FACTORS AFFECTING CAPITAL STRUCTURE: A STUDY AMONG MANUFACTURING COMPANIES OF CONSUMER GOODS IN INDONESIA

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ABSTRACT

This research aimed to obtain empirical evidence about the effects of tax, asset structure, business risk, and profitability on capital structure in the manufacturing companies’ consumer goods sector listed on the Indonesia Stock Exchange during 2018-2020. The research method was descriptive research using quantitative. This research used 96 data that had been selected by using the purposive sampling method. Data analysis technique was done using a multiple linear regression analysis with EViews Software version 12. The results found that asset structure had negative and significant effect on the capital structure, while the tax, business risk, profitability had no significant effect on capital structure.

Keywords: Tax, Asset Structure, Business Risk, Profitability, Capital Structure

1. INTRODUCTION

Massive development of technology especially in terms of economic aspects has created a demand for companies to compete to become the best among each other. One of those ways to achieve that goal is making innovation for the products. However, it creates a new problem which is the rising demand for capital on companies. The fulfillment of a company's capital needs can be obtained from external funding such as obligation loans and share issuance. The lack of capital will hinder the operational activity, so every company must pay attention to its capital structure. It describes the optimal portion of debt and equity in the company.

Inappropriate capital structure decisions will regard a company's performance. It affects a company's finance. Therefore, a company must be able to consider various factors which involve the capital structure such as tax, asset structure, business risk, and profitability. Companies with a high tax percentage will be interested in using external financing through debt. The use of debt will provide benefits in the form of tax savings. Companies that have an asset structure in the form of large fixed assets will prioritize internal capital to fulfill their capital. Also, they will try to reduce debt to finance the company's operations. Companies with high business risk avoid external financing and as much as possible choose internal funding to avoid high business risks. Companies with high profitability use internal funding rather than external financing. Although many studies have been conducted on the principle of capital structure, the results are still inconsistent. First, Rahmadianti and Yuliandi [1] show that tax has a positive and significance on capital structure, but Sungkar and Deitiana [2] reveal that tax has a negative and no significant effect. Second, Tijow, Sabijono, and Tirayoh [3] state that asset structure has a positive and significant effect on capital structure, whereas Alfon and Yanti [4] said on the contrary. After that, Sha [5] finds that business risk has a positive and significant effect on capital structure, while it is opposite to Naur and Nafi [6]. In terms of profitability, Dewi and Sudiaritha [7] show that profitability has a positive and significant effect on capital structure, but Christopher and Santioso [8] don’t state the same.
thing. Thus, this research gap is that previous studies have inconsistent results to prove the hypothesis. In this study, the researcher focuses on empirically analyzing whether the independent variables namely tax, asset structure, business risk, and profitability affect the capital structure, so the researcher proposes four problem formulations, namely: (1) Does tax affect the capital structure? (2) Does asset structure affect the capital structure? (3) Does business risk affect the capital structure? (4) Does profitability affect the capital structure?

**Our Contribution**

This study aims to find out whether tax, asset structure, business risk, and profitability affect capital structure. This study wants to replicate the research that has been done previously by Sha [5], entitled factors affecting capital structure in the basic and chemical sectors. However, this research will be different from previous research. First, the researcher omits two independent variables, namely Firm Size and Growth of Assets. Second, add an independent tax variable from the research of Rahmadianti and Yuliandi [1] entitled the effect of profitability, business risk, managerial ownership, and tax on capital structure. This research sample is similar to manufacturing companies in the consumer goods sector.

2. **THEORETICAL REVIEW**

**Grand Theory**

**Pecking Order Theory**

Cahyadi [9] says the Pecking Order Theory of Myers in 1984. It uses the premise that a company uses the most preferred source of funds for a company's preferences. The company uses the resources from retained earnings first and then proceeds to use external resources namely debt and issuance stocks as the last choice. Brealey, Myers, and Marcus [10] state that companies prioritize internal resources, namely retained earnings. Otherwise, the companies will use external resources, namely debt, and issue shares, if the required funds are not sufficient.

