the company, the more investors will trust the company in terms of borrowing debt because according to them, large companies have a low bankruptcy value, so the easier it is for the company to obtain debt. This shows that firm size can moderate the growth opportunity of the company's capital structure.

Thus, this study examines the effect of liquidity, profitability, tangibility, and growth opportunity on capital structure with firm size as a moderating variable.

LITERATURE REVIEW

Capital Structure

Capital structure refers to the proportion of the company's funding sources in the form of equity and debt resources, where the company must determine a combination of capital structures that can optimize company profits. In addition, funding decisions show whether the company can be funded with debt or equity (Ahmad & Pongoliu, 2021). Capital structure can be measured using the debt-to-equity ratio. The calculation of the debt-to-equity ratio is done by comparing total debt to equity (Fridson & Alvarez, 2022).

Pecking Order Theory

Pecking order theory introduced by Donaldson (1961) argues that companies have an order in financing starting with the order of retained earnings, debt to third parties either by loan or selling bonds, and finally by issuing new shares. The pecking order theory states that companies prefer to use internal funding rather than debt capital (Sihombing, 2018).

Trade-off Theory

The trade-off theory proposed by Stiglitz (1969) argues that the company has an optimal level of debt, and tries to adjust the level of debt towards the optimal point when the company is at a level of debt that is too high levered or too low levered. Trade-off theory is one of the basic theories that dominates capital structure theory, which recommends that the optimal level of debt is the marginal benefit of debt funding equal to the marginal cost (Sihombing, 2018). The optimal capital structure problem is formulated as determining the level of debt that provides the maximum market value of the company, which is achieved by balancing the tax benefits of debt and bankruptcy costs (Stoiljkovic et al., 2023).

Liquidity

Liquidity is measured by the debt ratio, which is a ratio that measures the presentation of capital requirements that are financed by debt (Brigham & Houston, 2018). High liquidity indicates strong performance in terms of current assets compared to liabilities (Sihombing et al., 2023). Companies that have high liquidity mean that they can pay short-term debt, so they tend to reduce total debt, which in turn will make the capital structure smaller. Previous research conducted by Hertina et al. (2022), Haron et al. (2021), Pathak & Chandani (2021), and Rani et al. (2020) state that liquidity has a negative effect on capital structure. Based on the results of the description and previous research, the hypothesis is proposed as follows:

H_1 : Liquidity has a negative effect on capital structure

Profitability

Profitability is the company's ability to achieve profits, related to the sale of their products (Sihombing et al., 2023). Profitability is one of the factors that influence the capital structure because the higher the profitability, the smaller the use of debt, and this will result in a smaller capital structure. Companies that have large retained earnings will use them as capital, so large retained earnings will improve the company's capital structure and reduce capital from external funds (Brigham & Houston, 2018). Previous research conducted by Oliveira & Raposo (2021), Zaheer et al. (2021), Alalmai et al. (2020), and Gharaibeh & Al-Tahat (2020) state that profitability has a negative effect on capital structure. Based on the results of the description and previous research, the hypothesis is proposed as follows:

H_2 : Profitability has a negative effect on capital structure

Tangibility

Tangibility is a determination of how much allocation to each component of an asset, both in current asset and fixed asset, or called company wealth (Brigham & Houston, 2018). Tangibility describes the balance between a total asset and a fixed assets of the company. Companies that have more fixed assets can borrow at a lower cost of debt capital than companies that have few fixed assets. The tangible nature of the asset shows the company's bargaining power (Siburian & Sihombing, 2021). Companies whose tangibility has a ratio of fixed assets that is greater than their total assets will use more long-term debt because existing fixed assets can be used as debt collateral (Brigham & Houston, 2018). Previous research conducted by Hertina et al. (2022), Mukaromah & Suwarti (2022), Pathak & Chandani (2021), and Iqbal et al. (2019) state that tangibility has a positive effect on capital structure. Based on the results of the description and previous research, the hypothesis is proposed as follows:

