

Capital Structure And Its Determinants Study On Consumer goods sector companies on the Indonesian Stock Exchange

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Capital Structure And Its Determinants

Study On Consumer goods sector companies on the Indonesian Stock Exchange

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ABSTRAK

This study aims to examine the factors that influence the capital structure as measured by the debt to equity ratio. The factors that are thought to influence the capital structure are asset structure as measured by fixed assets to total assets, profitability measured by return on assets, business risk as measured by degree of operating leverage, company size and sales growth. The population in this study, namely companies in the consumer goods industry sector listed on the Indonesia Stock Exchange, took a sample of 30 companies using a purposive sampling technique, with an observation period of 3 years (2019-2021). Data were analyzed using panel data regression analysis. After testing the model, it was found that the fixed effect model was the best model. The results of the research using the fixed effect model showed that the asset structure and firm size had a positive and significant effect on capital structure. Profitability has a significant but negative effect on capital structure. Meanwhile, business risk and company growth have no effect on the capital structure.

Keywords: asset structure, profitability, business risk, firm size and sales growth, capital structure

Introduction

The manufacturing industry is the backbone for national economic growth, besides being a mainstay sector in spurring equity towards inclusive development and community welfare, according to Minister of Industry Airlangga Hartarto, 2018). This positive achievement continues to be motivated so that 2019 will increase further in line with the government's commitment to revitalize the manufacturing sector. The Ministry of Industry of the Republic of Indonesia also revealed that manufacturing companies, especially in the food and beverage industry sub-sector during the Covid-19 pandemic, contributed a lot to Gross Domestic Product (GDP).

Capital structure is one of the factors that can affect the value of the company. The company must be able to determine the optimal proportion of capital caused by the capital structure which includes the cost of capital where the company must provide benefits to the party providing the funds, in order to minimize the risks faced by the company. According to Evitasari (2020) capital based on its source is divided into two, namely internal sources and external sources. First, the source of internal capital is the existence of a capital that is usually obtained by the company from the sale itself. While the external source of capital is capital from outside the company or funds that have been obtained from a shareholder or creditor who can participate

in the company.

Asset structure is one of the factors that companies must consider in making decisions that affect the capital structure. Damayanti (2013) revealed that the effect of the asset structure is significant negative on capital structure and also found the same results in the study of Sheikh & Zongjung (2011) revealing manufacturing companies that asset structure has a significant negative effect on capital structure. Then, according to Asuarina, F., Rasuli, H., & Silfi, A. (2014) revealed that mining companies and consumer goods industrial companies studied by Watung, Sion, & Saerang (2016) found the same results, namely asset structure significant positive on capital structure.

According to Sartono (2010) that profitability is the company's ability to earn a profit in relation to sales, total assets, and own capital. In the research of Gamaliel and Sudjarni (2015), Kartika and Dana (2015), Pertiwi and Artini (2015), Putra and Kesuma (2014), Cekrezi (2013) and Mohammadzadeh et al. (2013) revealed that profitability has a negative effect on capital structure, because of this, companies that have a high level of profitability tend to prefer to use that level of profitability for company operations rather than having to increase their debt level. Irrelevance occurs in the research of Purwardhani (2015) and Seftianni (2011) Firnanti (2011), which states that profitability has a positive effect on capital structure.

According to previous studies conducted by Brigham and Houston (2011) revealed that business risk is the risk of a company's assets if the company does not use debt. In research on property & real estate companies by Kasuarina, Rasuli, & Silfi, (2014) revealing the results that the effect of business risk on capital structure is positive and not significant, in addition, research by Pattweekongka & Napompech (2014) revealed that companies in the lodging sector found the result that business risk had no significant positive effect on capital structure.

The size of the company can also affect the quality of earnings in the existing capital structure. According to Dira (2014) in his research proves that company size can have a positive effect on earnings quality. Al-Shubiri (2010) revealed that in the same way, the magnitude of the debt component will be significantly positively related to firm size. The difference in the results of the study was stated by Awan (2011) and Liem (2013), that firm size has no significant effect and has a negative relationship to capital structure.