**Trade Off-Theory**

According to Modigliani and Millar (Taslim and Susanto [11]), the Trade-off theory balances the benefits to be received and the costs to be incurred as a result of the company using debt funding to form a balanced capital structure. According to Rahmadianti and Yuliandi [1], the use of debt has benefits, namely tax savings. If the debt is great, the tax benefits and interest costs will be great too. If the interest costs on debt are too large, it will risk of bankruptcy of the company.

**Operational Theory**

**Capital Structure**

Capital structure is defined as a collection of funds obtained from long-term debt and own capital that can be used by the company (Gitman and Zutter [12]). Astuti and Giovanni [13] also define capital structure as the financial proportion of a company consisting of long-term debt and capital as company funding. Overall, the capital structure can be summed up as a
corporate funding decision obtained from the comparison between the company's debt and equity.

**Tax**

According to Law No. 28/2007 about General Provisions on Taxation [14], tax is mandatory contributions to the state which is coercive based on the law to be paid by individuals or entities. It is not a direct reward for state purposes. Mardiasmo, (Utami and Widanaputra [15]) defines tax as contributions paid by the people to the state based on coercive regulations and are used for the public interest.

**Asset Structure**

According to Dewa, Mahsuni, and Junaidi [16], the asset structure can be defined as the size of the allocation of the components of the company's assets. Deviani and Sudjarni [17] define asset structure as the wealth owned by a company seen from the company's fixed assets.

**Business Risk**

According to Cahyani and Isbanah [18], business risk occurs to the company where the company gets the income uncertainty. The company will not be able to fund its operational activities. Septiani and Suaryana [19] define business risk shows the uncertainty in the projected company's rate of return in the future.

**Profitability**

Profitability is a proportion to determine the company's profits (Kasmir [20]). Profitability can be interpreted as the company's result in getting the profits and profitability ratios measures the company performance (Melodie and Ruslim [21]).

**Research Hypothesis**

The Relationship between Tax and Capital Structure

Tax is a must payment by a company to the government. Based on previous research by Rahmadiani and Yuliani [1] tax has a positive and significant effect on capital structure. Meanwhile, research conducted by Prasetyo, Swandari, and Dewi [22] reveal a negative result and significant effect. Therefore, the hypothesis is:

**H1: Tax has a positive and significant effect on capital structure**

The Relationship between Asset Structure and Capital Structure

Asset structure describes the percentage of assets owned by a company. Based on a previous study by Septiani and Suaryana [19], asset structure has a negative and significance effect on capital structure. On the other hand, Dewiningrat and Mustanda [23] state asset structure has a positive and significance. Therefore, the hypothesis is:

**H2: Asset structure has a negative and significant effect on capital structure**
The relationship between Business Risk and Capital Structure

Business risk occurs when the company is unable to cover its operational costs due to income uncertainty. Based on previous research conducted by Rahmadianti and Yuliandi [1], business risk has a negative and significant effect on capital structure. Meanwhile, Wairooy [24] states that business risk has a positive and significant effect. Therefore, the research hypothesis is:

**H3: Business risk has a negative and significant effect on capital structure.**

The relationship between Asset Profitability and Capital Structure

Profitability happens when a company earns profits in business. Based on previous research by Kumar, Colombage, Rao [25] profitability has a negative and significant effect on capital structure. Meanwhile, research by Rahmadianti and Yuliandi [1] show a positive and significance. Therefore, the research hypothesis is:

**H4: Profitability has a negative and significant effect on capital structure.**

The framework of this research can be figured out as follow:

![Figure 1 Research Model](image)

3. METHODS

**Population and Samples**

The population was all manufacturing companies in the Consumer Goods sector in the 2018-2020 period. The sample was selected by the purposive sampling technique. Sampling in this research was conducted with the following criteria, namely: (1) They are listed on the IDX in the 2018-2020 period. (2) They did not conduct an Initial Public Offering (IPO) and Delisting during 2018-2020. (3) They did not experience losses during the 2018-2020 period. (4) They present financial statements using Rupiah currency. (5) They present financial statements for the year ended December 31.

