Effect of Profitability, Firm Size and Tax on Capital Structure

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ABSTRACT: This research was conducted to determine the effect of profitability, firm size, and tax on capital structure. The location of this study was issued in companies in the industry, hotels and restaurants published on the Indonesia Stock Exchange during the period 2016 to 2018. The analysis technique used in this study is multiple linear regression. The results in this study are (1) profitability has a positive and significant effect on capital structure (2) company size has a positive and significant effect on capital structure (3) tax has a positive and significant effect on capital structure.

Keywords—profitability, firm size, tax, capital structure

I. INTRODUCTION

Funding from the company needs to be managed optimally so as not to cause financial difficulties for the company. According to Wiagustini (2014:7) funding decisions are decisions relating to investment spending or financing activities. Good funding decisions in a company could be seen from the capital structure, namely financial decisions related to the composition of debt, both long-term debt and short-term debt. Capital structure is a mix (proportion) of the company's long-term permanent financing represented by debt, preferred stock and common stock equity (Horne and John, 2014:175). Capital structure indicates how the company finances its operational activities or how the companies finance its assets (Primantara and Dewi, 2016). Companies need funds from their own capital and foreign capital. Funds originating from internal sources are self-generated funds or capital in the form of retained earnings and depreciation, while funds originating from external sources come from creditors and owners, participants or shareholders in the company (Wiagustini, 2014:234).

The optimal of capital structure of the company will able to minimize the cost of capital that must be borne by the company. Financial managers need to try to meet a certain target regarding the balance between the amount of debt and the amount of their own capital that is reflected in the company's capital structure for achieve an optimal capital structure. An optimal capital structure is a situation where a company can use a combination of debt and equity ideally, namely by balancing the company's value and the costs of its capital structure. A company if it has an optimal capital structure, will be a strong basis for the company to carry out its production activities, and can bring optimal profits to the company and its shareholders (Apsari and Dana, 2018).

The company is always trying to develop in anticipation of increasingly tighter competition. The work done is something that must be completed for the company, because it is related to the fulfillment of the funds needed to develop the company. If a company meets its funding needs using only internal company resources, the company will not be too dependent on external funding sources. In business development, companies will always need capital or funds to be used to finance the costs of production, operations and asset purchases, so entrepreneurs must be able to consider where the source of funds can be obtained. Anticipating funding from debt, financial managers must be precise in determining the capital structure that is expected to increase; the value of the company to be superior to competitors, calculate profitability and manage the company's cost structure (Moniaga, 2013).

Profitability shows the ability of the company to obtain profits or measure the effectiveness of the management of the company's management (Wiagustini, 2014:86). Profitability in this study is proxied by Return on Equity (ROE). ROE is one of the profitability ratios that can be used in financial performance analysis. This ratio measures the ability of companies to obtain profits available to shareholders of the company (Sartono, 2010:124). Often observations show that companies with high rates of return on investment use relatively small debts (Brigham and Houston, 2011:40). The results of research conducted by Acaravci (2015) show the results of a positive and significant relationship between profitability and capital structure in manufacturing sector companies in Turkey. The results of this study are in line with research by Husaeni (2018), (Taqi, Ajmal, and Pervez (2016). Contradictory results found in research conducted by Madhavilatha (2016) on
cement manufacturing companies in India shows that profitability has a negative influence on the company’s capital structure. The results of this study are also in line with research with the same variable by (M’ng, Rahman, and Sannacy (2017),Mouton and Smith (2016).

Firm size is variable that affects capital structure. Investors in making decisions to invest, assume that large companies are relatively stable and are able to generate greater profits compared to small companies(Wardani, Cipta, & Suwendra, 2016). Companies with a large size scale, it will impact on rising of stock prices and the value of the company will be advanced and therefore they are able to pay off their total debt with large assets. Research conducted by Husaeni (2018) on companies listed on the Jakarta Islamic index shows that company size has a negative influence on capital structure in companies. This study is in line with research from Li et al. (2015), Bhawa and Dewi (2015), Krisnanda & Wiskuana (2015). There is a contradiction in which research from Acaravci (2015), M’ng et al. (2017), Mufti & Amjad (2016) found that company size had a positive effect on capital structure in the company.

