The Effect of Profitability, Liquidity, Asset Structure, and Sales Growth on Capital Structure with Firm Size as a Moderating Variable in Automotive Sub-Sector Companies and Their Components Listed on Indonesia Stock Exchange

Jeffry¹, Rina Br Bukit², Narumondang Bulan Siregar³

^{1,2,3}Department of Accounting, Faculty of Economics and Business Universitas Sumatera Utara, Indonesia

Corresponding Author: Jeffry

DOI: https://doi.org/10.52403/ijrr.20231253

ABSTRACT

The research aims to determine the effect of profitability, liquidity, asset structure and sales growth on capital structure and whether firm size can moderate the effects of profitability, liquidity, asset structure and sales growth on capital structure in automotive and components sub-sector companies listed on the Indonesia Stock Exchange.

The research population is all automotive and components sub-sector companies listed on Indonesia Stock Exchange, namely 13 companies. The research samples are taken using purposive sampling technique, and 12 companies are selected over 5 periods, from 2018 – 2022. The research employs Moderated Regression Analysis (MRA) method with the aid of EViews 10 software.

The research results indicate that liquidity is the only variable which has a positive and significant effect on capital structure. Meanwhile, profitability has no effect on capital structure, asset structure has no effect on capital structure, and sales growth has no effect on capital structure. Company size can moderate the correlation between liquidity and capital structure, but it cannot moderate the correlation between profitability and capital structure. In addition, company size cannot moderate the correlation between asset structure and capital structure, and it cannot moderate the correlation between sales growth and capital structure.

Keywords: profitability, liquidity, asset structure, sales growth, capital structure, firm size

INTRODUCTION

The company was established to achieve the goal of high profits. Competition in the current business world faces financial decision-making, namely funding investment decisions. Companies must be able to maintain the availability of funds to uphold the company's operational activities. One of them is analyzing the company's capital structure because it involves crucial factors related to the risk and the level of profit to be obtained in investing. Prospective investors will undoubtedly prefer to invest in companies with high profit and low risk Muniruddin, (Miraza & 2017). companies always need funds and capital to meet daily operating needs and develop the company. The capital requirement is in the form of working capital or purchasing fixed assets. Developing companies can get their capital from debt or equity (Putri & Andayani, 2018).

With the rapidly developing manufacturing industry, adequate infrastructure, and potential domestic markets, Indonesia has successfully attracted investments from leading car manufacturers worldwide. It

becomes a significant base for the production and export of motor vehicles.

Indonesia, with a large population and strong economic growth, has confirmed its position as a country with the automotive sector industry with the most considerable secondranking level in the Association of Southeast Asian Nationals (ASEAN) industry with the most significant level of automotive product sales in ASEAN countries, So that an increasing increase in debt is an attractive phenomenon from companies in Indonesia that use debt to fund the company's operations in producing automotive products. Increasing the debt of automotive sector company its components recorded on the Indonesia Stock Exchange (IDX) in the last ten years shows that the composition of their capital structure is dominated by debt. The company's phenomenon in Indonesia shows that the company's operations are very dependent on long-term debt.

The following is data on the capital structure of the automotive sub-sector company and its components listed on the Indonesia Stock Exchange in 2018-2022 in the table below:

Table 1. Capital Structure Data for Automotive Sub-Sector Companies and The Components Listed on the Indonesia Stock Exchange 2018-2022

Emiten	Capital Structure						
Code	2018	2019	2020	2021	2022	Total	Average
ASII	0,98	0,89	0,73	0,70	0,70	4,00	0,80
AUTO	0,41	0,38	0,35	0,43	0,42	1,99	0,40
BOLT	0,78	0,66	0,60	0,67	0,66	3,37	0,67
GJTL	2,36	2,02	1,59	1,65	1,63	9,25	1,85
INDS	0,13	0,10	0,10	0,19	0,3	0,82	0,16
IMAS	3,02	3,75	2,81	2,97	3,05	15,6	3,12
PRAS	1,38	1,57	2,21	2,36	2,31	9,83	1,97
SMSM	0,30	0,27	0,27	0,33	0,32	1,49	0,30

Source: Indonesian Stock Exchange

Table 1 shows the average capital structure measured using the debt-equity ratio (DER) ratio in the automotive sub-sector and its component companies listed on the Indonesia Stock Exchange in 2018-2022. Several companies have a proportion of debt more excellent than their capital, namely GJTL, Imas, and Pras. The GJTL company has an average capital structure of 1.85. The IMAS company has an average capital structure of 3.12, and the Pras company has an average capital structure of 1.97. It does not follow the optimal capital structure theory, where the amount of company debt should not be greater than its capital. With a more significant proportion of debt, companies with a DER value of more than one will have a higher business risk than companies with a DER value of less than one (Aminah, 2019). It can also be associated with the trade-off theory put forward by Jensen Meckling. This theory states that the higher the debt will increase the potential for bankruptcy. It also explained that positive profits, size, and growth are related to capital structure.