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Operationalization of Variables

Table 1 Variable Operationalization

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measurement</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Structure (Y)</td>
<td>Debt To Equity Ratio = ( \frac{\text{Total Debt}}{\text{Total Equity}} )</td>
<td>Ratio</td>
</tr>
<tr>
<td>Independent Variable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax (X1)</td>
<td>ETR = ( \frac{\text{Total Tax Expense}}{\text{Earning Before Income Tax}} )</td>
<td>Ratio</td>
</tr>
<tr>
<td>Asset Structure (X2)</td>
<td>FAR = ( \frac{\text{Fixed Asset}}{\text{Total Assets}} )</td>
<td>Ratio</td>
</tr>
<tr>
<td>Business Risk (X3)</td>
<td>DOL = ( \frac{% \Delta \text{EBIT}}{% \Delta \text{Sales}} )</td>
<td>Ratio</td>
</tr>
<tr>
<td>Profitability (X4)</td>
<td>Return on Asset = ( \frac{\text{Net Income}}{\text{Total Assets}} )</td>
<td>Ratio</td>
</tr>
</tbody>
</table>

Analysis of the Model

This research uses multiple linear regression model testing, where the following regression equation is as follows:

\[
Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon
\]

Description:
- \( Y \) : Capital Structure
- \( \alpha \) : Constanta
- \( \beta_1-\beta_4 \) : Coefficient
- \( X_1 \) : Tax
- \( X_2 \) : Asset Structure
- \( X_3 \) : Business Risk
- \( X_4 \) : Profitability
- \( \varepsilon \) : Error

4. FINDINGS AND DISCUSSION

Descriptive Statistical Analysis

Table 2 Descriptive Statistical Analysis

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.707347</td>
<td>0.276358</td>
<td>0.347145</td>
<td>0.412632</td>
<td>0.115655</td>
</tr>
<tr>
<td>Median</td>
<td>0.515437</td>
<td>0.250440</td>
<td>0.350080</td>
<td>1.479500</td>
<td>0.089246</td>
</tr>
<tr>
<td>Maximum</td>
<td>3.159024</td>
<td>0.962060</td>
<td>0.757590</td>
<td>53.80170</td>
<td>0.920997</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.130145</td>
<td>0.032015</td>
<td>0.041639</td>
<td>-151.0293</td>
<td>0.000500</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>0.565946</td>
<td>0.126251</td>
<td>0.159675</td>
<td>19.69256</td>
<td>0.123609</td>
</tr>
<tr>
<td>Observations</td>
<td>96</td>
<td>96</td>
<td>96</td>
<td>96</td>
<td>96</td>
</tr>
</tbody>
</table>

Source: Output of EViews 12

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The capital structure (Y) shows a mean namely 0.707347, and the median value is 0.515437 with the highest value and the lowest value of 3.159024 and 0.130145, the standard deviation shown at 0.565946. Then, the tax variable (X1) shows a mean value of 0.276358, and the median value is 0.250440 with the highest value and the lowest value of 0.962060 and 0.032015, the standard deviation shown at 0.126251. Then, the asset structure variable (X2) shows a mean value of 0.347145, and the median value is 0.350080 with the highest value and the lowest value of 0.757590 and 0.041639, the standard deviation shown at 0.159675. Then, the business risk variable (X3) shows a mean value of 0.412632, and the median value is 1.479500 with the highest value and the lowest value of 53.801700 and -151.0293, the standard deviation shown at 19.69256. The last one, the profitability variable (X4) shows a mean value of 0.115655, and the median value is 0.089246 with the highest value and the lowest value of 0.920997 and 0.000500, the standard deviation shown at 0.123609.