According to (Hanafi, 2004:345) revealed that in the volume of production to offset the level of sales growth, the profits from sales also increase and can be used by the company to cover debt. In a study conducted by Supriyanto (2008), Dewani (2010), revealed that sales growth has a positive and significant effect on capital structure. The different research conducted by Kesuma (2009) revealed that sales growth had a negative and insignificant effect on capital structure. Research conducted by Indrajaya (2011) states that sales growth has a positive and insignificant effect on capital structure.

Hypotheses Development

Asset structure and capital structure

Asset structure is one of the factors that must be considered by the company in making decisions that affect the capital structure. The structure of these assets can affect when the sources of financing for companies that have fixed assets have a long term, if the demand for the company's products is convincing enough by using mortgage debt. When the company's assets are mostly in the form of receivables and inventories, the value of which is highly dependent on the stability of the company's profitability level will depend more on short-term financing (Weston and Copeland, 2008). So, to further clarify the higher the structure of the company's

assets (which means the greater the number of fixed assets) it shows the higher the company's ability to guarantee the long-term debt it borrows so that the more optimal the company's capital structure. Conversely, the lower the company's asset structure (which means the lower the number of fixed assets) indicates the lower the company's ability to guarantee the long-term debt it borrows so that its capital structure is not optimal. According to research conducted by Kasuarina, F., Rasuli, H., & Silfi, A. (2014), Handono, W., Darta, E., & Yuliarso, M. Z. (2013), and Pattweekongka & Napompech (2014) asset structure has a significant positive effect on capital structure. Based on the theoretical concept, the first alternative hypothesis can be proposed, namely:

H₁: Asset Structure has a positive effect and on Capital Structure

Profitability and capital structure

Profitability is the company's ability in its operations to earn profits. In addition, with good profitability, the company will have the ability to distribute greater dividends to shareholders, so that it will have a positive impact on their confidence in investing their funds in the company. Profitability ratios can be proxied by Return on Assets (ROA), which is the ratio between profit after tax and total assets. ROA is one of the profitability ratios used to measure the company's effectiveness in generating profits by utilizing its total assets. In the research of Pertiwi and Artini (2014) revealed that profitability has a negative effect on capital structure, because the greater the profitability obtained by the company, the lower the company's capital structure. Companies that have high profits will use relatively low debt. There are similarities between the results of research on the influence of profitability with capital structure in the research of Sheikh and Wang (2011) Gamaliel and Sudjarni (2015), Angelo and Susanto (2012), Muhammad et al. (2013), Sari et al. (2013) and Kartika and Dana (2015). Then the second alternative hypothesis can be proposed, namely:

H₂: Profitability has a negative effect on Capital Structure

Business risk and capital structure

The risk arises along with the emergence of cost burden on loans made by the company. The greater the burden of costs that must be borne, the greater the risk faced by the company is also greater. In previous research, Joni and Lina (2010), revealed that business risk is one of the risks faced by the company when carrying out its operations, which indicates the possibility of the company's inability to fund its operational activities. Business risk can be defined as a situation or factor that may have a negative impact on the operations or profitability of a company, but usually referred to as corporate risk, business risk can be the result of internal conditions, as well as several external factors that may be evident in the wider business community. The variable used to measure business risk is Degree of Leverage (DOL). Business risk has an insignificant positive effect on capital structure. From the research results of Kasuarina, F. Rasuli, H., & Silfi, A. (2014) and Prasetya, Tri, B., & Asandimitra, N. (2014). Business risk has an insignificant positive effect on capital structure. Then a third alternative hypothesis can be proposed, namely:

H₃: Business Risk has a positive effect on Capital Structure

Company size and capital structure

Company size is a company scale that can describe the level of success of a company. According to Dira (2014) in his research revealed that company size can have a positive effect on the earnings quality of capital structure. So investors are more confident in large companies

compared to small companies because with the hope of getting a large enough profit. Therefore, large companies will use external sources of funds originating from debt with the aim of expanding the company's activities. From the results of research by Al-Shubiri (2010) which states that the magnitude of the debt component will have a significant positive relationship with firm size on capital structure. Then a fourth alternative hypothesis can be proposed, namely:

H4: Firm Size has a positive effect on Capital Structure

Sales growth and capital structure

Sales growth is the difference between the total sales of this period and the previous period which will be compared with the previous period. According to Halim (2007: 92) revealed that if a company with a high growth rate, the tendency to use debt will be greater than the company with a low growth rate. Then companies with stable sales growth will be much safer, have more loans, and are also better able to bear higher burdens than companies with unstable sales growth. Therefore, the level of sales growth is a measure of the extent to which the company's sales can be increased so that if the sales increase is high, the company's capital structure will also be higher. According to Dewani (2010) revealed that sales growth has a positive and significant effect on capital structure. Elim (2010) confirmed that sales growth has a positive and significant effect on capital structure. Then the fifth alternative hypothesis can be proposed, namely:

H5: Sales Growth has a positive effect on Capital Structure

Research methods

Population and Sample

In this research method the population is the Consumer Goods Industry Sector Manufacturing Companies that have been listed on the Indonesia Stock Exchange (IDX) in 2019-2021. The sample in the study is the Industry and Food Sub-Sector listed on the Indonesia Stock Exchange (IDX) in 2019-2021, so the sample that can be used is 30 companies, with purposive sampling technique.

The type in this study uses quantitative data, namely secondary data, data that already exists and does not need to be collected by researchers which can be obtained through existing sources, namely BEI. Secondary data in this study in the form of annual reports of manufacturing companies listed on the Indonesia Stock Exchange in 2019-2021 obtained through the website www.idx.co.id.

Research variable

In this study there is one dependent variable, namely capital structure (CS) and five independent variables consisting of asset structure (AS), profitability as measured by return on assets (ROA), business risk measured by degree of operating leverage (DOL), firm size (SIZE), and sales growth (SG). Here are the measurements for each variable:

Table1: variable Measurement

No	Variable	Notation	Measurement
1	Capital structure	CS	Total debt/Total equity
2	Asset's structure	AS	Fixed assets/Total assets
3	Profitability	ROA	Earning After Tax/Total assets
4	Busniess risk	DOL	Percentage change of EBIT/Percentage change of Sales
5	Firm size	SIZE	Ln Total assets

Data analysis

In this study, the hypothesis testing conducted by the researcher was panel data regression analysis. Panel data is a combination of time series and cross section data capable of providing more data so that it will produce a greater degree of freedom. Then combining information from time series and cross section data can overcome problems that arise when there is a problem of eliminating variables (omitted-variables). According to Ghazali (2018), it is revealed that multiple linear regression analysis or often referred to as panel data is used to determine the direction and how much influence the independent variable has on the dependent variable. The results of multiple linear regression analysis or panel data will test how much influence asset structure, profitability, business risk, and company size have on capital structure. Panel data regression equations are usually expressed in the form of a formula as follows:

$$CS_{it} = \alpha + \beta_1 AS_{it} + \beta_2 ROA_{it} + \beta_3 DOL_{it} + \beta_4 SIZE_{it} + \beta_5 SG_{it} + \varepsilon$$

Where:

- CS = Capital structure
- α = Constant
- $\beta_1 \beta_2 \beta_3 \beta_4 \beta_5$ = coefficient off regression
- AS = Assets structure
- ROA = Profitability
- DOL = Business risk
- SIZE = Firm size
- SG = Sales growth
- ε = Error

Research Result

The results of the study used panel data regression analysis by choosing between the common effect model (CEM), fixed effect model (FEM), and random effect model (REM). To determine the best model, the Chow test was conducted to select the best model between CEM and FEM, the Hausmann test to choose between FEM and REM, and the Lagrange Multiplier (LM) test to choose between REM and CEM. The results of the model test can be summarized as in table 2 below:

Table 2: Model test result

Chow-test			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	5.061.079	-29,55	0.0000
Cross-section Chi-square	116.982.147	29	0.0000
Hausmann-test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	22.712.287	5	0.0004

LM-test	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	18.08437 (0.0000)	0.715614 (0.3976)	18.79999 (0.0000)

Source: Data processed

Chow test

Chow test Used to choose between the Common effect model or the Fixed effect model. The basis for rejecting the hypothesis is to compare the calculation of the F-statistics with the F-table. The comparison is used if the calculated F result is greater ($>$) than the F table, then H_0 is rejected, which means that the most appropriate model to use is the Fixed Effect Model. Vice versa, if the calculated F is smaller ($<$) than the F table, then H_0 is accepted and the model used is the Common Effect Model (Widarjono, 2007).