Automotive companies with a high average der due to the development of industries that grow and develop quickly and dynamically require companies to continue to maintain and improve the company's performance. The automotive industry is to design, develop, produce, market, and sell world motorized vehicles. The development of the automotive industry needs to continue to be carried out because the automotive industry has a broad relationship with other economic sectors and has significant domestic market potential. The automotive industry is one of the sub-sectors of manufacturing companies that are rapidly growing, so they need a lot of external funds.

In this research, several factors that will be used as moderating variables can affect the capital structure, namely profitability, liquidity, asset structure, sales growth, and firm size.

Some researchers have researched the effect of profitability, liquidity, asset structure, and sales growth on capital structure with firm size as a moderation variable and the discovery of inconsistent results. Safitri Akhmadi (2017) states that profitability has a significant positive effect on the capital structure. At the same time, firm size can moderate the effect of profitability on the capital structure. In their research. Mukaromah and Suwarti (2022) stated that profitability did not affect the capital structure.

While liquidity has a negative effect on the capital structure, asset structure has a

positive effect on the capital structure. The company's size does not moderate the effect of liquidity and profitability on the capital structure, but the company's size moderates the effect of asset structure on the capital structure.

Hutahuruk's research (2020) revealed that profitability and liquidity do not affect the capital structure. Firm size cannot moderate the effect of profitability on the capital structure. In contrast, firm size can moderate the effect of liquidity on the capital structure. Suhardjo et al. (2022) revealed that profitability did not affect capital structure. Renala and Purwasih (2022) state that the asset structure significantly positively affects the capital structure. Sales growth has no significant effect on the capital structure. The company's size cannot moderate the relationship of asset structure to the capital structure, and the company's size variable cannot moderate the relationship between sales growth and the capital structure.

Alipor et al. (2015) revealed in their research that liquidity and sales growth had a negative effect on the capital structure. Panda and Nanda (2020) state that the structure of assets has a negative effect on the capital structure. Pratama and Fitriati (2023) revealed that profitability and liquidity do not affect the capital structure. Asset structure has a positive and significant effect on the capital structure. In comparison, the firm size does not moderate the effect of profitability, liquidity, and asset structure on the capital structure.

LITERATURE REVIEW

Capital Structure

According to Fahmi (2017), the capital structure is a picture of the company's financial proportion, which is between the capital owned from long-term debt and its capital, which is a company financing source. Likewise, according to Riyanto (2015), capital structure is a balance or comparison between foreign capital (long term) and own capital.

The capital structure shows the ratio that

illustrates the company's debt. The ratio of capital structure with a company debt or obligation is greater than the total assets or capital owned by the company. Calculation of capital structure can use the debt-to-equity ratio.

Debt to Equity Ratio (DER) is a ratio that illustrates the comparison between obligations and equity in company funding and shows the company's capital capabilities to fulfill all these obligations. The high debt-to-equity ratio reflects the high financial risk of the company. A high company risk indicates that the company is experiencing financial difficulties.

According to Riyanto (2015), the capital structure of a company consists of two components, namely:

- 1. Long-term debt or foreign capital Long-term debt is a source of external funding due to the length of the length, generally more than ten years. There are several types of long-term debt, namely:
- a. Bonds-payables (Bonds-payables) are included in securities, which are a certificate that shows the recognition of companies that borrow money and have agreed to pay for a certain period that has been set.
- Mortgage is a debt accompanied by a guarantee of fixed or intangible assets, such as land, buildings, goodwill, and others.
- 2. Own capital.

Own capital is capital that comes or is obtained by the company's owner. Some sources of capital come from the internal company and some from the external company. Own capital from the internal company is in the form of profits or profits obtained from the company's operational activities, while from the external company, which is in the form of capital from planting shares or shares owned by the company.

Increasing risks tend to reduce stock prices, but increased rates are expected to increase the stock price. Therefore, the optimal capital structure must be in a

balance between risk and return that maximizes stock prices. In this study, the capital structure was measured using the following formula:

$$DER = \frac{Total\ Debt}{Total\ Equity}$$

Profitability

Profitability is the company's ability to get profits from capital used to generate profits. Companies that have high profitability will result in a low capital structure. This condition shows that management decisions reduce the use of debt when the profitability (ROA) produced is high. This situation is per the pecking order theory, where management chooses financing from within to increase their capital needs. Debt will only be used if the financing from the inside is insufficient to cover the necessary capital needs.