**Multiple Linear Regression Model**

The result is as follows:

\[ Y = 1.098343 + 0.172127 X1 - 1.455417 X2 - 0.001205 X3 + 0.580812 X4 + e \]

The coefficient value of the tax variable (X1) is 0.172127, which indicates that if the tax increases by one unit, the capital structure variable increases by 0.172127 units. The coefficient value of the asset structure variable (X2) is known to be -1.455417, it can indicate that if the asset structure variable raises by one unit, the capital structure variable decreases by -1.455417 units. The coefficient value of the business risk (X3) is known to be -0.001205, which means it can indicate that if the business risk has increased by one unit, the capital structure variable decline by 0.001205 units. The coefficient value of the profitability (X4) is known to be 0.580812, which means it can indicate that if the profitability has increased by one unit, the capital structure variable will be high by 0.580812.

**Coefficient Determination Test (R²)**

<table>
<thead>
<tr>
<th>Table 3 The Results of the Coefficient Determination Test (R²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-Squared</td>
</tr>
<tr>
<td>Adjusted R-Squared</td>
</tr>
<tr>
<td>Prob (F-statistics)</td>
</tr>
</tbody>
</table>

Source: Output of EViews 12

The result of the coefficient determination test on R-Squared is 0.876191 and the Adjusted R-Squared is 0.803970. It indicates that 80.39% can be explained by tax, asset structure, business risk, profitability, and 19.61% is not variables in this research. F-statistics probability value obtained in this research is 0.000000, the value is < 0.05, it means that tax (X1), asset structure (X2), business risk (X3), and profitability (X4) together have a significant effect on the capital structure (Y).
Hypothesis Testing Results

Table 4 The testing results of statistical t-test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistics</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>1.098343</td>
<td>0.257895</td>
<td>4.258878</td>
<td>0.0001</td>
</tr>
<tr>
<td>X1</td>
<td>0.172127</td>
<td>0.335228</td>
<td>0.513464</td>
<td>0.6095</td>
</tr>
<tr>
<td>X2</td>
<td>-1.455417</td>
<td>0.713168</td>
<td>-2.040778</td>
<td>0.0457</td>
</tr>
<tr>
<td>X3</td>
<td>-0.001205</td>
<td>0.001589</td>
<td>-0.758052</td>
<td>0.4514</td>
</tr>
<tr>
<td>X4</td>
<td>0.580812</td>
<td>0.330746</td>
<td>1.756066</td>
<td>0.0842</td>
</tr>
</tbody>
</table>

Source: Output of EViews 12

Based on the t-test result, the probability of tax (X1) is 0.6095 with a coefficient value of 0.172127. According to the probability results of 0.6095, this value is greater than 0.05, so it indicates that H1 is rejected.

Regarding the asset structure (X2), the probability is 0.0457 with a coefficient value of -1.455417. According to the probability results of 0.0457, this value is lower than 0.05, so H2 is accepted.

Regarding the business risk (X3), the probability is 0.4514 with a coefficient value of -0.001205. When viewed from the probability results of 0.4514, this value is greater than 0.5, so it can be said that H3 is rejected.

Regarding profitability (X4), the probability is 0.0842 with a coefficient value of 0.580812. When viewed from the probability result of 0.0842, this value is greater than 0.5, so it shows that H4 is rejected.

Discussion

The Effect of Tax on Capital Structure

Based on H1 test results that are unaccepted because even though the directions are positive, the significance value showed no significance. It can be described that high tax is showing the indication of high profits which are obtained from a company's good performance which in this case, company’s good performance creates high profits which make the capital’s structure decreasing. On the other hand, low tax is not caused by the poor performance of a company, but it is merely caused by the use of debt for tax savings from a company that has a good performance which makes the capital structure decrease. It shows that tax does not significantly affect the capital’s structure because high tax is showing the high profit that a company has gained but on the other hand, the low tax can be caused by the tax savings that are conducted by the company which makes the capital structure decrease.

