

Factors Affecting Firms' Capital Structure: Evidence from Indonesia

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ABSTRACT : The purpose of this research is to obtain empirical evidence about the effect of sales growth, total asset turnover, liquidity, and institutional ownership on capital structure. An optimal capital structure is able to create a company with strong and stable financial performance. Errors in determining the capital structure will have a significant impact on the company. The research object is manufacturing companies consecutively listed on Indonesia Stock Exchange (IDX) for the period 2018-2020. The sample in this research was selected using a purposive sampling method and the data used in this research were analyzed using the multiple regression method. The results were (1) sales growth has no negative effect on capital structure, (2) total asset turnover has a positive significant effect on capital structure, (3) liquidity has a negative significant effect on capital structure, (4) institutional ownership has a negative significant effect toward capital structure, and (5) sales growth, total asset turnover, liquidity, and institutional ownership simultaneously have a significant effect towards the capital structure. Taken together, management needs to pay attention to the liquidity of the company and encourages institutional parties to more contribute in the company's funding policy.

KEYWORDS - capital structure, current ratio, institutional ownership, sales growth, TATO

I. INTRODUCTION

The growth of business and technology encourages companies to compete to create the best products so that companies continue to make improvements and have sustainable performance. Therefore, the companies need a large number of funds, either from their internal or external parties. However, companies need to be careful and thorough in finding sources of funding. Errors in determining the capital structure can put the company in an unfavorable condition, for example, when the company uses too much debt, there is a possibility that the company will default and lead to bankruptcy. According to the pecking order theory, funding sources are divided into two: internal funding sources (retained earnings) and external funding sources (debt and issuance of new shares). By using retained earnings, it means that the company reduces dependence on other parties. However, the retained earnings are very limited, so the company needs additional sources of funds from outside the company. Funding from debt has the advantage that there is no control of the creditors over the company and the interest expense can reduce the amount of income tax that must be paid by the company. However, when the debt is too high, the interest expense and principal of the debt are higher which can lead to the company's inability to pay off its debts to the creditors. In addition to using debt, the company can also issue new shares. Issuance of new shares is in the last order of the hierarchy of funding sources according to the pecking order theory. The issuance of new shares allows for dilution of ownership and gives investors the right to control the company.

Management decisions in determining the source of funding are important because they can affect many parties: management, investors, and creditors. The management's decision in determining the source of the company's funding is called the capital structure [1]. In this study, capital structure measured by Debt to Equity Ratio (DER). Debt to Equity Ratio (DER) is a comparison between the company's total debt compared to the company's total equity. The following below is the Debt to Equity Ratio (DER) data for all companies listed in Indonesia Stock Exchange from 2018-2020:

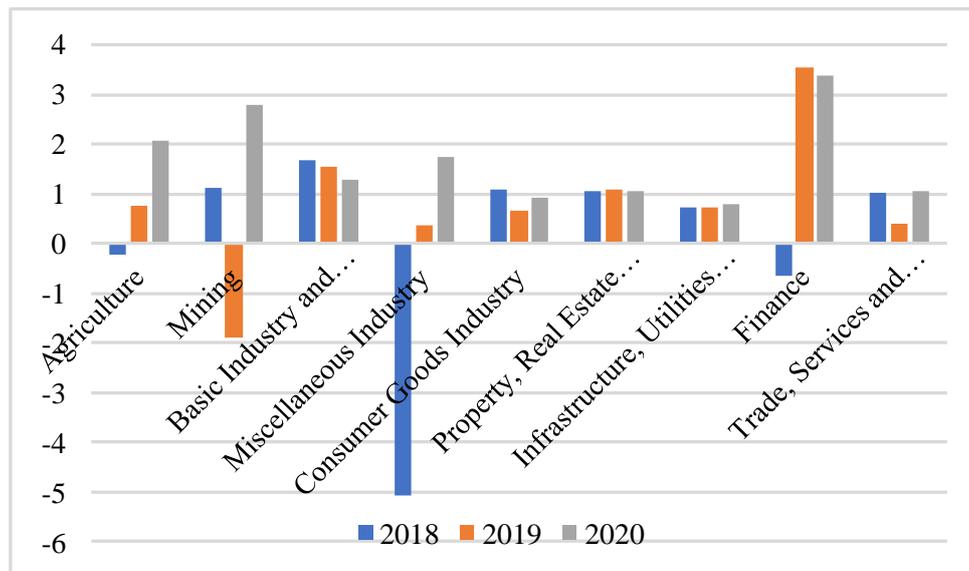


Figure 1. DER of companies listed on the IDX in 2018-2020

Source: www.idx.co.id

Based on Fig. 1, the manufacturing sector consists of 3 sub-sectors, such as basic industry and chemicals, miscellaneous industry, and consumer good industry. Basic industry and chemicals recorded DER value of 1.66 in 2018, 1.55 in 2019, and 1.28 in 2020. So it can be concluded that basic industry and chemicals prefers to use debt as a source of funding. The miscellaneous industry recorded DER value of -5.09 in 2018 due to a minus DER in textile and garment and footwear, 0.35 in 2019, and 1.74 in 2020. This means that in 2019 the miscellaneous industry prefers to use more equity. While in 2020, they used debt more as a source of funding. The consumer good industry recorded DER value of 1.07 in 2018, 0.66 in 2019, and 0.93 in 2020. So, the consumer goods industry in 2018 used more debt while in 2019 and 2020 they used more equity as a source of funding. Overall, it can be seen that the manufacturing sector prefers to use debt more than equity. However, when compared to other sectors such as finance, mining, and agriculture, the use of debt in the manufacturing sector is still relatively small.

Because the company will need internal and external funding sources, it is very important for the company to properly combine the funding sources that will be used for its operations in order to produce an optimal capital structure for the company. An effective capital structure is able to create a company with strong and stable finances. Errors in determining the capital structure will have a significant impact on the company. Therefore, the capital structure must be optimal, both between debt and equity [2]. There are many factors that can affect the capital structure. In this study, there are 4 factors that are considered to have an effect on the capital structure: sales growth, total asset turnover, liquidity, and institutional ownership. The first factor that is predicted will affect capital structure is sales growth (SG). Sales growth is a comparison of this year's sales minus the previous year's sales divided by the previous year's sales [3]. When sales increase, it means that income also increases. When revenue increases, accompanied by cost efficiency, could increase the company's profits that will lead to an increase in retained earnings and equity. So, in accordance with the pecking order theory, the company will use internal funding first. Thus, the DER value will be low [3], [4]. Meanwhile, research conducted by [5] stated that sales growth has no effect on capital structure.

The second factor that is considered to have an effect on the capital structure is the total asset turnover (TATO). Total Asset Turnover (TATO) ratio measures how efficiently a company uses its assets to generate sales [6]. The higher TATO value shows the more effective the management in managing the company's assets to carry out the company's activities. The company creates profit from sales, so a high asset turnover will reduce the use of external funds [7]. So, in accordance with the pecking order theory, the company will use internal funding first, so that the DER will be low. Then the third factor is liquidity. Liquidity is the company's ability to pay its short-term obligations on its maturity date [6]. In this study, liquidity is proxied by using the current ratio (CR). The current ratio is calculated is by comparing current assets with current liabilities. When the CR value is high, it

means that the company's working capital is positive. Working capital owned by the company can be used to support the company's operational activities to increase sales. Sales increase with cost efficiency will lead to increasing in profit too which then causing retained earnings and equity to increase. According to the pecking order theory, the company will use internal funding first, so that the DER value will be low. Research conducted by [4] and [3] explained that liquidity has an effect on capital structure. Meanwhile, research conducted by [5] argued that liquidity has no effect on capital structure. The last factor is institutional ownership. Institutional ownership is share owned by institutions outside of the company such as the government, insurance, banks, mutual funds, and others. When the proportion of institutional ownership is high, it means that institutional control the company. Institutional parties will certainly encourage companies to use source funding that benefits the institution in term of returns. The institution will supervise the optimization of company assets used for production. When production increases, it is expected to increase the company's sales so that revenue increases and accompanied by cost efficiency can increase company profits. The company's profit increases causing retained earnings and equity to increase. Therefore, in accordance with the pecking order theory, the company will use internal funding first so that the DER value will be low.