Profitability is a positive signal for creditors to provide loans with cheaper interest. It is because creditors assess that the risk of bankruptcy owned by the company is still low. The company certainly likes funding with low fixed costs and high rates of return.

The higher the ability of the company to generate profits, the easier the company gets external funds because the creditor provides low-interest rates because the risk of failure is low. At the same time, investors are interested in a high rate of return. It can be said that changes in profitability are proportional to changes in capital structure. In this study, profitability was measured using the following formula:

$$ROA = \frac{Net\ Profit}{Total\ Assets}$$

Liquidity

Liquidity is the ability of the company to meet the financial obligations (short-term or immediately met. The higher this ratio shows, the higher the company's ability to cover its short-term obligations. From the calculation results, if this ratio is low, the company cannot pay for its short-term obligations. However, if this ratio is too high, it is also not good because it may be caused by unemployed cash or not appropriately managed.

The greater the company's assets, the smaller the company's debt, and vice versa. Companies that have small debts tend to have high liquidity capabilities. With high liquidity capabilities, the company can reduce the level of risk of the company by reducing debt. Companies with high liquidity capabilities can increasingly use internal funding sources (funds themselves) in funding their operational activities and then use loans if necessary. In this study, liquidity was measured using the following formula:

$$Current \ Ratio = \frac{Current \ Assets}{Current \ Liabilities}$$

Asset Structure

Companies with significant assets can use assets guaranteed to get debt from outsiders. Companies with large asset values are more easily trusted to get loans from outsiders because it is easier to access funds than companies that are still small-scale. Based on this description, the asset structure affects the capital structure.

The asset structure describes determining the allocation of funds for each asset component, both current and fixed assets. The company whose capital is primarily embedded in fixed assets will prioritize the fulfillment of its capital from permanent capital, namely its capital, while the debt is only a compliment. In the research, Insiroh's (2014) Asset structure can be viewed from operational objects that classify assets compared to the company's primary operations. The asset structure can be viewed from 2 sides, namely assets that must be available for company operations during the accounting period and that must be provided permanently.

Current assets that can cover the company's current debt result in the risk of the

company's inability to pay on time. It shows the level of security for short-term creditors and guarantees future business continuity so that it affects the capital structure. In this study, the asset structure was measured using the following formula:

Assets Structure =
$$\frac{\text{Fixed Assets}}{\text{Total Assets}}$$

Sales Growth

The growth and development of the company require funds from within and outside the company to fund the company's activities and investments. The company's sales growth is seen from the achievement of sales levels generated by the company. Sales growth is where there is an increase in sales from time to time. Sales growth that has changed from time to time is very influential on the company's capital structure. Sales growth is one of the factors that affect the capital structure, where the stability of sales growth that has increased will also be followed by improving the capital structure.

According to Sudarmika and Made (2015), high or stable sales growth can positively impact company profits, so this consideration for company is management in determining its capital structure. Companies with relatively stable sales can be said to be safe because they will get more loans. Companies with a stable growth rate of sales will also benefit from the company, and it can be said that the company has also been able to meet its obligations. Therefore, sales growth has a positive effect on the capital structure.

In this study, sales growth was measured using the following formula:

Sales Growth =
$$\frac{\text{Sales (t)-Sales (t-1)}}{\text{Sales (t-1)}} \times 100\%$$

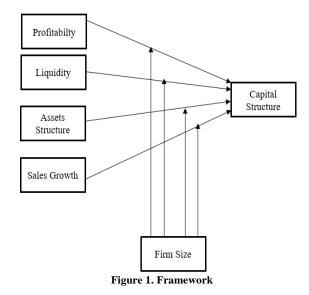
Firm Size

Firm size is a value that gives a picture of the size of a company. Firm size can be seen through the company's total assets, equity, and sales to determine the size and smallness of a company (Suwardika & Mustanda, 2017). The greater the company's total assets, the more the company has reached its level of maturity. The company in the maturity stage has a positive cash flow and is expected to benefit in a relatively long period. Firm size can be calculated with the following formula:

Firm size = LN Total Assets

The addition of firm size as a moderation variable aims to show the ability of moderation variables to directly influence relationships between the dependent variable and the independent relationship variables. The selection of firm size is a moderation variable because the firm size can have quite a lot of effect on the company's condition. The level of size in the company can affect the capital structure. The firm requires operational costs by finding an external funding source if the company's funding cannot cover all company needs.