Based on the results of the Chow test with the Redundant Test, the cross-section chi-square value is 5.0610 with a probability of 0.0000 (less than 5%). Because all test models have an F-statistical probability less than alpha 0.05, the correct model is to use the Fixed Effect Model.

Hausman test

Husman test is used to select the best model between fixed effect and random effect model based on the following hypothesis:

H_0 : choose the Random Effect Model, if the Chi-squer value is not significant at = 5%.

H_1 : Choose the Fixed Effect model, if the Chi-squer value is significant at = 5%.

To make a choice between a random effect or a fixed effect model, it can be done by looking at the significant p-value (less than = 5%) then the model used is a fixed effect estimate, and vice versa if the p-value is not significant (greater than = 5%) then the model used is a random effect estimate.

Based on the table above, the value of the chi-square distribution is 22.7123 with a chi-square probability of 0.0004 which is smaller than an alpha of 0.05 ($0.0004 < 0.05$), then the correct model is to use the Fixed Effect Model. Thus, based on the Hausman test, the right model to analyze the data is the Fixed Effect model rather than the Random Effect model

LM test

Lagrange Multiplier Test is a test to choose whether the model used is common effect or random effect. This test is carried out with the following hypothesis:

H_0 : Choose the common effect model

H_1 : Choose a random effect model

The Lagrange test is based on the Breusch-Pagan probability, if the Breusch-Pagan probability value is less than the alpha value, then H_0 is rejected, which means that the correct estimate for panel data regression is a random effect model and vice versa.

Based on the test results, the cross-section value is 18.0844 with a probability of 0.0000 (less than 5%). Because all test models have an F-statistical probability less than alpha 0.05, the right model is to use the Random Effect Model. In conclusion, in this study the right model for regression analysis is to use the Random Effect Model.

Hypothesis Test Results

From the results of the tests carried out on the Chow test, Hausman test, and the Lagrange multiplier test above, it can be seen and selected the best model to be used for analysis. The model used is a fixed effect regression model. Fixed Effect, namely in this model assumes that there are differences between individuals that can be accommodated from differences in intercepts. This is to be able to estimate the Fixed Effect model panel data using a dummy variable technique to capture intercept differences between companies, intercept differences can occur due to differences in work culture, managerial, and incentives. Therefore the slope is the same between companies. This estimation model is often also called the Least Squares Dummy Variable (LSDV) technique.

Tabke 3: Fixed Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.558.973	1.548.615	-2.943.904	0.0047
AS	1.432.780	3.508.788	4.083.403	0.0001
ROA	-0.032313	0.014071	-2.296.397	0.0255
DOL	-0.000949	0.022251	-0.042672	0.9661
SIZE	2.867.188	1.006.734	2.848.008	0.0062
SG	0.411155	0.306416	1.341.819	0.1852

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.789517	Mean dependent var	1.084.854
Adjusted R-squared	0.659400	S.D. dependent var	1.596.678
S.E. of regression	0.931837	Akaike info criterion	2.981.983
Sum squared resid	4.775.757	Schwarz criterion	3.954.131
Log likelihood	-9.918.923	Hannan-Quinn criter.	3.374.010
F-statistic	6.067.745	Durbin-Watson stat	2.459.654
Prob(F-statistic)	0.000000		

Source: Data processed

Discussion

Effect of Asset Structure on Capital Structure

The results of this study indicate that the asset structure results in a significance probability of $0.0001 < 0.05$, meaning that it has a positive effect on the capital structure. The coefficient of the asset structure shows a positive value, which means that the greater the value of the asset structure, the greater the value of the capital structure. Therefore, the first hypothesis that the asset structure has a positive effect on the capital structure is accepted.