H_3 : Tangibility has a positive effect on capital structure

Growth Opportunity

According to Brigham & Houston (2018), companies with a high level of growth opportunity will depend on funds from outside the company because funds from within the company are insufficient to support high growth rates. Thus, companies with high growth rates need more funds in the future and also retain more profits. Companies with high growth rates will try to increase their total assets so that they need more funds in the future, but still have to be able to maintain their profit levels. As a result, retained earnings will increase and the company will tend to owe more to maintain its debt ratio (Pathak & Chandani, 2021). Previous research conducted by Haron et al. (2021), Pathak & Chandani (2021),

Zaheer et al. (2021), and Rani et al. (2020) state that growth opportunity has a positive effect on capital structure. Based on the results of the description and previous research, the hypothesis is proposed as follows:

H_4 : Growth opportunity has a positive effect on capital structure

Firm Size

Firm size has proven to have an important role in determining the choice of capital structure that will be used by a company. The larger the size of the company, the greater the tendency of the company to use outside capital such as debt and other external sources (Sudrajat & Setiyawati, 2021).

Firm Size as a Moderating Variable

A company with a large size means that it also has large assets so the company can finance its operational activities using external funds because these fixed assets are used as debt collateral. In addition, large size also provides more security and high trust to creditors (Suherman & Mardiyati, 2019). Previous research conducted by Mukaromah & Suwarti (2022) and Suherman & Mardiyati (2019) stated that firm size as a moderating variable can moderate the effect of tangibility on capital structure. Based on the results of the description and previous research, the hypothesis is proposed as follows:

H_5 : Firm Size moderates the effect of tangibility on capital structure.

Companies that have the opportunity to achieve high growth will encourage companies to continue to expand, the need for large funds will make companies borrow funds from external parties. The size of the company will affect the capital structure decision-making. The larger the size of the company, the company will be trusted by creditors in terms of borrowing debt because according to him, large companies have a low bankruptcy value, so the easier it is for the company to obtain debt (Kedzior *et al*., 2020). Previous research conducted by Wahyudin dan Salsabila (2019) stated that firm size as a moderating variable can moderate the effect of growth opportunity on capital structure. Based on the results of the description and previous research, the hypothesis is proposed as follows:

H_6 : Firm Size moderates the effect of growth opportunity on capital structure.

METHOD

This research uses a quantitative type of research. This research uses a clause model, clause relationships, namely cause and effect relationships. The population in this study are IDX consumer non-cyclical sector companies listed on the Indonesian Stock Exchange for the period 2018-2022. The samples used in this study are companies in the distributor industry in the 2018-2022 period that report complete and published financial reports. Based on the criteria, the number of research samples obtained was 7 companies from a population of 113 companies. The sample list of companies engaged in the distributor industry are Duta Intidaya Tbk (DAYA), Diamond Food Indonesia Tbk (DMND), Enseval Putera Megatrading Tbk (EPMT), Kurniamitra Duta Sentosa Tbk (KMDS), Prima Cakrawala Abadi Tbk (PCAR), Millenium Pharmacon International Tbk (SDPC), and Wicaksana Overseas International Tbk (WICO).

In this study, the analysis method used is the panel data regression analysis method which is used to determine the level of significance of each regression coefficient of the independent variable on the dependent variable. This study also uses Moderated Regression Analysis (MRA), which is a special application of linear multiple regression where the regression equation contains an element of interaction (multiplication of two or more independent variables) that aims to determine whether the moderating variable will strengthen or weaken the relationship between the independent variable and the dependent variable. In conducting this analysis and testing, the Eviews 13 program tool is used.

Panel data regression has a flow of determining the model in determining the right estimate. The flow starts from determining the panel data estimation model by choosing between common effect, fixed effect, and random effect. In choosing the panel regression model, the chow test, the hausman

test, and the lagrange multiplier test are carried out, then a significance test is carried out through the coefficient determination test (R^2 test), F test, and t-test until finally an interpretation of the estimated model is obtained.