Based on the background that has been described previously, the problems in this study can be formulated as follows:

1. Does sales growth have a negative effect on capital structure?
2. Does total asset turnover have a negative effect on the capital structure?
3. Does liquidity have a negative effect on capital structure?
4. Does institutional ownership have a negative effect on capital structure?

II. LITERATURE REVIEW

Pecking Order Theory: This theory states that there is a sequence of corporate funding decisions in determining the optimal capital structure, namely internal funding sources and then external funding sources, with debt first and equity securities as the last alternative [8]. Pecking order theory is one theory that explains how an entity's capital structure will be formed as a consequence of determining funding sources [9]. The company does not target the proportion of financing but rather emphasizes the order in which funding sources are used [10]. Pecking order theory explains that companies that experience high profits generally have less debt. This is not because the company has a low target debt ratio, but because the company does not need funds from external parties [11].

Trade-Off Theory: The Trade-Off Theory states that the optimal debt ratio is determined based on the comparison between the benefits and costs arising from the use of debt. Additional debt can still be tolerated by the company as long as the benefits provided from the use of debt are still greater than the costs incurred due to the debt itself, besides that additional debt can still be done as long as there are fixed assets as collateral. However, if the cost of debt is too high, the company should not add more debt to avoid unwanted risks [12].

Modigliani & Miller (MM) Theory: This Modigliani-Miller Theory explains that the market is rational and there is no tax, the capital structure does not affect the value of the company, but in its development, Modigliani includes an element of tax. The value of a company will increase along with the increase in its capital structure (debt to equity ratio). This is because when in a perfect market and taxes, in general, the interest paid due to the use of debt can be used to reduce taxable income. In other words, if there are two companies that earn the same operating profit but one company uses debt and pays interest, while the other company does not, then the company that pays interest will pay less income tax, because saving on paying taxes is a benefit for the owner of the company, then the value of companies that use debt will be greater than the value of companies that do not use debt. In fact, the use of 100% debt to maximize the value of the company is difficult to find in practice, because basically the greater the use of debt, the higher costs that must be borne by the company [13].

Capital Structure: Capital structure is the amount of equity and liabilities that finance a company [1]. The capital structure is the main key to company financing. Therefore, the decision to determine the capital structure is important. Company with optimal capital structure will be able to optimally fund its operational activities [14]. There is no target ratio of debt to equity to use as guidance to achieve optimal capital structure. The definition of a healthy mix of debt and equity varies widely which can be caused by the company's industry, business line, stage of company development and variations over time due to external changes in both interest rates and new regulations [15]. The capital structure in this study is proxied by the Debt to Equity Ratio (DER).

DER is the ratio of the company's total debt to total equity [16]. DER reflects the large proportion between total debt and total shareholder's equity owned by the company. A financially healthy company is indicated by a DER ratio below 1 or below 100%, the lower the DER ratio, the better. A low DER indicates that the company's debt are smaller than its equity, so that in undesirable conditions, the company can still pay off all its debts/liabilities [17].

Sales Growth: Sales growth is the ability to maintain and develop its business position in the economy in which the company operates [16]. Sales growth is calculated by subtracting current year net sales with the previous year's net sales divided by the previous year's net sales [18]. The higher the company's sales growth would be able to increase the company's profit which was useful for the company's operational activities so that the company didn't need external funds. Because when sales increase, it can increase the company's profit so that costs can be minimized and the company does not need debt as additional funding [16]. Research conducted by [16] states that sales growth has a negative effect on capital structure. In contrast, the results of research conducted by [19] and [4] stated that sales growth has a positive influence on capital structure. On the other hand, [5] stated that sales growth has no effect on capital structure. Based on this description, the hypotheses proposed in this study are:

Ha₁: Sales growth has a negative effect on the capital structure.

Total Asset Turnover: Total Asset Turnover (TATO) ratio measures how efficiently a company uses its assets to generate sales [6]. The higher TATO value shows the more effective the management in managing the company's assets to carry out the company's activities. The company creates profit from sales, so a high asset turnover will reduce the use of external funds [7]. However, the results of research conducted by [7], [20], and [21] argued that total asset turnover has no effect on capital structure.