Tax has an element as a contribution from the people to the state, which is entitled to collect taxes only on the state and the contribution in the form of money(Mardiasmo, 2016:3). Tax is also very important in deciding the capital structure of a company. The advantage of using debt is tax relief. Tax relief in the form of the amount of tax the company can save due to the use of debt in the capital structure. Interest is a deductible expense for tax purposes (deductible expense), and the reduction will be very valuable for companies that are subject to high tax rates (Brigham & Houston, 2011:175). Therefore, the higher the corporate tax rate, the greater the benefits from the use of debt. These events have led to an increasingly greater use of debt in the capital structure. The tax rate is calculated from the income tax expense paid last year (Corporate Tax-1) compared to net income before interest and tax (EBIT) for the current year (Thalib, Herdiyana, & Wahid, 2019). Research conducted by Thalib et al. (2019), Sumardika & Sudirman (2015), Primantara & Dewi (2016) states that tax has a positive and significant effect on capital structure. There are contradictions in which research from Mouton & Smith (2016), Serrasqueiro & Caetano (2015), and Santhi & Sudjarini (2015) which states that tax has no effect on capital structure.

Based on the background above and the existence of previous research results that are still contradictory, therefore a re-examination of profitability, company size and tax variables on capital structure of companies in the tourism, hotel and restaurant industries on the Indonesia Stock Exchange was conducted.

II. LITERATURE REVIEW AND DEVELOPMENT HYPOTHESIS

Profitability can affect the company's capital structure, where companies that generate greater profits tend to have greater retained earnings so that they can comply their funding needs to expand from the company's internal resources (Brigham & Houston, 2011:43). The results of research conducted by Madhavilatha (2016) on cement manufacturing companies in India shows that profitability has a negative influence on the company's capital structure. The outcome of this study are also in line with research with the same variable by (M’ng, Rahman, and Sannacy (2017),Mouton and Smith (2016).

H1: Profitability has a negative and significant effect on capital structure.

Sartono (2010) said that the size of the company illustrates the size of a company where big companies will more easily get loans from outside both in the form of debt and capital stock because usually large companies are accompanied by a fairly good reputation in the public. The size of the company is positively related to the level of leverage according to trade-off theory, large companies generally tend to be less likely to go bankrupt, making it easier to attract loans from banks compared to smaller companies. Research results from Acaravci (2015), M’ng et al. (2017), Mufti & Amjad (2016), Apsari & Dana (2018), Mulyawati, Banani, & Sulistyandari (2016), found that company size had a positive effect on capital structure.

H2: Firm size has a positive and significant effect on capital structure.

Trade off theory which states that the optimal capital structure is a balance between taxes on the use of debt with the cost of financial difficulties due to the use of debt, because costs and benefits will negate each other. Therefore, the higher the company's tax rate last year, the greater the benefits from the use of debt in the current year. These events led to an increasingly greater use of debt in the capital structure in the following year. According to Thalib et al. (2019), Sumardika & Sudirman (2015), Primantara & Dewi (2016) stated that tax had a positive and significant effect on capital structure.

H3: Tax has a positive and significant effect on capital structure.

III. RESEARCH METHOD

The study was conducted by accessing the website www.idx.co.id which provides data on sub-sector companies, hotels and restaurants listed on the Indonesia Stock Exchange in 2016-2018. The sampling method used in this study was nonprobability sampling with census techniques so that samples from 18 companies were obtained with five years of collection so that 54 observations were obtained.
The data in this study are profitability data which is proxied by ROE, company size is proxied by ln of total assets, taxes, and capital structure of the tourism, hotel and restaurant sub-sector companies on the Indonesia Stock Exchange (BEI) on the period 2016-2018 www.idx.co.id. The data analysis technique used is multiple linear regression.