The regression model used in this study is as follows:

$$DER = \alpha + \beta_1 CR + \beta_2 ROA + \beta_3 Tang + \beta_4 Growth + \beta_5 Tang * Size + \beta_6 Growth * Size + \varepsilon$$

Information:
α = Constant parameter
$\beta_1 - \beta_7$ = Regression coefficients
DER = Ratio to measure capital structure (total debt/equity)
CR = Ratio to measure liquidity (current assets/current debt)
ROA = Ratio to measure profitability (net income/total assets)
Tang = Ratio to measure tangibility (fixed assets/total assets)
Growth = Ratio to measure growth opportunity ((total assets$_t$ - total assets$_{t-1}$)/total assets$_{t-1}$)
Size = Ratio to measure firm size (ln sales)
ε = Standard error

RESULT AND DISCUSSION

Descriptive statistics

The descriptive statistical analysis in this study is described by using the mean, maximum, minimum, and standard deviation. The summary of the results of descriptive statistics on the variables data in this study presented in Table 1.

Table 1. Descriptive Statistics

	DER	CR	ROA	Tang	Growth	Size
Mean	2.8880	2.3702	0.0251	0.2042	0.0890	5,259,605,662,865
Maximum	24.5909	8.6248	0.4019	0.5066	0.5501	28,027,488,218,600
Minimum	0.1199	0.6716	-0.3158	0.0167	-0.4052	46,602,172,890
Std. Dev.	5.2104	1.5320	0.1305	0.1417	0.1972	8,071,166,757,195

Source: Processed by Eviews 13 (2023)

Panel Data Regression Equation Results

Panel data regression analysis is conducted with three approaches by conducting model estimation tests: the common effect model, fixed effect model, and random effect model. The three models applied in this study will determine which is the best method to choose in panel data regression. To choose the best model, the regression model selection is carried out using three tests: the chow test, the hausman test and, the lagrange multiplier test.

Table 2. Statistical Result of Chow Test, Hausman Test, and Lagrange Multiplier Test

Test	Characteristic	Statistic	Result	Decision
Chow	Cross-section Chi-square	10.1327	0.1192	The common effect model is suitable
Hausman	Cross-section random	7.3868	0.2865	The random effect model is suitable
Lagrange Multiplier	Breusch-Pagan	2.7424	0.0977	The common effect model is suitable

Source: Processed by Eviews 13 (2023)

Based on the results in Table 2, the results of the chow test, the researcher found a chi-square probability of 0.1192, which is more than 0.05. Thus, the common effect model is more appropriate to use than the fixed effect model. Furthermore, the hausman test was carried out, and a chi-square probability of 0.2865 was obtained, which returned more than 0.05. So, the random effect model is

more appropriate than the fixed effect model. Then, the lagrange multiplier test was carried out, and a chi-square probability of 0.0977 was obtained, which returned more than 0.05. So, the common effect model is more appropriate than the random effect model. After conducting the three tests, the results of these tests show that the common effect model is the best model to choose in the panel data regression in this study.

Classical Assumptions Test

Using panel data benefits research because the data used are more descriptive, have greater variance, lower collinearity, greater degrees of freedom, and better efficiency. Therefore, it does not require testing the classical assumptions (normality, heteroscedasticity, multicollinearity, and autocorrelation test), so that the test results can be interpreted appropriately (Gujarati *et al*., 2012).

Hypothesis Test Results

After determining the best model, it is necessary to test the hypothesis through the coefficient determination test (R^2 test), F test, and statistical t-test presented as follows:

Table 3. Coefficient Determination Test Result Using the Common Effect Model

Cross-section Chi-square	
R-squared	0.6120
Adjusted R-squared	0.5290

Source: Processed by Eviews 13 (2023)

Based on the results in Table 3, it can be seen that the common effect model has an Adjusted R-squared is 0.5290 or 52.90% which means that the influence of the variables in this study is 52.90% and the remaining 47.10% is influenced by other variables outside of this study.

Table 4. F-test Result Using the Common Effect Model

Cross-section Chi-square	
F-statistic	7.3631
Prob (F-statistic)	0.0001

Source: Processed by Eviews 13 (2023)

Based on the results in Table 4, it can be seen that the common effect model has a Prob (F-statistic) is 0.0001 < 0.05, which means all independent variables simultaneously impact the dependent variable.