Ha₂: Total asset turnover has a negative effect on capital structure.

Liquidity: The liquidity ratio is a ratio used to measure a company's short-term ability to pay its maturing obligations and to meet unexpected cash needs. Current ratio is a ratio that shows the company's ability to meet its short-term obligations [6]. Companies with high liquidity will prefer to use their internal funds first before using external financing or debt to carry out their company's operational activities [2]. The results of research conducted by [2], [22], and [4] stated that liquidity has a negative effect on capital structure. However, the results of research conducted by [23] stated that liquidity has a positive effect on capital structure. The hypothesis used in this study is:

Ha₃: Liquidity has a negative effect on the capital structure.

Institutional Ownership: Institutional ownership affects capital proportion because institutional shareholders have the urge to supervise and influence managers to protect their investments [2]. A high and effective level of institutional ownership in a company can replace the role of debt as a management control tool so as to reduce the use of debt and reduce agency problems [13]. The greater the institutional ownership, the more control to make sure the efficiency of company assets utilization [24]. If a company is able to use its assets productively, the value of the company's profitability will increase, so that it can generate large profits in the company [25]. The research conducted by [26] stated that institutional ownership has a negative effect on capital structure. Meanwhile, [2] argued that institutional ownership has a positive effect on capital structure. The hypothesis used in this study is:

Ha₄: Institutional ownership has a negative effect on capital structure.

Research Framework

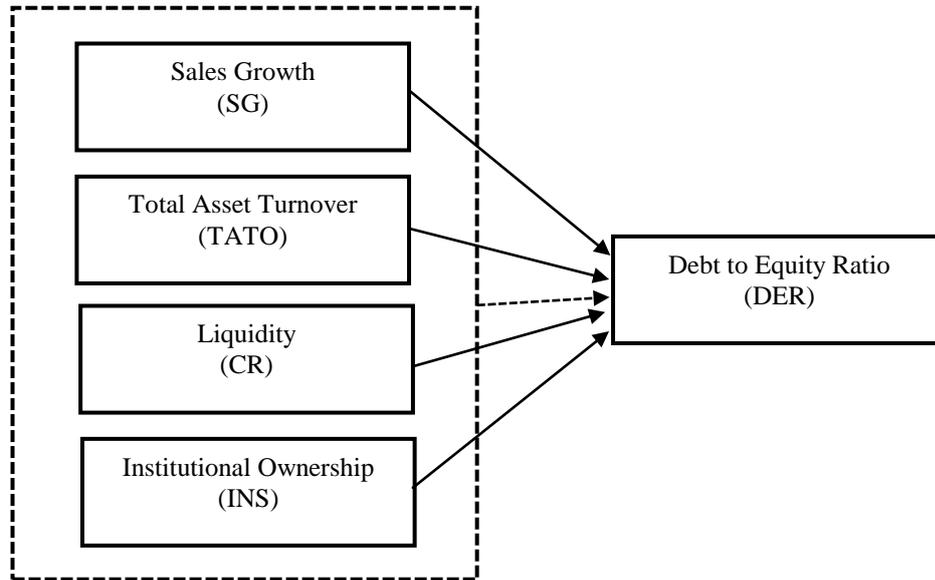


Figure 2. Research Framework

III. RESEARCH METHODOLOGY

Research Object: The objects used in this study are manufacturing companies listed on the Indonesia Stock Exchange (IDX) consecutively in the 2018-2020 period. This study used secondary data from financial statements of manufacturing sector companies listed on the Indonesia Stock Exchange (IDX).