Framework



H1: Profitability has a positive effect on the capital structure.

H2: Liquidity has a negative effect on the capital structure.

H3: Asset structure has a positive effect on the capital structure.

H4: Sales growth has a positive effect on capital structure.

H5: The firm size moderates the effect of profitability on the capital structure.

H6: The firm size moderates the effect of liquidity on the capital structure.

H7: The firm size moderates the effect of asset structure on the capital structure.

H8: Firm size moderates the effect of sales growth on capital structure.

MATERIALS & METHODS

This type of research is associative research and quantitative approaches. Associative/Relationship Research is a study that aims to determine the relationship between two or more variables.

The population used in this study is all automotive sub-sector companies and their components listed on the Indonesia Stock Exchange, which amounts to 13 companies. In this study, the sample was determined by using the purposive sampling technique, namely the sampling technique with specific considerations to obtain a sample by the criteria specified as follows:

- 1. Automotive sub-sector companies and their components listed on the Indonesia Stock Exchange in 2018-2022
- 2. Automotive sub-sector companies and their components that do not experience delisting from the Indonesia Stock Exchange in 2018-2022.
- 3. Automotive sub-sector companies and their components that have complete data on research variables in their Annual Report report for 2018-2022.

Based on the criteria above, the samples used were 12 companies. The data regression analysis technique uses Microsoft Excel and EViews programs.

RESULT

A. Estimated Panel Data Regression Model

Three models use panel data regression, namely: Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (FEM), by carrying out three models of reform in realizing the regression model, namely Chow Test, Hausman Test, and Lagrange Multiplier.

Chow Test

Chow's Test was used to determine whether the Common Effect Model or Fixed Effect Model is the most appropriate for the regression model. There are hypotheses in carrying out this test, namely:

H0 = Probability > 0.05, then CEM is used H1 = Probability < 0.05, then FEM is used.

Table 1. (Chow Test Result	t	
Effects Test	Statistic	d.f.	Prob.
Cross-section F Cross-section Chi-square	27.793841 130.752384	(11,39) 11	0.0000 0.0000

Source: Data Processed with EViews 10, 2023

Based on the results of the table, the F-Statistic probability is 0.0000, which is smaller than a significant value of 0.05. It shows that Ho is rejected and Ha is accepted, which means the suitable model to be used in the panel data regression between the Common Effect Model (CEM) and the Fixed Effect Model (FEM) is the Fixed Effect Model. Then, proceed with the Hausman test.

Hausman Test

The Hausman Test was used to determine whether the Fixed Efficiency Model (FEM) or Random Effect Model (REM) is the most appropriate in determining the regression model. There are hypotheses in interpreting the test, namely:

H0 = Probability > 0.05, then use REM,

H1 = Probability < 0.05, then FEM is used

Table 2. Hausman Test Result

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f. Pro	
Cross-section random	10.434913	9	0.3164

Source: Data Processed with EViews 10, 2023

Based on the test results, the probability value of the cross-section random of 0.3163 is greater than the significance value of 0.05 or 5%. It shows that HA is accepted. The suitable model used for the regression of the panel data between the Fixed Effect Model (FEM) and the Random Effect Model (REM) is the Random Effect Model. Because the Chow and Hausman tests do not use the same panel data model, this study was followed by the multiplier lagrange test.

Lagrange Multiplier (LM) Test

Multiplier lagrange test as a test to find out which method is more appropriate to use between the common effect model and the random effect model with the following criteria:

1. If the p-value value ≥ 0.05 , then H0 is accepted, so it is said to be the common effect model as the most appropriate model to use.

2. If the p-value value is ≤ 0.05 , then H0 is rejected, so it is said that the random effect model is the most appropriate used.

The hypothesis used as follows:

H0: Common Effect Model (CEM)

H1: Random Effect Model (REM)

Table 3. Lagrange Multiplier Test Result

Lagrange Multiplier Tests for Random Effects Null hypotheses: No effects

Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	T Cross-section	Test Hypothes is		
Breusch-Pagan	46.64597 (0.0000)	1.422646 (0.2330)	48.06862 (0.0000)	

Source: Data Processed with EViews 10, 2023

Based on the results in Table 3, From the multiplier lagrange test, the common effect model vs random effect model above-obtained p-value ≤ 0.05 , i.e., $0.0000 \leq 0.05$, then the Ho hypothesis is rejected, which means the Random Effect Model (REM) is a more appropriate model used in this research.