Table 5. t-partial Test Result Using the Common Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Note
CR	-1.2966	0.4433	-2.9247	0.0068	H_1 is accepted
ROA	-21.7668	7.8643	-2.7678	0.0099	H_2 is accepted
Tang	-59.8473	59.4930	-1.0060	0.3231	H_3 is rejected
Growth	254.4042	75.2240	3.3820	0.0021	H_4 is accepted
Tang*Size	2.3089	2.1146	1.0919	0.2842	H_5 is rejected
Growth*Size	-9.4295	2.7178	-3.4696	0.0017	H_6 is accepted
C	6.0558	1.5140	3.9999	0.0004	

Source: Processed by Eviews 13 (2023)

Based on the results in Table 5, the coefficients of each variable that will form the model in this study are obtained as follows:

DER = 6.0558 - 1.2966 CR – 21.7668 ROA – 59.8473 Tang + 254.4042 Growth + 2.3089 Tang*Size – 9.429471 Growth*Size + ε

Effect of Liquidity (CR) on Capital Structure

The panel data regression outcomes show that CR has a coefficient of -1.2966 with a probability value of 0.0068. As such, H_1 is accepted. The test results show that liquidity (CR) has a negative effect on capital structure in distributor companies listed on IDX Consumer Non-Cyclicals for the period 2018-2022. These results illustrate that companies tend to favor internal funding which is considered safer than using external funds (Bambang and Heru, 2018). The higher level of liquidity owned by the distributor company, the company tends to reduce the use of debt in running its business, because the company can develop its business using internal funds. This follows the pecking order theory, indicating that the higher the liquidity of the company means that the level of the company's capital structure will decrease. This is because a company that has a high level of liquidity will be able to pay short-term debt. Therefore, the debt will decrease by itself. This result is in line with the results of previous research conducted by Hertina et al. (2022), Haron et al. (2021), Pathak & Chandani (2021), and Rani et al. (2020) who found that liquidity has a negative effect on capital structure.

Effect of Profitability (ROA) on Capital Structure

The panel data regression outcomes show that ROA has a coefficient of -21.7668 with a probability value of 0.0099. As such, H_2 is accepted. The test results show that profitability (ROA) has a negative effect on capital structure in distributor companies listed on IDX Consumer Non-Cyclicals for the period 2018-2022. These results illustrate that companies that have large profits will rely on retained earnings as internal company funding rather than the use of external funds (Lianto et al., 2020). The higher the level of profitability owned by the distributor company, the company tends to reduce the use of debt in running its business, because the company prefers to use retained earnings as internal funding to purchase goods that will be distributed to consumers rather than using external funds. This follows the pecking order theory which states that the higher the profitability of a company, the company tends not to use debt in financing its operational activities. Therefore, companies prefer to use retained earnings. This result is in line with the results of previous research conducted by Oliveira & Raposo (2021), Zaheer et al. (2021), Alalmai et al. (2020), and Gharaibeh & Al-Tahat (2020) who found that profitability has a negative effect on capital structure.

Effect of Tangibility (Tang) on Capital Structure

The panel data regression outcomes show that Tang has a coefficient of -59.8473 with a probability value of 0.3231. As such, H_3 is rejected. The test results show that tangibility (Tang) does not affect capital structure in distributor companies listed on IDX Consumer Non-Cyclicals for the period 2018-2022. Some banking institutions have fewer requirements to provide collateral in the form of fixed assets when borrowing (Kyissima et al., 2020). Companies can use other assets, like inventory, accounts receivable, and bank guarantees. The activities of distributors as a party that supplies goods from producers to consumers do not guarantee their fixed assets for debt financing as their business capital. This result is in line with the results of previous research conducted by Zaheer et al. (2021), Alalmai et al. (2020), Gharaibeh & Al-Tahat (2020), and Kyissima et al., (2020) who found that tangibility does not affect capital structure.

Effect of Growth Opportunity (Growth) on Capital Structure

The panel data regression outcomes show that Growth has a coefficient of 254.4042 with a probability value of 0.0021. As such, H_4 is accepted. The test results show that growth opportunity (Growth) has a positive effect on capital structure in distributor companies listed on IDX Consumer Non-Cyclicals for the period 2018-2022. These results illustrate that a company with a high growth rate will try to increase its total assets so that it requires more funds in the future, but still has to be able to maintain its profit level. As a result, retained earnings will increase and the company will tend to owe more to maintain its debt ratio (Pathak and Chandani, 2021). The higher the level of growth opportunity

owned by the distributor company, the company tends to increase the use of debt in running its business to finance the operational activities carried out by the company. This follows the trade-off theory which has the view that companies in a developing period often require a lot of funds for business development, the choice of debt is chosen to avoid the high cost of issuing shares so that the use of debt can also be used as a means of driving the company (Yunita and Aji, 2018). This result is in line with the results of previous research conducted by Haron et al. (2021), Pathak & Chandani (2021), Zaheer et al. (2021), and Rani et al. (2020) who found that growth opportunity has a positive effect on capital structure.