Research Variables

Dependent Variable: The dependent variable in this study is the capital structure, which measured using the Debt to Equity Ratio (DER). DER shows the ratio between the total debt and equity owned by the company for the source of financing. According to [1], DER can be calculated using the formula:

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

Independent Variables

Sales Growth: Sales growth is an increase in the number of company sales from one period to the next. The formula for calculating sales growth is [18]:

$$SG = \frac{\text{Sales}_{(t)} - \text{Sales}_{(t-1)}}{\text{Sales}_{(t-1)}}$$

Total Asset Turnover: Asset turnover measures how efficiently a company uses its assets to generate sales. Total asset turnover is measured as follows [1]:

$$\text{Total Asset Turnover} = \frac{\text{Net Sales}}{\text{Total Asset}}$$

Liquidity: Liquidity is proxied by the current ratio (CR), which is a ratio that describes the company's ability to pay off its short-term obligations using its current assets. Current ratio is formulated as follows [6]:

$$CR = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Institutional Ownership: Institutional ownership is company shares owned by institutions outside the company such as the government, financial institutions, legal entities, foreign institutions, trust funds, and other institutions at the end of the year. Institutional ownership is calculated as follows [27]:

$$INS = \frac{\text{Number of shares owned by institutional}}{\text{Number of shares outstanding}}$$

Data Analysis Metho :The data analysis method used in this research is multiple linear regression. The equation of the multiple linear regression function is stated as follows:

$$DER = \alpha - \beta_1 SG - \beta_2 TATO - \beta_3 CR - \beta_4 INS + e$$

Where:

- DER* = Debt to Equity Ratio
- α = Constant
- $\beta_1, \beta_2, \beta_3,$ dan β_4 = Regression coefficient of each independent variable
- SG* = Sales Growth
- TATO* = Total Asset Turnover
- CR* = Liquidity
- INS* = Institutional Ownership
- e* = Standard error

IV. RESULTS AND DISCUSSION

Data used in this study are manufacturing public firms listed in Indonesian Stock Exchange from year 2018 until 2020. Sample selection using purposive sampling is as follows:

Table 1. Sample Selection

Manufacturing firms listed in Indonesia Stock Exchange from 2018 to 2020:	
m-year observations	492
Less did not publish financial statements	(15)
Less different closing date	(9)
Less USD presentation	(87)
Less did not have sales growth consecutively in 2018-2020	(330)
Less did not have institutional ownership	(3)
Final observations	48

The final results of the sample are 48 firm-years observations. After passing the normality test and classic assumption test, we running the data using multiple linear regression. The results are as follows:

Table 2. Regression Results

		Coefficients ^a					
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	
1	(Constant)	1,424	,382		2,635	0,00 0	
	SqrtSG	-,419	,442	-,108	-	0,00 2,712 8	
	TATO	,592	,165	,408	2,722	0,00 8	
	SqrtCR	-,463	,132	-,391	2,068	0,04 1	
	SqrtINS	-,976	,359	-,309	2,382	0,01 9	
R	0,715						
Adjusted R Square	0,463						
F	10,471						
Sig. F	0,000						

From Table 2, the adjusted R Square value of 0,463 which means that independent variables, namely sales growth, total asset turnover, current ratio, and institutional ownership explain the dependent variable, capital structure (DER) by 46,3%. While the remaining 53,7% is explained by other independent variables that are not used in this study. The results of F statistical test show the F value of 10,471 with a significance of 0,000 which is less than 0,05. These results indicate that the four independent variables: sales growth, total asset turnover, current ratio, and institutional ownership simultaneously have a significant effect on DER. The F value more than F table (10,471 > 2,61) concluded that the sample regression function in estimating the actual value is correct or the model fits.