B. Classic Assumption Test

Based on the results of the selection of the regression model, it is known that the results of the appropriate regression model used are the Random Effect Model. Random Effect Model uses the Generalized Least Square (GLS) approach. This GLS approach does not use all classic assumption tests because it is considered the Best Linear Unbiased Estimator (BLUE). Heteroscedasticity testing does not need a classic assumption test because it is blue. It can be interpreted that in the case of heteroscedasticity, what Blue said is GLS, not OLS, although some examples of OLS can be blue despite heteroscedasticity. Based on this statement, it can be concluded that heteroscedasticity in the GLS approach is blue. So, the GLS require approach does not heteroscedasticity test.

heteroscedasticity, Not only is but autocorrelation in the GLS approach also does not need to test autocorrelation because the estimation in **GLS** combines autocorrelation parameters in the estimated formula. In contrast, the OLS formula in the estimation ignores the autocorrelation parameter. So that in this study does not require an autocorrelation test because it is considered blue. However, the normality test and multicollinearity test can be explained the test with the GLS approach.

Normality Test

The normality test aims to determine whether the linear regression model has a normal data distribution. If the probability value> α 0.05, it can be concluded that the data is normally distributed, and if the opposite, it can be said that the data is abnormally distributed. The results of the normality test in this study can be seen in the following figure:

Table 4. Normality Test Results

	Residuals
Observation	60
Jarque-Beta	4,276393
Probability	0,117867

Source: Data Processed with EViews 10, 2023

Based on the normality test table, the probability value is at the point of 0.117867, which is above the significance value of 0.05 or 5%, which means that the data in the study is normally distributed so that data can be carried out further analysis.

Multicollinearity Test

The multicollinearity test is carried out to test whether the regression model found a correlation between independent variables. A good regression model should not correlate with its independent variables. If there is a multicollinearity between variables, the regression coefficient of independent variables cannot be determined, and the standard error value will be infinite. The following is a table of the results of the multicollinearity test:

Table 5. Multicollinearity Test Results

	X1	X2	X3	X4	Z	X1Z	X2Z	X3Z	X4Z
X1	1.000000	0.406870	-0.486414	0.329353	-0.010626	0.997964	0.431064	-0.495015	0.326961
X2	0.406870	1.000000	-0.441195	-0.055430	-0.505912	0.374256	0.998314	-0.468183	-0.065988
Х3	-0.486414	-0.441195	1.000000	-0.201985	-0.194508	-0.487514	-0.444122	0.997108	-0.201731
Χ4	0.329353	-0.055430	-0.201985	1.000000	0.056355	0.329009	-0.056020	-0.196232	0.998401
Z	-0.010626	-0.505912	-0.194508	0.056355	1.000000	0.040096	-0.473692	-0.133670	0.079748
X1Z	0.997964	0.374256	-0.487514	0.329009	0.040096	1.000000	0.400284	-0.494065	0.328314
X2Z	0.431064	0.998314	-0.444122	-0.056020	-0.473692	0.400284	1.000000	-0.469381	-0.065905
X3Z	-0.495015	-0.468183	0.997108	-0.196232	-0.133670	-0.494065	-0.469381	1.000000	-0.194872
X4Z	0.326961	-0.065988	-0.201731	0.998401	0.079748	0.328314	-0.065905	-0.194872	1.000000
Source: Data Processed with EViews 10, 2023									

Based on the table above, the multicollinearity test results show that the correlation coefficient value between the independent variables is no more than 0.8, meaning there is no multicollinearity problem in the regression model.

Moderated Regression Analysis (MRA)

Hypothesis testing in this study uses a moderated regression analysis (MRA) tool to test the effect of profitability, liquidity, asset structure, and sales growth on capital structure with firm size as moderation variables. Based on the results of the selection of the regression model with EViews 10, it is known that the results of the correct regression model used are the Random Effect Model. The results of the calculation of moderation regression with the

EViews 10 program with the Random Effect Model. Hypothesis test results are presented as follows:

Table 6. Moderated Regulation Analysis Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-17.89520	5.327579	-3.358974	0.0015
X1	19.01610	21.51985	0.883654	0.3811
X2	2.392815	0.785456	3.046401	0.0037
X3	24.91855	13.47181	1.849681	0.0703
X4	-0.288818	2.322902	-0.124335	0.9015
Z	0.595670	0.181312	3.285336	0.0019
X1Z	-0.688477	0.742160	-0.927666	0.3580
X2Z	-0.091842	0.028861	-3.182243	0.0025
X3Z	-0.803752	0.461828	-1.740371	0.0879
X4Z	0.014746	0.079352	0.185835	0.8533

Source: Data Processed with EViews 10, 2023

Based on the table above, the research hypothesis can be explained as follows:

- 1. The first hypothesis (H1) regarding the effect of profitability on the capital structure produces a significance of 0.3811>0.05 with a t value of 0.883654. It means that profitability does not significantly affect the capital structure, so the hypothesis (H1) submitted by the researcher is rejected.
- 2. The second hypothesis (H2) regarding the effect of liquidity on the capital structure produces a significance of 0.0037 <0.05 with a T value of 3,046401. It means that liquidity has a positive and significant effect on the capital structure, so the hypothesis (H2) submitted by the researcher is accepted.
- 3. The third hypothesis (H3) regarding the effect of asset structure on the capital structure produces a significance of 0.0703>0.05 with a t value of 1,849681. It means that the asset structure has no significant effect on the capital structure, so the hypothesis (H3) submitted by the researcher is rejected.
- 4. The fourth hypothesis (H4) regarding the effect of sales growth on the capital structure produces a significance of 0.9015> 0.05 with a t value of -0.124335. It means that sales growth has no significant effect on the capital

- structure, so the hypothesis (H4) submitted by the researcher is rejected.
- 5. The fifth hypothesis (H5) regarding firm size moderates the effect of profitability on the capital structure and produces a significance of 0.3580> 0.05 with a T value of -0.927666. It means that firm size cannot moderate the relationship of profitability to the capital structure, so the hypothesis (H5) submitted by the researcher is rejected.
- 6. The sixth hypothesis (H6) regarding firm size moderates the effect of liquidity on the capital structure and produces a significance of 0.0025 <0.05 with a T value of -3,182243. It means that the firm size can moderate the liquidity relationship to the capital structure so that the hypothesis (H6) submitted by the researcher is accepted.
- 7. The seventh hypothesis (H7) regarding firm size moderates the effect of asset structure on the capital structure and produces a significance of 0.0879> 0.05 with a t value of -1,740371. It means that the company's size cannot moderate the relationship of asset structure to capital structure, so the hypothesis (H7) submitted by the researcher is rejected.
- 8. The eighth hypothesis (H8) regarding firm size moderates the effect of sales growth on the capital structure, producing a significance of 0.8533> 0.05 with a t-value of 0.185835. It means that the company's size cannot moderate the relationship between sales growth and the capital structure, so the hypothesis (H8)submitted by researchers is rejected.

Simultaneous Test (F-Test)

The F test in this study was carried out to determine whether a regression model's presence or absence of the influence of all independent variables together (simultaneously) on the dependent variable. The F test results can be seen in the table below as follows:

Table 7. Simultaneous Test Result

R-squared Adjusted R-squared S.E. of regression	0.460906 0.363870 0.205025	Mean dependent var S.D. dependent var Sum squared resid	-0.063590 0.257059 2.101760
F-statistic	4.749808	Durbin-Watson stat	1.401119
Prob(F-statistic)	0.000139		

Source: Data Processed with EViews 10, 2023

The F-test results in this study showed that the F-Statistics value was 4,749808, and the F-Statistics probability value was less than 0.05 or 5%, namely 0,000139 <0.05. It concluded that profitability, liquidity, asset structure, and sales growth significantly affect capital structure.

Coefficient Of Determination

The coefficient of determination is used to determine the ability of independent variables to influence the dependent variable. The coefficient of determination has a value between zero and one. If the coefficient of determination is close to one, the independent variable gives almost all the information needed to predict the dependent variable. The coefficient of determination is seen in the adjusted R squared.

Table 8. Coefficient Of Determination R

R-squared Adjusted R-squared S.E. of regression F-statistic	0.460906 0.363870 0.205025 4.749808	Mean dependent var S.D. dependent var Sum squared resid Durbin-Watson stat	-0.063590 0.257059 2.101760 1.401119
Prob(F-statistic)	0.000139	Durdin-watson stat	1.401119

Source: Data Processed with EViews 10, 2023

Based on the table above, the adjusted R-squared value was 0.363870. This figure shows that the independent variables in this study, which consist of profitability, liquidity, asset structure, and sales growth, can affect the capital structure of 36.39%, and the other 63.61% are influenced by factors not explained in this study.