The Moderating of Firm Size in the Effect of Tangibility (Tang) on Capital Structure

The panel data regression outcomes show that Tang has a coefficient of 2.3089 with a probability value of 0.2842. As such, H_5 is rejected. The test results show that firm size as a moderating variable is unable to moderate the effect of tangibility on capital structure in distributor companies listed on IDX Consumer Non-Cyclicals for the period 2018-2022. These results illustrate that the larger or smaller company size of the distributor company does not moderate the effect of tangibility on capital structure because the small company size illustrates the company's low assets and low level of sales so that the company obtains a large amount of loan will be difficult for a company (Inayati and Sofian, 2019). The size of the company as measured by sales does not determine that the company will rely on its fixed assets as collateral in debt. This result is in line with the results of research conducted by Cahyani and Nyale (2022) which found the result that firm size as a moderating variable is unable to moderate the effect of tangibility on capital structure.

The Moderating of Firm Size in the Effect of Growth Opportunity (Growth) on Capital Structure

The panel data regression outcomes show that Growth has a coefficient of -9.4295 with a probability value of 0.0017. As such, H_6 is accepted. The test results show that firm size as a moderating variable is able to moderate the effect of growth opportunity on capital structure in distributor companies listed on IDX Consumer Non-Cyclicals for the period 2018-2022. This follows the trade-off theory which has the view that a company in obtaining external funding or debt is influenced by company growth because creditors assess the company's ability to return its debt. Large companies will find it easier to get debt facilities from creditors than small companies (Kedzior et al., 2020). Companies that have a large level of sales do not depend on an increase in total assets as collateral for the debt to be borrowed, because creditors believe that companies that have a large level of sales will have no difficulty in repaying their debts to them, and vice versa. This result is in line with the results of research conducted by Wahyudin and Salsabila (2019) which found the results that firm size as a moderating variable is able to moderate the effect of growth opportunity on capital structure.

CONCLUSION

This study concludes that liquidity has a negative effect on capital structure. The higher the level of liquidity owned by the company, the company tends to reduce the use of debt in running its business, because companies tend to favor internal funding which is considered safer than using external funds. Profitability has a negative effect on capital structure. The higher the level of profitability owned by the company, the company tends to use the profit earned in developing its business, because the company prefers to use internal funding, namely retained earnings. Tangibility does not affect capital structure. This indicates that the company does not only use fixed assets as collateral in debt, the company can use other assets, like inventory, accounts receivable, and bank guarantees. Growth opportunity has a positive effect on capital structure. The higher the level of asset growth owned by the company, the company tends to increase the use of debt to optimize its assets, thus requiring greater funds in the future.

Size is examined as one of the moderating variable. Size is unable to moderate the effect of tangibility on capital structure. Small company size illustrates the company's low assets and low level of sales so that the company in obtaining a large amount of loans will be difficult for a company, then the size of the company does not determine that the company will rely on its fixed assets as collateral in debt. Size is able to moderate the effect of growth opportunity on capital structure. Companies in obtaining external funding or debt can be influenced by company growth and the level of sales becomes a benchmark for creditors in assessing the company's ability to return its debt.

Our research has limitations. The object of research used is specific to certain sub-industries and also the variables used are only capable of the influence of the variables in this study is 52.90%. For this reason, future researchers can add research objects using other indices such as IDX ESG leaders, IDX Value30, and IDX Growth 30. Then further researchers can conduct research using variables that refer to the factors used to evaluate the level of corporate sustainability in taking into account the social, environmental, and economic impacts of the company's business activities. These variables are good corporate governance (GCG), environmental social governance (ESG), eco-efficiency, and green financing.

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