IV. RESULT AND DISCUSSION

Descriptive statistics relates to the provision of information about the minimum value, maximum value, average value and standard deviation of each variable studied, as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital structure</td>
<td>54</td>
<td>12,00</td>
<td>765,00</td>
<td>96,969</td>
<td>104,77812</td>
</tr>
<tr>
<td>Profitability</td>
<td>54</td>
<td>-20,51</td>
<td>97,19</td>
<td>5,1441</td>
<td>14,25836</td>
</tr>
<tr>
<td>Firm size</td>
<td>54</td>
<td>11,13</td>
<td>15,73</td>
<td>13,9113</td>
<td>1,21166</td>
</tr>
<tr>
<td>Tax</td>
<td>54</td>
<td>-718,44</td>
<td>286,57</td>
<td>2,6970</td>
<td>138,55382</td>
</tr>
<tr>
<td>Valid N</td>
<td>54</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Secondary data processed 2019

The classic assumption test is a stage that should be carried out to test the data collected before carrying out multiple linear regression analysis. The purpose of the classic assumption test is to obtain a good regression model by testing the variable quick ratio, return on assets, and the exchange rate against stock returns. The tests conducted are: normality test, autocorrelation test, multicollinearity test, and heteroscedasticity test.

Normality test aims to test whether the residuals from a regression model that made normal distribution or not. This study used a non parametric statistical tests Kolmogorov-Smirnov.

<table>
<thead>
<tr>
<th>Normal Parameters</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Asym. Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unstandardized Residual</td>
<td>54</td>
<td>0,000</td>
<td>0,569</td>
</tr>
</tbody>
</table>

Source: Secondary data processed 2019

Based on Table 2, 2-tailed significant value of 0.902 is greater than 0.05 (sig. = 0.902 > 0.05), it indicates that the data used in this study had normal distribution.

Autocorrelation test aims to test whether there is an error in the linear regression model t-1 period (previous year). A good regression model is a regression if the data free from autocorrelation. Autocorrelation test can be done with Durbin-Watson (DW test).

Based on the analysis outcome presented in Table 3, the DW value is 2.171 with N = 54, k = 3, then dL is 1.4464 and dU is 1.6800 (from the DW table with α = 5%). The dL and dU values were obtained from the DW table with 54 observational samples and 3 independent variables, namely profitability, company size, and tax. A 4-dU is known as 2.3200 (4-1.6800). DW value of 2.171 is between the dU and 4-dU values (1.6800 <2.171 <2.3200), so it could be said that there is no autocorrelation between independent variables.
Multicollinearity test aims to test whether there is a correlation between the regression model independent variables. The regression model was good if there is no correlation between the independent variables.

**Table 4 Multicollinearity test**

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>Profitability</td>
<td>0.790</td>
</tr>
<tr>
<td>Firm Size</td>
<td>0.789</td>
</tr>
<tr>
<td>Tax</td>
<td>0.993</td>
</tr>
</tbody>
</table>

Source: *Secondary data processed 2019*

Based on the analysis outcome presented in Table 4 it can be seen that the tolerance value of the three independent variables is greater than 0.10, namely profitability of 0.790, company size of 0.789 and tax of 0.993. VIF value of the three variables is less than 10, namely profitability of 1.265, company size of 1.268 and tax of 1.007. This shows that there is no multicollinearity of the three independent variables.

Heteroscedasticity test aims to test whether the regression model occurred inequality residual variance from one observation to another observation.

**Table 5 Heteroscedasticity test**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>1.123</td>
<td>0.353</td>
<td>3.179</td>
<td>0.003</td>
</tr>
<tr>
<td>1 Profitability</td>
<td>0.000</td>
<td>0.000</td>
<td>-0.261</td>
<td>1.706</td>
</tr>
<tr>
<td>Firm Size</td>
<td>-226</td>
<td>0.128</td>
<td>-0.270</td>
<td>1.761</td>
</tr>
<tr>
<td>Tax</td>
<td>0.000</td>
<td>0.001</td>
<td>0.022</td>
<td>0.160</td>
</tr>
</tbody>
</table>

Source: *Secondary data processed 2019*

Based on the outcome of the analysis presented in Table 5, the significance value of the three independent variables is greater than 0.05, namely profitability of 0.094, company size of 0.084 and tax of 0.874. This shows that there is no heteroscedasticity on the three independent variables.