CONCLUSION

Based on the discussion in the previous chapters and answered problem formulation, research objectives, and referring to the process and results of data analysis in this study, several conclusions can be drawn as follows:

- 1. The results of the first test indicate that profitability does not significantly affect the capital structure of the automotive sub-sector company and its components listed on the Indonesia Stock Exchange, so the first hypothesis (H1) is rejected. The direction of the positive regression coefficient means that the higher the profitability, the higher the capital structure, and vice versa, the lower the profitability, the lower the capital structure.
- 2. The second test results show that liquidity positively and significantly affects the capital structure of the automotive sub-sector company and its components listed on the Indonesia Exchange, SO the hypothesis (H2) is accepted. The direction of the positive regression coefficient means that the higher the the higher the capital liquidity, structure, and vice versa. The lower the liquidity, the lower the capital structure.
- 3. The third test results show that the asset structure has no significant effect on the capital structure of the automotive subsector company and its components listed on the Indonesia Stock Exchange, so the third hypothesis (H3) is rejected. The direction of the positive regression coefficient means that the higher the asset structure, the higher the capital structure, and vice versa, the lower the asset structure, the lower the capital structure.
- 4. The fourth test results show that sales growth has no significant effect on the capital structure of the automotive subsector company and its components listed on the Indonesia Stock Exchange, so the fourth hypothesis (H4) is rejected. The direction of the negative regression coefficient means that the higher the sales growth, the lower the capital structure, and vice versa, the lower the growth of sales, the higher the capital structure.
- 5. The results of the fifth test show that the

- company's size cannot moderate the relationship of profitability to the capital structure in the automotive sub-sector company and its components listed on the Indonesia Stock Exchange, so the fifth hypothesis (H5) is rejected. The direction of the negative regression coefficient means that the higher the relationship of profitability with the company's size, the lower the capital structure and vice versa. The lower the profitability relationship with the firm size, the higher the capital structure.
- 6. The results of the sixth test show that the company's size can moderate the liquidity relationship to the capital structure in the automotive sub-sector company and its components listed on the Indonesia Stock Exchange, so the sixth hypothesis (H6) is accepted. The direction of the negative regression coefficient means that the higher the linkage of liquidity with the firm size, the lower the capital structure, and vice versa. The lower the linkage of liquidity with the firm size, the higher the capital structure.
- 7. The results of the seventh test show that the company's size cannot moderate the relationship of asset structure to the capital structure in the automotive subsector company and its components listed on the Indonesia Stock Exchange, so the seventh hypothesis (H7) is rejected. The direction of the negative regression coefficient means that the higher the relationship of asset structure with the firm size, the lower the capital structure, and vice versa. The lower the relationship of asset structure with the company's size, the higher the capital structure.
- 8. The eighth test results show that the company's size cannot moderate the relationship between sales growth and the capital structure in automotive subsector companies and its components listed on the Indonesia Stock Exchange, so the eighth hypothesis (H8) is

rejected. The direction of the positive regression coefficient means that the higher the relationship between sales growth and the company's size, the higher the capital structure and vice versa. The lower the relationship between sales growth and the company's size, the lower the capital structure.

LIMITATIONS

The limitations contained in this study are

- 1. Research objects used are automotive sub-sector companies and their components listed on the Indonesia Stock Exchange.
- 2. Research observations only examine 60 company data.
- 3. Of the eight hypotheses, only two are received with a significant level of 5%, while six are rejected.

Declaration by Authors Acknowledgement: None **Source of Funding:** None

Conflict of Interest: The authors declare no

conflict of interest.

REFERENCES

- 1. Agus , Riyanto.2015. Statisk Deskriptif, Yogyakarta, Nuha Medika.
- Alipour, M., Mohammadi, M. F. S., & Derakhshan, H. (2015). Determinants of capital structure: an empirical study of firms in Iran. International Journal of Law and Management, Vol. 57 Iss 1, 53 83.
- 3. Aminah, S. (2019). Pengaruh Current Ratio, Earning Per Share, Return On Equity Terhadap Debt to Equity Ratio Pada Perusahaan Yang Termasuk di Jakarta Islamic Index (JII). Ekonomica Sharia: Jurnal Pemikiran dan Pengembangan Ekonomi Syariah, 4(2), 1-10.
- 4. Fahmi, Irham. (2017). Analisis Laporan Keuangan. Bandung: Alfabeta.
- Hutauruk, F. N. (2020). Ukuran Perusahaan Sebagai Pemoderasi Dalam Hubungan Profitabilitas Dan Likuiditas Terhadap Struktur Modal Bank Umum