Based on the results of the t statistical test in Table 2 for the sales growth variable (SG), the t value is -0,948 with a significance value greater than 0,05, which is 0,349. Thus, H_{a1} is rejected, which means that sales growth does not have a negative effect on the capital structure. This result supports the research conducted by [18] which stated that sales growth had no effect on capital structure. Based on the data that has been processed and observed, the mean value of SG based on descriptive statistics is 13,58%. Of the 48 total observations, 30 observations (62,5%) had sales growth below the average. So it can be concluded that in this study the average majority of observational data experienced an increase in sales growth below the average. The increase in sales growth below its average can be influenced by the magnitude of the expenses. Based on 30 observational data, the average expense increase is 7.78%. The expenses of the 30 observations consisted of 77,54% of cost of goods sold, 21,97% of operating expenses, and 0,49% of other expenses. Furthermore, operating expenses are further divided into two categories: selling expenses (64,62%) and general and administrative expenses (29,46%). The data above shows that sales growth is not followed by cost and expense efficiency, because the average expense for the 30 observations is greater than the average sales growth (SG) for the 30 observations, which is 6,04%. Although the average expense is greater than the average SG, there are 20 out of 30 observations that experienced an increase in net income by an average of 22,33%. The increase in net income was due to an increase in other income by 3.967,72%. Other income mostly comes from interest income and foreign exchange gains. This shows that the average observation is not optimal in its operational activities because it has an increase in other income that is greater than the increase in sales. Moreover, the average increase in total liabilities was greater than the average increase in equity which was only 12,54%. Even so, the DER value for the 20 observations shows the number 51,78%, which means the DER value for the 20 observations remains below the average DER value of 77,73%. So from the data above, it can be concluded that sales growth (SG) has no effect on the capital structure (DER).

The total asset turnover (TATO) obtained a t value of 3,595 with a significance value 0,001. Thus, H_{a2} is rejected, which means that the TATO does not have a negative effect on the capital structure. The result shows that TATO has a positive effect on the capital structure. The average value of TATO based on descriptive statistics is 1,102. Based on the data that has been observed, there are 25 observations (52.10%) of the 48 observations that have TATO values below the average. This shows that the majority of the samples in this study

not efficient in manage their asset to generate sales. These 25 companies have assets that are dominated by fixed assets. And from the cash flow statement and notes to financial statement, it is known that these 25 companies still receive loan funds from creditors with fixed assets as collateral. It can be concluded that the fixed assets owned by the company are used as collateral to take credit. So, it can be concluded that the asset structure (TATO) has positive effect on the capital structure (DER). The liquidity variable (CR) obtained a t value of -3,503 with a significance value 0,001. Thus, H_{a3} is accepted, liquidity has a negative significance effect on capital structure. This is in line with research conducted by [3]. Institutional ownership variable (INS) obtained a t value of -2,721 with a significance value 0,001. Thus, H_{a4} is accepted, which means that institutional ownership has a negative significance effect on capital structure. This result supports research conducted by [13]. Based on the results of the t-statistical test in Table 2, a regression equation result in this study is as follows:

$$DER = 1,424 - 0,419SG + 0,592TATO - 0,463CR - 0,976INS$$

The constant of 1,424 states that if the independent variable is considered constant then the average company's capital structure is 1,424. Sales growth (SG) has a regression coefficient of -0,419. This means that a unit increase in sales growth (SG) will cause a decrease in capital structure (DER) by 41,90%. The total asset turnover (TATO) has a regression coefficient value of +0,592, which means that a unit increase in TATO will cause increase in DER by 59,2%. Liquidity variable (CR) has a regression coefficient value of -0,463. So this means that a unit increase in CR unit will cause a decrease in DER of 46,30%. The regression coefficient value of institutional ownership (INS) is -0,976, which means that a unit increase of INS will cause a decrease in DER of 97,6%.

V. CONCLUSION

Based on results above we can conclude that liquidity and institutional ownership have a negative significant effect on capital structure while total asset turnover has positive significant effect on capital structure and sales growth has no effect towards capital structure. There are some limitations in this study. First, the object used in this research is manufacturing company listed on the Indonesia Stock Exchange (IDX) period 2018-2020, so the research results could not be generalized to all sectors or all companies listed on the IDX. Second, there are other variables that can affect the capital structure (DER) that are not examined in this study. This can be seen from the adjusted R² value of 0,463 which means that the variables of sales growth, total asset turnover, liquidity, and institutional ownership are only able to explain the capital structure variable by 46,3%. Future researches could extend the research period so that the results can be more generalized and add other independent variables that are expected to affect the capital structure, such as dividend policy, profitability, and firm size. From this research, the following implications can be drawn: management need to pay attention to the liquidity of their company, such as companies need to maintain the cash availability at certain level so that the company could achieve optimal capital structure. Also, companies could encourage institutional parties to more contribute in making decisions related to funding decisions, especially for operational activities.

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