Multiple linear regression analysis is used to determine the direction and magnitude of the influence of the independent variables namely quick ratio, return on assets, and the exchange rate of the dependent variable namely stock returns. The analysis in this study was processed using the Statistical Package for Social Science (SPSS) version 21.0 program. The results of the analysis are as follows:

**Table 6 Multiple linear regression**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.046</td>
<td>0.567</td>
<td>5.377</td>
<td>0.000</td>
</tr>
<tr>
<td>1 Profitability</td>
<td>0.001</td>
<td>0.000</td>
<td>0.852</td>
<td>9.209</td>
</tr>
<tr>
<td>Firm Size</td>
<td>0.416</td>
<td>0.206</td>
<td>0.187</td>
<td>2.025</td>
</tr>
<tr>
<td>Tax</td>
<td>0.004</td>
<td>0.002</td>
<td>0.181</td>
<td>2.194</td>
</tr>
</tbody>
</table>

Source: *Secondary data processed 2019*

Based on the outcome of the analysis presented in Table 6, we obtain the following linear regression equation:

\[
Y = 3.046 + 0.001X1 + 0.416X2 + 0.004X3 \quad \ldots \ldots \quad (1)
\]

From the regression equation on the previous page can be interpreted as follows:

1) Profitability regression coefficient (X1) of positive 0.001 indicates that each additional profitability variable (X1) of 1 unit with the assumption that other independent variables are constant, then the capital structure will increase by 0.001 units.

2) Firm size regression coefficient (X2) of positive 0.416 indicates that each addition of firm size variable (X2) of 1 unit with the assumption that other independent variables are constant, the capital structure will increase by 0.416 units.
3) The tax regression coefficient (X3) of positive 0.004 indicates that each additional tax variable (X3) of 1 unit assuming the other independent variables are constant, then the capital structure will increase by 0.004 units. This F test is done to find out whether the independent variables simultaneously affect the dependent variable. This test also shows the feasibility of a research model.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>46,382</td>
<td>3</td>
<td>15,461</td>
<td>32.642</td>
<td>0.000</td>
</tr>
<tr>
<td>Residual</td>
<td>23,682</td>
<td>50</td>
<td>0,474</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>70,064</td>
<td>53</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Secondary data processed 2019

Based on the analysis outcome presented in Table 7, the significance value of 0.000 is smaller than 0.05 (0.001 <0.05). This means that the variable profitability, company size and tax have a significant effect on capital structure and show that the model used in the study is feasible.

The coefficient of determination (R2) is used to find out how much the variation of the dependent variable will explained by the variation of the independent variable while the rest is explained by other variables outside the model used.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0,814</td>
<td>0,662</td>
<td>0,642</td>
<td>0,68822</td>
</tr>
</tbody>
</table>

Source: Secondary data processed 2019

Based on Table 8 represent that the R Square value of 0.662, which means 66.2 percent variation or changes in capital structure can be explained by variations in the independent variables, namely profitability, company size and tax. The rests 33.8 percent is explained by other variables outside the regression model used.

Profitability variable has a significance value of 0.000 less than the real level α = 0.05 (sig. = 0,000 <0.05) and has a regression coefficient value in column B unstandardized coefficients of 0.001, then it can be declared H1 rejected. This shows that the profitability variable partially has a positive and significant effect on capital structure.

The firm size variable has a significance value of 0.048 less than the real level α = 0.05 (sig. = 0.048 <0.05) and has a regression coefficient in column B of the unstandardized coefficients of 0.416, so it can be stated H1 accepted. This shows that the company size variable partially has a significant positive effect on capital structure.