- Syariah. Ekonomika Syariah: Journal of Economic Studies, 4(2), 136-146.
- 6. Insiroh, L. (2014). Pengaruh Profitabilitas, Ukuran Perusahaan, Pertumbuhan Aset, Dan Struktur Aset Terhadap Struktur Modal. Jurnal Ilmu Manajemen Volume 2 Nomor 3. Juli 2014, 979-990.
- 7. Miraza, C. N. & Muniruddin, S. (2017). Pengaruh Kepemilikan Institusional, Kepemilikan Manajerial, Variabilitas Pendapatan, Corporate Tax Rate, Dan Non Debt Tax Shield Terhadap Struktur Modal Pada Perusahaan Manufaktur Yang Terdaftar Di Bei Tahun 2011-2015. Jurnal Ilmiah Mahasiswa Ekonomi Akuntansi (JIMEKA) Vol. 2, No. 3, 73-85.
- 8. Mukaromah, D. U., & Suwarti, T. (2022). Pengaruh profitabilitas, likuiditas dan struktur aset terhadap struktur modal dengan ukuran perusahaan sebagai variabel moderating. JIMAT (Jurnal Ilmiah Mahasiswa Akuntansi) Undiksha, 13(01), 222-232.
- 9. Panda, A. K., & Nanda, S. (2020). Determinants of capital structure; a sector-level analysis for Indian manufacturing firms. International Journal of Productivity and Performance Management. Vol. 69 No. 5, 2020, 1033-1060.
- Pratama, A. E. & Fitriati, I. R. (2023). Pengaruh Profitabilitas, Likuiditas Dan Struktur Aset Terhadap Struktur Modal Dengan Ukuran Perusahaan Sebagai Variabel Moderasi. Management Studies and Entrepreneurship Journal, Vol 4(3) 2023, 2040-2052.
- 11. Putri, R. P. & Andayani. (2018). Faktor-Faktor Yang Mempengaruhi Struktur Modal Perusahaan Manufaktur Di Bursa Efek Indonesia. Jurnal Ilmu dan Riset Akuntansi. Jurnal Ilmu dan Riset Akuntansi: Volume 7, Nomor 2, Febuari 2018, 1-24.
- 12. Renalya Purwasih, D. (2022).Pengaruh Struktur Aktiva Dan Pertumbuhan Penjualan Terhadap Struktur Modal Dengan Perusahaan Sebagai Variabel Pemoderasi (Studi Empiris pada Perusahaan Food & Beverage yang Terdaftar di Bursa Efek Indonesia Periode Tahun 2016–2020).

- Jurnal Renevue: Jurnal Akuntansi, Vol. 3, No. 1, Agustus 2022, 331-344.
- 13. Safitri & Akhmadi. (2017). Pengaruh Profitabilitas Dan Pertumbuhan Perusahaan Terhadap Struktur Modal Dengan Ukuran Perusahaan Sebagai Variabel Moderating. SAINS: Jurnal Manajemen dan Bisnis. Volume IX, Nomor 2, Juni 2017, 265-286.
- Sudarmika, G. Y., & Made, S. N. (2015).
 Pengaruh Profitabilitas, Pertumbuhan Aktiva, Struktur Aktiva, dan Pajak terhadap Struktur Modal. E-Jurnal Manajemen Unud, 4(9), 2857-2885.
- 15. Sugiyono, S. (2018). Metode Penelitian Kuantitatif, Kualitatif, Dan R&D. Alfabeta.
- Suhardjo, Y., Karim, A., & Taruna, M. S. (2022). Effect of profitability, liquidity, and company size on capital structure: Evidence from Indonesia manufacturing companies. Diponegoro International Journal of Business, 5(1), 70-78.
- Suwardika, I. N. A., and I. K. Mustanda.
 (2017). Pengaruh Leverage, Ukuran Perusahaan, Pertumbuhan Perusahaan, dan Profitabilitas terhadap Nilai Perusahaan

- pada Perusahaan Properti. E-Jurnal Manajemen Universitas Udayana, vol. 6, no. 3, 2017, 1248-1277.
- 18. Wahyuni, S. F., Sanjaya, S., & Sari, M. (2018). Studi Kebijakan Deviden: Variabel Anteseden Dan Konsekuensi Terhadap Nilai Perusahaan. Jurnal Riset Finansual Bisnis, 2(3), 111–122.
- 19. Warapsari, A. A., & Suaryana, I. G. A. (2016). Pengaruh Kepemilikan Manajerial Dan Institusional Terhadap Nilai Perusahaan Dengan Kebijkan Utang Sebagai Variabel Intervening. E-Jurnal Akuntansi, 16(3), 2288–2315.

How to cite this article: Jeffry, Rina Br Bukit, Narumondang Bulan Siregar. The effect of profitability, liquidity, asset structure, and sales growth on capital structure with firm size as a moderating variable in automotive sub-sector companies and their components listed on Indonesia Stock Exchange. *International Journal of Research and Review*. 2023; 10(12): 487-498. DOI: https://doi.org/10.52403/ijrr.20231253