The results of this study support the research conducted by Wirawan (2017) which shows that asset structure has a positive and significant effect on capital structure. According to the results of the research, Sudarmika & Sudirman (2015) confirmed that the relationship between asset structure and capital structure has a significant positive effect. In addition, the same research results were presented by Tijow, Sabijono & Tirayoh (2018), Maidah & Fuadati (2016),

Habibah (2015) and Pattweekongka & Napompech (2014) which stated that the asset structure had a positive effect on capital structure.

Effect of Profitability on Capital Structure

The results of this study indicate that the profitability of the significance results obtained by the probability of $0.0255 < 0.05$, meaning that it has a negative effect on capital structure. The coefficient of profitability shows a negative value, which means that the greater the profitability value, the higher the capital structure. Therefore, the second hypothesis that profitability has a negative effect on capital structure is accepted.

The results of this study are in line with research conducted by Dewiningrat, et al. (2018) who found that profitability had a significant negative effect on capital structure. In addition, there are also several studies according to Meutia (2016), Deviani & Sudjarni (2018) and Farisa & Widati (2017) which reveal a significant negative effect between profitability and capital structure.

Effect of Business Risk on Capital Structure

The results of this study indicate that the significant business risk results obtained by probability $0.9661 > 0.05$, meaning that it has no effect on capital structure. The coefficient of business risk shows a negative value, which means that the greater the value of business risk, the lower the value of the capital structure. Therefore, the third hypothesis that business risk has a positive effect on capital structure is rejected.

The results of this study are in line with Indrajaya et al., (2012) who revealed that business risk has a positive effect on capital structure. The results of the same study were also conducted by Kartika (2009), and Riyazahmed (2012) which stated that business risk had an insignificant positive effect on capital structure. In addition, research conducted by (Halim & Widanaputra, 2018) and (Ria & Lestari, 2015) reveals that business risk affects the capital structure.

Effect of Firm Size on Capital Structure

The results of this study indicate that the significance of the size of the company obtained a probability of $0.0062 < 0.05$, meaning that it has a positive effect on the capital structure. The coefficient of firm size shows a positive value, which means that the larger the firm size value, the higher the capital structure. Therefore, the fourth hypothesis that firm size has a positive effect on capital structure is accepted.

The results of the same study that firm size has a positive effect on capital structure, the research was conducted by Kartika (2009). In line with Hapsari (2010) in his research, he stated that firm size had a positive and insignificant effect on capital structure. In addition, research conducted by Seftianne and Handayani (2011) revealed that firm size had a significant and positive effect on capital structure.

The Effect of Company Growth on Capital Structure

The results of this study indicate that the sales growth of the significance of the obtained probability $0.1852 > 0.05$ means that it has no effect on the capital structure. The coefficient of sales growth shows a positive value, the greater the value of sales growth, the lower the value of the capital structure. Therefore, the fifth hypothesis that sales growth has a negative effect on capital structure is rejected.

The results of this study are in line with research conducted by Dewani (2010), which states that sales growth has a positive and significant effect on capital structure. In addition, there are also several studies with the same results by Winahyuningsih et al., (2011), Heriyani (2011) and Damayanti (2013), revealed that sales growth had a significant positive effect on capital structure.

Conclusions and recommendations

Based on data analysis and hypothesis testing that has been done, the asset structure is accepted, from the significance results obtained, the asset structure has a significant positive effect on the Capital Structure. Profitability is accepted, from the significant results obtained, profitability has a significant negative effect on Capital Structure. Business risk is rejected, from the significant results obtained, business risk does not significantly affect the Capital Structure. The size of the company is accepted, from the significance results obtained, the size of the company has a significant positive effect on the Capital Structure. Then Sales Growth is rejected, from the significant results obtained that sales growth does not significantly affect the Capital Structure.

It is suggested that researchers at the company should be careful in determining the capital structure because it is an important issue for every company, good and bad capital structure will have a direct effect on the company's financial position. The results of this study can be used as reference material and a source of reference for further researchers who want to examine the factors that affect the company's capital structure. Further research should conduct more in-depth research, by including other factors or other variables that need to be considered, especially those related to Capital Structure.

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