The tax variable has a significance value of 0.033 less than the real level α = 0.05 (sig. = 0.033 <0.05) and has a regression coefficient in column B unstandardized coefficients of 0.004, then it can be declared H1 accepted. This shows that the tax variable partially has a significant positive effect on capital structure.

V. HYPOTHESIS AND RESULT

Effect profitability on capital structure

The first hypothesis testing is the effect of profitability on capital structure obtains a regression coefficient of 0.001 and a significance value of 0.000 smaller than the real level of 0.05 which indicates that the profitability variable has a statistically significant positive effect on capital structure in companies in the tourism, hotel and restaurant industries or the hypothesis is rejected. The regression coefficient value of 0.001 illustrates the direction of a positive relationship and shows that each increase of one percent level of profitability will raise the capital structure by 0.001 percent.

Profitability is the ability of a company to generate profits from assets owned. Companies that have high rates of return on assets under management illustrate the company's ability to generate high profits. But the results of this study are not in accordance with the statement above and do not support the hypothesis. The results showed that profitability had a significant positive effect on capital structure in companies in the tourism, hotel and restaurant industries on the Indonesia Stock Exchange in the 2015-2018 period. In trade-off theory, more profitable companies must have higher leverage because they have more income to protect from taxes (Acaravci, 2015). Companies with high profits tend to be easy to get loans from banks because they are considered capable of paying off their debts.

The outcome of this study are in line with research by (M’ng, Rahman, and Sannacy (2017), Mouton and Smith (2016), Dewi and Sudhiartha (2017), Novitayanti and Rahyuda (2018).
Effect of firm size on capital structure
The second hypothesis testing is the effect of firm size on capital structure obtains a regression coefficient of 0.416 and a significance value of 0.048 less than the 0.05 level which indicates that firm size variables have a statistically significant positive effect on capital structure of companies in the tourism industry, hotels and restaurants or hypotheses are accepted. The regression coefficient value of 0.416 illustrates the direction of a positive relationship and shows that each increase of one percent of the size of the firm will raise the capital structure by 0.416 percent.

Total assets can measure the size of the company by using the natural logarithm calculation of total assets. Large or well-established companies will find it easier to get capital in the capital market. The size of the company is positively related to the level of leverage according to trade-off theory, large companies generally tend to be less likely to go bankrupt, making it easier to attract loans from banks compared to smaller companies.

Regarding the results of previous studies, the outcome of this study are in line with the work of Acaravci (2015), M’ng et al. (2017), Jaisinghani dan Kanjilal (2017), Apsari dan Dana (2018), Mulyawati, Banani, dan Sulistyanadari (2016), Juliantika dan Dewi (2016), Wulandari dan Artini (2019), found that firm size has a positive effect on capital structure.

**Effect of tax on capital structure**

The second hypothesis testing is the effect of tax on capital structure obtains a regression coefficient of 0.004 and a significance value of 0.033 smaller than the 0.05 level which indicates that the tax variable has a statistically significant positive effect on the capital structure of companies in the tourism, hotel and restaurant industries or hypothesis is accepted. Regression coefficient of 0.004 illustrates the direction of a positive relationship and shows that each increase of one percent tax rate will raise capital structure by 0.004 percent.

Trade-off theory which states that the optimal capital structure is a balance between taxes on the use of debt with the cost of financial difficulties due to the use of debt, because costs and benefits will negate each other. Therefore, the higher the company's tax rate last year, the greater the benefits from the use of debt in the current year. These events led to an increasingly greater use of debt in the capital structure in the following year.

The outcomes of this study are in line with the research of Thalib et al. (2019), (Kenan, 2017), Sumardika and Sudirman (2015), Primantara and Dewi (2016), Dewi and Badjra (2014), Wahyuni and Suryantini (2014) stated that tax had a positive and significant effect on capital structure.

VI. CONCLUSION

Based on the results of data analysis and discussion presented in the previous chapter, the conclusions of the results of this study are as follows profitability, company size and tax have a positive and significant effect on capital structure. This shows an increase in profitability, company size and taxes will increase on the increase in capital structure.

REFERENCES