On Trade-Off Theory, a company will consider a tax saving through debt funding if the benefits are higher than interest debt expense. It is the same as the research by Widayanti, Triaryati, and Abudanti [26] but, it is contrary to Sungkar and Deitiana [2]. Last, Endri, Mustafa, and Rynandi [27] state that tax has a significant effect on capital structure.
The Effect of Asset Structure on Capital Structure

The H2 test result is accepted because of the negative and significant significance value of the t-test, it describes that high asset structure shows that the company is utilizing the fixed assets to increase the company’s operational activity. This condition makes high asset structures have influenced the decreasing of a company’s financial structure. A high asset structure will raise the company’s operating profit. The company prioritizes internal funding, so its capital structure decrease.

Based on Pecking Order Theory, the company that has retained earnings in high enough numbers will prefer to use the internal funding first to fund the company’s operational cost and will finally use the external funding if the internal funding is not sufficient anymore. This research is similar to the study by Septiani and Suaryana [19], Sofat and Singh [28]. On the other hand, Astuti and Giovanni [13] reveal asset structure has a positive and no significant effect. In addition, another research conducted by Nalurita [29] states that asset structure does not significantly affect it.

The Effect of Business Risk on Capital Structure

Based on H3 test results that are unaccepted because even though the directions are negative, the significance value showed no significance. It can be described that High business risk shows the ineffective use of debt in a company's performance which makes the company experience a decreased profit that makes the capital structure increase. However, low business risk is caused by the low risk that a company had which makes the company use the debt to increase their performance which increased capital structure. Therefore, the high or low business risk does not significantly regard the capital structure because the high business risk is caused by the ineffective use of debt. On the other hand, low business risk can utilize the debt for the company's expansion activity and also the tax-saving which resulted in the increasing capital structure.

According to the Trade-Off Theory, if the business risk is high, the use of debt will be increasing and it will also increase the interest expense. In this case, it will increase the company’s risk. This study is the same as the result of Hartati and Mukhibad [30], Sparta and Defadjria [31]. Contrarily, research conducted by Djalil [32] shows that business risk has not only positive but also no significance on the capital structure, while the research conducted by Sha [5] shows otherwise.

The Effect of Profitability on Capital Structure

H4 test result is unaccepted because the positive direction and significance value are not significant. It can be described that high profitability is caused by the increasing performance of the company, which makes the profit that the company gained mount up and also make the capital structure decrease. However, low profitability is caused by the condition of poor company performance, which makes the company avoid the use of debt to lower the risk. Therefore, the company, in this case, uses external funding which makes the capital structure decrease. Therefore, High and low profitability do not significantly affect the capital structure because high profitability tends to only use the internal funds, while on the other hand low profitability caused by the effort of the company to avoid the risk should use the internal funds that make the capital structure decreasing.
Regarding Pecking Order Theory, a company prioritizes internal funds, and the use the external capital is urgent. This research is similar to Widyanti, Triaryati, and Abundati [26]. The study shows that profitability has a positive and no significance on the capital structure. On the other hand, Taslim and Susanto [11] show that it has a negative and no significant influence, while Nalurita [29] reveals otherwise.

5. CONCLUSIONS

In this research, among the four independent variables, the asset structure is the only one that has a negative and significant effect on the capital structure. Meanwhile, tax, business risk, and profitability have no significant influence on capital structure. This research has several limitations: (a) the research subject is limited, namely only using manufacturing companies in the consumer goods sector, (b) the period is only three years, namely from 2018-2020, (c) the research only uses four independent variables, namely tax, asset structure, business risk, and profitability. (d) the research testing in this research only uses certain proxies. Suggestions that can be given by researchers for further research are to replace the research subject with other companies so that it can expand the results of research as a whole. Extend the period so that it can be seen whether there is a stronger effect if the research period is extended. Add or replace variables that do not exist in this research. Using other proxies to test the variables of capital structure, tax, asset structure, business risk, and profitability.

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